

Irell & Manella  
Graduate School of Biological Sciences  
AT CITY OF HOPE

PhD Student and Faculty  
Handbook

2022-2023



BECKMAN RESEARCH INSTITUTE

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IRELL & MANELLA GRADUATE SCHOOL  
OF BIOLOGICAL SCIENCES

## CONTENTS:

<b>INTRODUCTION</b>	<b>4</b>
MISSION STATEMENT	6
MESSAGE FROM THE DEAN	7
GRADUATE SCHOOL ADMINISTRATION	8
<b>GRADUATE SCHOOL PHD PROGRAM STANDING COMMITTEES CURRENT MEMBERS</b>	<b>9</b>
<b>PROFESSOR-SERIES GRADUATE SCHOOL FACULTY MEMBERS</b>	<b>10</b>
<b>GRADUATE SCHOOL ADJUNCT FACULTY</b>	<b>20</b>
<b>CURRENT DOCTORAL STUDENT LIST</b>	<b>22</b>
<b>ACADEMIC CALENDAR</b>	<b>26</b>
<b>COURSE NUMBERING</b>	<b>29</b>
<b>CITY OF HOPE/BECKMAN RESEARCH INSTITUTE AND UNIVERSITY OF SOUTHERN CALIFORNIA RESIDENCY AND GRADUATE TRAINING PROGRAM IN LABORATORY ANIMAL MEDICINE</b>	<b>33</b>
<b>ARTHUR RIGGS DIABETES AND METABOLISM RESEARCH INSTITUTE OF THE CITY OF HOPE AND THE LUNDQUIST INSTITUTE AT HARBOR-UCLA MEDICAL CENTER BASIC AND TRANSLATIONAL SCIENCES PHD TRAINING PROGRAM</b>	<b>34</b>
<b>POLICIES AND PROCEDURES</b>	<b>35</b>
ACADEMIC STANDARDS	35
SANCTIONS	35
DISMISSAL AND SUSPENSION POLICIES	36
USE OF ALCOHOL / ILLEGAL SUBSTANCES	37
ALCOHOL	37
DRUG POLICY	37
TOBACCO POLICY	37
GRIEVANCE PROCEDURE	38
TITLE IX EQUAL EDUCATION OPPORTUNITIES	38
<i>FERPA-Family Educational Rights and Privacy Act</i>	39
ANTI-BULLYING ENVIRONMENT	40
RESPECTFUL TREATMENT OF OTHERS	41
ACADEMIC STANDING	42
SATISFACTORY ACADEMIC PROGRESS	42
UNSATISFACTORY PROGRESS	42
FAILURE TO MEET ACADEMIC STANDARDS	43
EXCEPTIONS TO ACADEMIC REGULATIONS	43
MANDATORY COMPLIANCE TRAINING	43
INTERNATIONAL STUDENTS (F-1):	43
BENEFITS	44
WELLNESS	44
STUDENT FEES	45
TRANSCRIPT REQUEST	45
REPLACEMENT DIPLOMAS	45
STUDENT LOANS	45
HARDSHIP SUPPLEMENT	46
LAPTOPS	46
ATTENDANCE	46
REMOTE WORK OUTSIDE THE REGION	46
LEAVES OF ABSENCE	47
<i>Pay While on Leave</i>	<i>Error! Bookmark not defined.</i>
<i>Health Benefits While on Leave</i>	<i>Error! Bookmark not defined.</i>

<i>Holidays</i> .....	48
<i>International Students: Attendance and Traveling</i> .....	49
<b>PAYROLL CATEGORIES</b> .....	<b>49</b>
PAYROLL METHOD.....	49
DIRECT DEPOSIT.....	50
PEOPLESOFT ACCESS.....	50
<b>TRAINING PROGRAM IN BIOSCIENCE MANAGEMENT</b> .....	<b>51</b>
<b>ETHICAL PRINCIPLES AND PRACTICES</b> .....	<b>52</b>
ACADEMIC HONESTY OF STUDENTS - ACADEMIC INTEGRITY COMMITTEE OVERVIEW.....	52
AIC JURISDICTION.....	52
STANDING AIC MEMBERSHIP.....	52
STANDING AIC DUTIES.....	53
<b>ACADEMIC PROGRAMS OVERVIEW</b> .....	<b>55</b>
DEGREE REQUIREMENTS.....	55
PATH TO GRADUATION FOR PHD BS (STUDENT COHORTS STARTING PRIOR TO 2020).....	57
PATH TO GRADUATION FOR PHD BS (STUDENT COHORTS STARTING AT 2020).....	58
PATH TO GRADUATION FOR PHD TM (STUDENT COHORTS STARTING AT 2021).....	59
GRADING SYSTEM.....	60
GRADE CHANGE POLICY.....	60
COURSE DROP POLICY.....	61
TRANSFER CREDIT.....	61
CREDIT HOUR POLICY.....	61
<i>Definitions</i> .....	61
<i>Credit Hours Policy</i> .....	62
<i>Trimester Dates</i> .....	62
LABORATORY ROTATIONS AND MENTOR SELECTION.....	63
<b>GUIDELINES FOR WRITING AND DEFENDING A DOCTORAL DISSERTATION</b> .....	<b>64</b>
PRINCIPLES UNDERLYING THE PHD DEGREE.....	64
WRITTEN DISSERTATION REQUIREMENTS (CONTENT).....	64
FORMAT.....	66
<i>Inclusion of Previously Published Material</i> .....	66
<i>Margins</i> .....	66
<i>Spacing</i> .....	66
<i>Pagination</i> .....	66
<i>Figures and Tables</i> .....	67
<i>Number of Copies</i> .....	67
<i>Paper</i> .....	67
<i>Typeface</i> .....	68
MANUSCRIPT ARRANGEMENT.....	68
<i>Title Page, Approval Page, and Abstract</i> .....	68
<i>Acceptability of Dissertation</i> .....	69
<i>Title Page Sample</i> .....	70
<i>Table of Figures Sample</i> .....	71
ELECTRONIC DISSERTATION SUBMISSION.....	72
<i>Publishing Options</i> .....	72
<i>Dissertation Details</i> .....	73
<b>INSTITUTIONAL LEARNING OUTCOMES</b> .....	<b>74</b>
<b>THE LEADING-EDGE LECTURES</b> .....	<b>75</b>
<b>JOURNAL CLUB SEMINARS</b> .....	<b>76</b>

<b>QUALIFYING EXAMINATIONS .....</b>	<b>77</b>
QUALIFYING EXAMINATION. DISSERTATION PROPOSAL.....	77
<i>Qualifying Examination Purpose.....</i>	77
<i>Qualifying Examination Policy.....</i>	77
<i>Written QE Proposal Guidelines .....</i>	78
<i>Written QE Proposal Submitted or to be Submitted to an Outside Funding Organization.....</i>	79
<i>Oral Defense.....</i>	79
<i>Final Outcome of Qualifying Exam.....</i>	80
<i>Plagiarism .....</i>	80
<b>AIDS FOR THE WRITTEN PROPOSAL.....</b>	<b>81</b>
<b>DISSERTATION REQUIREMENTS.....</b>	<b>83</b>
DISSERTATION COMMITTEE MEETINGS.....	83
DISSERTATION ORAL DEFENSE COMMITTEE.....	85
EXTERNAL COMMITTEE MEMBER.....	86
<b>GRADUATION GUIDELINES CHECKLIST .....</b>	<b>87</b>
<b>GRADUATE STUDENT TRAVEL GRANT .....</b>	<b>87</b>
<b>GRADUATE STUDENT ENTITLEMENT .....</b>	<b>87</b>
<b>INDIVIDUAL DEVELOPMENT PLAN .....</b>	<b>88</b>
<b>GRADUATE SCHOOL FELLOWSHIPS.....</b>	<b>89</b>
DR. ARTHUR RIGGS FELLOWSHIP .....	89
BERGER FELLOWSHIP .....	89
DEAN'S FELLOWSHIP .....	89
THE HELD FOUNDATION .....	89
HELEN AND MORGAN CHU FELLOWSHIP.....	89
DR. NORMAN AND MELINDA PAYSON FELLOWSHIP .....	89
EXTERNAL FUNDING BONUS PROGRAM.....	90
<b>ALUMNI POSITIONS .....</b>	<b>91</b>
<b>APPENDIX A: FEDERAL COMPLIANCE .....</b>	<b>97</b>
TITLE IX COMPLAINT PROCEDURES.....	97
<i>I. Introduction.....</i>	97
<i>II. Definitions.....</i>	97
<i>III. Procedures.....</i>	97
<i>IV. Appeal.....</i>	99
<i>V. General Considerations .....</i>	100
FERPA-FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT .....	100
<i>Definitions .....</i>	101
<b>APPENDIX B: IMPORTANT CONTACTS.....</b>	<b>103</b>
<b>APPENDIX C: ABBREVIATIONS LIST .....</b>	<b>1058</b>
<b>APPENDIX D: EMPLOYEE ASSISTANCE PROGRAM (LYRA) .....</b>	<b>109</b>

## Introduction

City of Hope was founded in 1913, in Duarte, California, by working-class men and women who believed in helping those less fortunate than themselves. Although initially a tuberculosis sanatorium, research programs were initiated at City of Hope in 1951 and expanded rapidly until by the late 1970s approximately 130 PhD-level investigators were conducting a broad range of research programs throughout the institute.

In 1983, Beckman Research Institute of the City of Hope was established with generous support from the Arnold and Mabel Beckman Foundation. The Institute is comprised of basic science research groups within the departments of Cancer Biology; Cancer Genetics and Epigenetics; Developmental and Stem Cell Biology; Diabetes and Metabolic Diseases Research; Experimental Therapeutics; Immuno-Oncology; Information Sciences; Lymphoma SPORE; Molecular Immunology; Molecular and Cellular Biology; Molecular Medicine; and Population Sciences.

City of Hope has a long and impressive history of groundbreaking discoveries in the field of diabetes. In 2016 the Diabetes & Metabolism Research Institute was founded. The institute is comprised of the following departments and programs: Clinical Diabetes, Endocrinology & Metabolism; Diabetes Complications & Metabolism; Diabetes Immunology; Molecular & Cellular Endocrinology; Translational Research & Cellular Therapeutics, and The Wanek Family Project for Type 1 Diabetes.

Hematologic cancers are those cancers that occur in cells of the immune system or in blood forming tissues, including bone marrow. As a pioneer in advancing care for all hematologic cancers and related blood disorders, City of Hope's Hematologic Malignancies and Stem Cell Transplantation Institute leads the field as one of the largest and most successful transplant centers in the world. The institute also houses the Gehr Family Center for Leukemia Research, the Toni Stephenson Lymphoma Center, the Judy and Bernard Briskin Center for Multiple Myeloma Research, the Center for Gene Therapy, the Center for Stem Cell Transplantation, the Survivorship Center and the Center for T Cell Transplantation.

City of Hope's innovative research programs continue to evolve and grow in many promising areas, including production of functional human hormones, radioimmunotherapy, neurosciences, stem cell research, and gene therapy.

City of Hope is a pioneer in the field of hematopoietic cell transplantation, and research into this therapy has been supported by a National Cancer Institute/National Institutes of Health program project grant since 1981. The Hematopoietic Cell Transplantation program provides opportunities for basic science investigations, as well as developing mechanisms for delivery of genetic material and novel therapeutic agents.

Chemically synthesized genes produced in the Biology Division were used to develop the first recombinant human peptide hormone which led to the commercial production of human insulin (Humulin, now used by millions of people with diabetes worldwide).

The study of monoclonal antibodies against the cancer antigen CEA (carcinoembryonic antigen) led to the establishment of the Radioimmunotherapy Program. Genetically engineered antibodies carrying radioactive isotopes are being used in cancer therapy trials and in studies designed to localize tumors in patients. The humanized monoclonal antibodies developed at City of Hope made possible the “smart” cancer drugs such as Herceptin, Rituxan, and Avastin, which are saving and extending lives.

Recent advances in neurosciences programs include the gene therapeutic “rescue” of neurotransmitter-deficient fruit flies; the discovery of necessary interaction between extracellular matrix molecules and neurotransmitter receptor gene expression; the identification of a motor neuronal-specific antigen that may be involved in the maintenance and regeneration of neuromuscular junctions; and the development of an organotypic spinal cord culture, valuable in studying nervous system development.

## **Mission Statement**

The mission of the Irell & Manella Graduate School of Biological Sciences at City of Hope is to train students in an academically stimulating, collaborative, and diverse environment to apply their creativity, curiosity and talents to advance understanding of the complexities of the life sciences and to apply research discoveries toward finding cures for disease.

## Message from the Dean

City of Hope and Beckman Research Institute (which hosts the Irell & Manella Graduate School of Biological Sciences) have a remarkable history of innovation in science and medical care. Our faculty members have made major contributions in biological sciences and biomedicine and are widely recognized as leaders in their fields. The biotech industry was launched by investigators at City of Hope when they created the technology that led to the first human recombinant gene products, insulin and human growth hormone, which are now in use by millions of people worldwide. The most recent class of blockbuster drugs, humanized monoclonal antibodies, is based upon a core technology developed by Beckman Research Institute researchers. Both basic science and translational biomedical research flourish here, in a collegial atmosphere where cross-communication thrives, and basic science findings are often applied to the cure of life-threatening diseases.

The graduate school enrolled its first class of Ph.D. students in Biological Sciences in 1994. Our graduates have gone on to academic appointments and postdoctoral fellowships at some of the nation's best universities, as well as to positions in major biotech and pharmaceutical companies. City of Hope's interdisciplinary research programs provide students with many opportunities to enrich their graduate education by interacting with other graduate students, postdoctoral fellows and faculty members outside of their own areas of specialization. In 2021, the graduate school expanded the scope of our doctoral training with a second PhD program in Translational Medicine. City of Hope has a strong track record in training both predoctoral students and postdoctoral fellows. In 2018 and 2022, the graduate school initiated new joint master's programs in translational medicine and regulatory affairs with the Henry E. Riggs School of Applied Life Sciences at Keck Graduate Institute. In addition, we host undergraduate and high school researchers in our extensive summer internship program.

Welcome to the Irell & Manella Graduate School of Biological Sciences.



## Graduate School Administration

Steven Rosen, MD, Provost

David Horne, PhD, Vice-Provost

David Ann, PhD, Dean

Yilun Liu, PhD, Vice Dean and Co-Director of KGI-COH MSTM Program

John R. Rossi, PhD, Emeritus Dean

Jeremy Stark, PhD, Director of Ph.D. Curriculum

Markus Kalkum, PhD, Director of Ph.D. Administration and Admissions

Christopher Sistrunk, PhD, Director of Diversity and Education

Susan Neuhausen, PhD, Director of Assessment and Development

Mark LaBarge, PhD, Director for the Postdoctoral Training Office

Tijana Jovanovic-Talisman, PhD, Associate Director of Ph.D. Admissions

Ke Ma, PhD, Associate Director of MSTM

Glenn Manthey, PhD, Assistant Director of Admissions and Recruitment

Margarita Veselinov, Sr. Business Director

Kendra Carter, MBA, PMP, Registrar

Stephanie Alexander, Post-Doctoral Program Manager

Sarah Bannister, Supervisor, Business Operations

Marina Sanchez, Administrative Assistant

## Graduate School PhD Program Standing Committees Current Members

### GRADUATE SCHOOL LEADERSHIP

David Ann (Dean)	Yilun Liu (Vice Dean)	John Rossi (Dean Emeritus)
Mark LaBarge	Markus Kalkum	Jeremy Stark
Susan Neuhausen	Tijana Jovanovic Talisman	Saul Priceman
Ke Ma	Patrick Fueger	Margarita Veselinov
Kendra Carter	Glenn Manthey	Stephanie Alexander
Sarah Bannister	Marina Sanchez	GSO President

### ADMISSIONS COMMITTEE

Tijana Jovanovic-Talisman (Chair)	Lindsey Trevino (Associate Chair)
Chun-Wei (David) Chen	John Kaddis
Markus Kalkum	Ya-Huei Kuo
Narissa Nonzee	Helena Reijonen
Sarah Shuck	Zuoming Sun
Rupangi Vasavada	Qiong (Annabel) Wang
Yanzhong (Frankie) Yang	

### ASSESSMENT COMMITTEE

Susan Neuhausen (Chair)	Mark Boldin
Ke Ma	Dustin Schones
Jeremy Stark	

### CURRICULUM COMMITTEE

Jeremy Stark (Chair)	Mark LaBarge
Markus Kalkum	Nagarajan Vaidehi
Wendong Huang	Student Representatives

### DIVERSITY COMMITTEE

Christopher Sistrunk (Chair)	TBD
TBD	Daniela Castanotto
TBD	Kendra Carter
Victoria Seewaldt	TBD
Student Representatives	Postdoc Representatives

## Professor-Series Graduate School Faculty Members

Faculty Members listed here have been approved to serve as faculty by the Dean and shall have the responsibilities of teaching, serving on committees and helping with recruitment. In addition, each year a list of faculties that are qualified and have submitted their mentor statement will be provided before the start of the academic year to update all who are eligible and willing to accept rotation students and mentor students in their lab.

#	Name	Appoint- ment Year	Professional Training	Title	Department
1.	Karen Aboody, MD	2003	Mount Sinai School of Medicine	Professor	Stem Cell Biology & Regenerative Medicine
2.	David Ann, PhD	2006	Purdue University	Professor	Diabetes Complications & Metabolism
3.	Benham Badie, MD	2015	UCLA	Professor	Surgery
4.	Nicholas Banovich, PhD	2021	University of Chicago	Associate Professor	Translational Genomics Research Institute (TGen)
5.	Michael Barish, PhD	1989	Stanford University	Professor	Stem Cell Biology & Regenerative Medicine
6.	Andrea Bild, PhD	2017	University of Colorado	Professor	Medical Oncology & Therapeutics Research
7.	Mark Boldin, MD, PhD	2011	Weizmann Institute of Science (Israel)	Associate Professor	Systems Biology
8.	Sergio Branciamore, PhD	2018	University of Florence	Assistant Professor	Computational & Quantitative Medicine
9.	Charles Brenner, PhD	2020	Stanford University	Professor	Diabetes & Cancer Metabolism
10.	Christine Brown, PhD	1998	UC Berkeley	Professor	Hematology & Hematopoietic Cell Transplantation
11.	Elizabeth Lihua Budde, MD, PhD	2013	Duke University	Associate Professor	Hematology & Hematopoietic Cell Transplantation

#	Name	Appoint- ment Year	Professional Training	Title	Department
12.	Michael Caligiuri, MD	2018	Stanford University School of Medicine	President & Professor	Hematopoietic Cell Transplantation
13.	Edouard Cantin, PhD	1983	University of Cambridge	Professor Emeritus	Immunology & Theranostics
14.	Angelo Cardoso, MD, PhD	2016	University Paris-Sud, France	Research Professor	Center for Gene Therapy
15.	Nadia Carlesso, MD, PhD	2016	University of Turin, University of Genova	Professor	Stem Cell Biology & Regenerative Medicine
16.	Wing-Chung (John) Chan, MD	2013	University of Hong Kong	Professor	Pathology
17.	Saswati Chatterjee, PhD	1991	Georgetown University	Professor	Surgery
18.	Chun-Wei (David) Chen, PhD	2017	University of Rochester	Associate Professor	Systems Biology
19.	Jianjun Chen, PhD	2018	Shanghai Institute of Biochemistry, Chinese Academia of Sciences	Professor	Systems Biology
20.	Mike Y. Chen, MD, PhD	2015	Thomas Jefferson University/ Medical College of Virginia	Associate Professor	Surgery
21.	Shiuan Chen, PhD	1985	University of Hawaii	Professor	Cancer Biology & Molecular Medicine
22.	Wenyong Chen, PhD	2005	University of Alabama	Associate Professor	Cancer Biology & Molecular Medicine
23.	Zhen Chen, BMed, PhD	2016	UC Riverside	Associate Professor	Diabetes Complications & Metabolism
24.	Alexey Danilov, MD, PhD	2020	Yaroslavl Medical Academy	Professor	Hematology & Hematopoietic Cell Transplantation
25.	Thanh Dellinger, MD	2015	UC Irvine	Associate Professor	Surgery

#	Name	Appoint- ment Year	Professional Training	Title	Department
26.	Yingfeng Deng, PhD	2021	Albert Einstein College of Medicine	Assistant Professor	Diabetes & Cancer Metabolism
27.	Sangeeta Dhawan, PhD	2017	Indian Institute of Science, Bangalore	Assistant Professor	Translational Research & Cellular Therapeutics
28.	Don Diamond, PhD	1989	Harvard University	Professor	Hematology & Hematopoietic Cell Transplantation
29.	Richard Ermel, PhD, DVM, MPVM, DACLAM	2002	UC Davis	Professor	Center for Comparative Medicine
30.	Marwan Fakih, MD	2014	American University of Beirut	Professor	Medical Oncology & Therapeutics Research
31.	Mingye Feng, PhD	2018	Johns Hopkins University	Associate Professor	Immuno-Oncology
32.	Yuman Fong, MD	2016	Weill Cornell Medical College	Professor	Surgery
33.	Stephen Forman, MD	1979	University of Southern California	Professor	Hematopoietic Cell Transplantation
34.	Patrick Fueger, PhD	2016	Vanderbilt University	Associate Professor	Molecular & Cellular Endocrinology
35.	Adolfo Garcia-Ocaña, PhD	1994	Universidad Autonoma of Madrid	Professor	Molecular & Cellular Endocrinology
36.	Carlotta Glackin, PhD	1993	University of Southern California	Associate Professor Emeritus	Stem Cell Biology & Regenerative Medicine
37.	Ajay Goel, PhD	2019	Panjab University	Professor	Molecular Diagnostics, Therapeutics
38.	Stacy Gray, MD	2020	The University of Chicago	Professor	Medical Oncology & Therapeutics Research, Clinical Cancer Genomics
39.	Steven Gruber, MD, PhD	2019	University of Pennsylvania Medical School	Professor	Medical Oncology & Therapeutics Research

#	Name	Appoint- ment Year	Professional Training	Title	Department
40.	Zhaohui Gu, PhD	2020	Shanghai Jiao Tong University	Assistant Professor	Computational & Quantitative Medicine
41.	Nora Heisterkamp, PhD	2020	University of Rotterdam	Professor	System Biology
42.	Robert J. Hickey, PhD	2011	City University New York	Associate Professor	Cancer Biology & Molecular Medicine
43.	David Horne, PhD	2006	Massachusetts Institute of Technology	Professor	Cancer Biology & Molecular Medicine
44.	Wendong Huang, PhD	2006	University of Texas Health Sciences Center	Professor	Diabetes Complications & Metabolism
45.	Susanta Hui, PhD, DABR	2016	University of Calcutta	Professor	Radiation Oncology
46.	Keiichi Itakura, PhD	1974	Tokyo College of Pharmacy	Professor Emeritus	Center for RNA Biology & Therapeutics
47.	Rahul Jandial, MD, PhD	2008	UC San Diego	Associate Professor	Surgery
48.	Marta Jankowska, PhD	2021	San Diego State University	Associate Professor	Population Sciences
49.	Lei Jiang, PhD	2017	Shanghai Institutes for Biological Sciences	Assistant Professor	Molecular & Cellular Endocrinology
50.	Tijana Jovanovic- Talisman, PhD	2013	Columbia University	Associate Professor	Cancer Biology & Molecular Medicine
51.	Michael Kahn, PhD	2018	Yale University	Professor	Cancer Biology & Molecular Medicine
52.	Markus Kalkum, PhD	2003	Free University of Berlin	Professor	Immunology & Theranostics
53.	Marcin Kortylewski, PhD	2005	Univ. School of Medical Sciences	Professor	Immuno-Oncology
54.	Hsun Teresa Ku, PhD	2007	Medical University South Carolina	Associate Professor	Translational Research & Cellular Therapeutics

#	Name	Appoint- ment Year	Professional Training	Title	Department
55.	Ya-Huei Kuo, PhD	2008	University of Connecticut	Associate Professor	Hematologic Malignancies Translational Science
56.	Larry W. Kwak, MD, PhD	2015	Northwestern University	Professor	Hematology & Hematopoietic Cell Transplantation
57.	Mark LaBarge, PhD	2016	Stanford University	Professor	Population Sciences
58.	Keane Lai, MD	2018	University of Pittsburgh	Assistant Professor	Cancer Bioogy & Molecular Medicine
59.	Peter Lee, MD	2011	UC San Diego	Professor	Immuno-Oncology
60.	Ling Li, PhD	2018	Zhejiang University	Associate Professor	Hematological Malignancies Translational Science
61.	Yun (Rose) Li, MD, PhD	2022	University of Pennsylvania	Assistant Professor	Radiation Oncology
62.	Ren-Jang Lin, PhD	1993	Pennsylvania State University	Professor	Center for RNA Biology & Therapeutics
63.	Yilun Liu, PhD	2011	Yale University	Professor	Cancer Genetics & Epigenetics
64.	Qiang Lu, PhD	2002	UC San Diego	Professor	Stem Cell Biology & Regenerative Medicine
65.	Ke Ma, MD, PhD	2018	Baylor College of Medicine	Associate Professor	Diabetes Complications & Metabolism
66.	Ellie Maghami, MD	2005	Washington University School of Medicine	Clinical Professor	Surgery
67.	Linda Malkas, PhD	2011	City University of New York	Professor	Molecular Diagnostics & Experimental Therapeutics
68.	Edwin Manuel, PhD	2015	Harvard University	Associate Professor	Immuno-Oncology
69.	Guido Marcucci, MD	2016	Catholic University of Sacred Heart, Rome	Professor	Hematologic Malignancies Translational Science

#	Name	Appoint- ment Year	Professional Training	Title	Department
70.	Jeannine McCune, PharmD, BCOP, FCCP	2017	University of North Carolina	Professor	Hematologic Malignancies Translational Science
71.	Heather McGee, MD, PhD	2021	Yale University	Assistant Professor	Radiation Oncology
72.	Marcia Miller, PhD	1975	UCLA	Professor Emeritus	Center for RNA Biology & Therapeutics
73.	Jose Enrique Montero Casimiro, MD	2019	Havana University	Research Professor	Diabetes Immunology
74.	Rama Natarajan, PhD	1990	Indian Institute of Science	Professor	Diabetes Complications & Metabolism
75.	Susan Neuhausen, PhD	2009	University of Minnesota	Professor	Population Sciences
76.	Edward Newman, PhD	1981	Yale University	Associate Professor Emeritus	Medical Oncology & Therapeutics Research
77.	Vu Nguyen Ngo, PhD	2010	UCSF	Associate Professor	Systems Biology
78.	Timothy O'Connor, PhD	1996	Purdue University	Professor Emeritus	Cancer Biology & Molecular Medicine
80.	Javier Gordon Ogembo, PhD	2018	Nagoya University	Associate Professor	Immuno-Oncology
81.	Sumanta Kumar Pal, MD	2009	UCLA David Geffen School of Medicine	Professor	Medical Oncology & Therapeutic Research
82.	Jeff (John) Perry, PhD	2021	University of Cambridge, UK	Assistant Professor	Molecular Diagnostics & Experimental Therapeutics
83.	Flavia Pichiorri, PhD	2016	University of Rome	Professor	Hematologic Malignancies Translational Science



#	Name	Appoint- ment Year	Professional Training	Title	Department
84.	Saul Priceman, PhD	2019	UCLA	Associate Professor	Hematology & Hematopoietic Cell Transplantation
85.	Christiane Querfeld, MD, PhD	2016	University of Cologne, University of Heidelberg	Professor	Pathology
86.	Mustafa Raoof, MD	2015	Aga Khan University, Pakistan	Assistant Professor	Surgery
87.	Helena Reijonen, PhD	2018	University of Turkey	Associate Professor	Immunology & Theranostics
88.	June-Wha Rhee, MD	2022	Harvard Medical School	Assistant Professor	Medicine
89.	Russell C. Rockne, PhD	2013	University of Washington, Seattle	Associate Professor	Computational & Quantitative Medicine
90.	Andrei S. Rodin, PhD	2013	University of Texas, Houston	Professor	Computational & Quantitative Medicine
91.	Steven Rosen, MD	2016	Northwestern University	Provost & Professor	Hematopoietic Cell Transplantation
92.	John Rossi, PhD	1996	University of Connecticut	Professor	Center for RNA Biology & Therapeutics
93.	Ravi Salgia, MD, PhD	2018	Loyola University School of Medicine	Professor	Medical Oncology & Therapeutics Research
94.	Dustin E. Schones, PhD	2010	SUNY Stony Brook	Associate Professor	Diabetes Complications & Metabolism
95.	Victoria Seewaldt, MD	2015	UC Davis	Professor	Population Sciences
96.	Binghui Shen, PhD	1996	Kansas State University	Professor	Cancer Genetics & Epigenetics
97.	Yanhong Shi, PhD	2004	Northwestern University	Professor	Neurodegenerative Diseases
98.	Hung-Ping (Ben) Shih, PhD	2015	Oregon State University	Associate Professor	Translational Research & Cellular Therapeutics

#	Name	Appoint- ment Year	Professional Training	Title	Department
99.	John E. Shively, PhD	1975	University of Illinois	Professor	Immunology & Theranostics
100.	Sarah Shuck, PhD	2021	Indiana University School of Medicine	Assistant Professor	Diabetes & Cancer Metabolism
101.	Christopher Sistrunk, PhD	2016	North Carolina State University	Assistant Professor	Population Sciences
102.	Jeremy Stark, PhD	2006	University of Washington	Professor	Cancer Genetics & Epigenetics
103.	Zuoming Sun, PhD	2005	Duke University	Professor	Immunology & Theranostics
104.	Zijie (ZJ) Sun, MD, PhD	2016	Shanghai Medical University	Professor	Cancer Biology & Molecular Medicine
105.	Srividya Swaminathan, PhD	2019	University of Southern California	Assistant Professor	Systems Biology
106.	Timothy Synold, PharmD	1994	UCSF	Professor	Medical Oncology & Therapeutics Research
107.	John Termini, PhD	1998	Columbia University	Professor	Cancer Biology & Molecular Medicine
108.	Debbie C. Thurmond, PhD	2015	University of Iowa	Professor	Molecular & Cellular Endocrinology
109.	Christian Tomasetti, PhD	2022	University of Maryland	Professor	Translational Genomics Research Institute (TGen)
110.	Lindsey Treviño, PhD	2018	Cornell University	Assistant Professor	Population Sciences
111.	Nagarajan Vaidehi, PhD	2005	India Institute of Technology	Professor	Computational & Quantitative Medicine
112.	Rupangi Vasavada, PhD	2018	University of Pennsylvania	Associate Professor	Translational Research & Cellular Therapeutics
113.	Leo Wang, MD, PhD	2017	University of Chicago	Associate Professor	Immuno-Oncology
114.	Lili Wang, MD, PhD	2018	China Medical University/ Tokai University	Associate Professor	Systems Biology

#	Name	Appoint- ment Year	Professional Training	Title	Department
115.	Ping Wang, MD	2020	Kaohsiung Medical College, Taiwan	Professor	Diabetes, Endocrinology & Metabolism
116.	Qiong (Annabel) Wang, PhD	2009	The University of Chinese Academy of Sciences	Associate Professor	Molecular & Cellular Endocrinology
117.	Xiuli Wang, PhD	2019	Inner Mongolia Medical University /University of Oslo	Professor	Hematology & Hematopoietic Cell Transplantation
118.	Zhao Wang, PhD	2021	Albert Einstein College of Medicine	Associate Professor	Diabetes & Cancer Metabolism
119.	John Williams, PhD	2008	Columbia University	Professor	Cancer Biology & Molecular Medicine
120.	Terence Williams, MD, PhD	2021	Albert Einstein College of Medicine	Professor	Radiation Oncology
121.	Alex Wong, MD	2022	Harvard Medical School	Professor	Surgery
122.	Anna Wu, PhD	2018	Yale University	Professor	Immunology & Theranostics
123.	Xiwei Wu, MD, PhD	2004	Loma Linda University	Professor	Computational & Quantitative Medicine
124.	Yanzhong (Frankie) Yang, MD, PhD	2015	Shanxi Medical University/ Fudan University	Associate Professor	Cancer Genetics & Epigenetics
125.	Jiing-Kuan Yee, PhD	1998	University of Texas, Austin	Professor	Translational Research & Cellular Therapeutics
126.	Hua (Jove) Yu, PhD	2005	Columbia University	Professor	Immuno-Oncology
127.	Jianhua Yu, PhD	2018	Purdue University	Professor	Hematology & Hematopoietic Cell Transplantation
128.	John Zaia, MD	1980	Harvard University	Professor	Center for Gene Therapy
130.	Kirstin Zettlitz, PhD	2022	University of Stuttgart, Germany	Assistant Professor	Immunology & Theranostics

#	Name	Appoint- ment Year	Professional Training	Title	Department
131.	Defu Zeng, MD	2002	Fuijan Medical University	Professor	Immunology & Theranostics
132.	Bin (Amber) Zhang, PhD	2020	Sun Yat-Sen University of Medical Sciences	Associate Professor	Hematologic Malignancies Translational Science

### Graduate School Adjunct Faculty 2022-2023

#	Name	Appointment Year	Professional Training	Title	Department
1.	Floris Barthel, MD, PhD	2022	Vrije Universiteit Amsterdam Medical Center	Assistant Professor	Translational Genomics Research Institute (TGen)
2.	Ali Ehsani, PhD	2008	City of Hope	Assistant Research Professor	Center for RNA Biology & Therapeutics
3.	Chris Gandhi, PhD	2015	UC Berkeley	Staff Scientist	Office of Faculty and Institutional Support
4.	Joseph Gold, PhD	2016	Harvard University	Senior Director	Center for Biomedicine & Genetics
5.	Margarita Gutova, MD	2017	Yerevan State Medical University	Associate Research Professor	Stem Cell Biology & Regenerative Medicine
6.	Kendall Van Keuren- Jensen, PhD	2022	Stoney Brook University	Professor	Neurogenomics, (TGen)
7.	Weidong Hu, PhD	2018	Florida State University	Research Professor	Immunology & Theranostics
8.	Daneng Li, MD	2018	Cornell University Medical College	Associate Professor	Medical Oncology & Therapeutics Research
9.	Zhuo Li, PhD	2016	Chinese Academy of Sciences	Associate Research Professor	Center for RNA Biology & Therapeutics
10.	Glenn Manthey, PhD	1997	UCLA	Staff Scientist	Graduate School
11.	Eric Radany, MD, PhD	2018	Stanford University School of Medicine	Associate Clinical Professor	Radiation Oncology

12.	Keeley Walker, PhD	2006	UC San Diego	Staff Scientist	Office of Faculty and Institutional Support
13.	Edward Wenge Wang, MD, PhD	2018	Harbin Medical University	Assistant Professor	Medical Oncology & Therapeutics Research
14.	James Waisman, MD	2018	Medical College of Wisconsin	Professor	Medical Oncology & Therapeutics Research
15.	Sarah Wilkinson, PhD	2017	University of Arizona	Staff Scientist	Office of Faculty and Institutional Support
16.	Paul Yazaki, PhD	1996	UC San Diego	Research Professor	Immunology & Theranostics
18.	Yate-Ching Yuan, PhD	1999	University of Texas, Austin	Associate Research Professor	Center for Informatics

## Current Doctoral Student List

Last Name	First Name	Mentor	Dept/Div
Abu-Elreich	Sarah	Tijana Jovanovic-Talisman, PhD	Cancer Biology & Molecular Medicine
Amwas	Nour	Leo Wang, MD, PhD	Immuno-Oncology
Aramburo	Soraya	Srividya Swaminathan, PhD	Systems Biology
Atukunda	Rose	Markus Kalkum, PhD	Immunology & Theranostics
Avsharian	Lara	Year 1 Student	TBD
Bauer	Brandon	Patrick Fueger, PhD	Molecular & Cellular Endocrinology
Benhajsalah	Marwa	John Rossi, PhD	Center for RNA Biology & Therapeutics
Bishara	Issac	Andrea Bild, PhD	Medical Oncology & Therapeutics Research
Calero-Landa	Jonathan	Javier Gordon Ogembo, PhD	Immuno-Oncology
Carlson	Eric	Mark LaBarge, PhD	Population Sciences
Carson	Caree	John Termini, PhD	Molecular Medicine
Casano	Joseph	Mark LaBarge, PhD	Population Sciences
Cerneckis	Jonas	Yanhong Shi, PhD	Stem Cell Biology & Regenerative Medicine
Chassiakos	Alexander	Zhaohui Gu, PhD	Computational & Quantitative Medicine
Chen	Hanyu (Helen)	Year 1 Student	TBD
Chen	Wei-Kai (Kyle)	Helena Reijonen, PhD	Immunology & Theranostics
Chi	Kevin	Dustin Schones, PhD	Diabetes Complications & Metabolism
Chosco	Maria	Year 1 Student	TBD
Cisneros	Metztli	Jeremy Stark, PhD	Cancer Genetics & Epigenetics
Dang	Jessica	Mingye Feng	Immuno-Oncology
Duplan	Amanda	Flavia Pichiorri, PhD & John Williams, PhD	Hematologic Malignancies Translational Science/ Molecular Medicine
Emond	Rena	Andrea Bild, PhD	Medical Oncology
Epps	Elizabeth	John Rossi, PhD & John Burnett, PhD	Center for RNA Biology & Therapeutics / Center for Gene Therapy
Erdem	Neslihan	Jose Enrique Montero Casimiro, PhD & Hsun Teresa Ku, PhD	Diabetes Immunology/ Translational Research & Cellular Therapeutics Research

<b>Last Name</b>	<b>First Name</b>	<b>Mentor</b>	<b>Dept/Div</b>
Escalante	Gabriela	Javier Gordon Ogembo, PhD	Immuno-Oncology
Esparza	Diana	Debbie Thurmond, PhD	Molecular & Cellular Endocrinology
Faustino	Vronika (Ku'ulei)	Debbie Thurmond, PhD	Molecular & Cellular Endocrinology
Felix	Gerardo	Qiong (Annabel) Wang, PhD	Molecular & Cellular Endocrinology
Fernandez	Mike	Lili Wang, MD, PhD & Ren-Jang Lin, PhD	Systems Biology/ Center for RNA Biology & Therapeutics
Fu	Yu-Hsuan	Ya-Huei Kuo, PhD & Russell Rockne, PhD	Hematologic Malignancies Translational Science/ Computational & Quantitative Medicine
Ghassemi	Bitia	Christine Brown, PhD	Hematology & Hematopoietic Cell Transplantation
Gonzales	Juliet	John Williams, PhD	Cancer Biology & Molecular Medicine
Gonzalez	Cesar	Qiang Lu, PhD	Stem Cell Biology & Regenerative Medicine
Gonzalez-Dahua	Patrick	Javier Gordon Ogembo, PhD	Immuno-Oncology
Graham	Natalie	Mark Boldin, MD, PhD	Center for RNA Biology & Therapeutics
Gumber	Diana	Leo Wang, MD, PhD	Immuno-Oncology
Guo	Jiamin	Steven Rosen, MD	Hematology & Hematopoietic Cell Transplantation
Issac	Neethu	Year 1 Student	TBD
Hall	Jeremy	Marcin Kortylewski, PhD	Immuno-Oncology
Herrera-Ortegon	Alberto	John Rossi, PhD	Center for RNA Biology & Therapeutics
Holm	Kevin	John Rossi, PhD	Center for RNA Biology & Therapeutics
Huynh	Tiana	Alexey Danilov, MD, PhD	Hematology and Transplantation
Jiang	Yunqiu	Year 1 Student	TBD
Karimi	Kimya	Andrea Bild, PhD	Medical Oncology & Therapeutics
Kiperman	Tali	Ke Ma, PhD	Diabetes Complications & Metabolism
Kuang	Benjamin	Year 1 Student	TBD



<b>Last Name</b>	<b>First Name</b>	<b>Mentor</b>	<b>Dept/Div</b>
Lai	Seigmund	Sarah Shuck, PhD	Diabetes & Cancer Metabolism
Lam	Vi	Alexey Danilov, MD, PhD	Hematology & Hematopoietic Cell Transplantation
Li	Tiane	Mingye Feng, PhD & Mustafa Raoof, MD	Immuno-Oncology/Surgery
Liu	Jiangyue	Saul Priceman, PhD	Hematology & Hematopoietic Cell Transplantation
Lo	Hui-wen	Ping Wang, MD	Diabetes, Endocrinology & Metabolism
Lopez	Lupita	Saul Priceman, PhD	Hematology & Hematopoietic Cell Transplantation
Lopez	Kassandra (Kassy)	Sarah Shuck, PhD & Debbie Thurmond, PhD	Molecular & Cellular Endocrinology
Makins	Kaela	Jeremy Stark, PhD	Cancer Genetics & Epigenetics
Martinez Borrero	Rosemarie	Hua Yu, PhD & Lorna Rodriguez, MD, PhD	Immuno-Oncology
Mattson	Nicole	Chun-Wei (David) Chen, PhD	Systems Biology
Medina Castaneda	Eric	Andrea Bild, PhD	Medical Oncology & Therapeutics
Mukhaleva	Elizaveta (Eli)	Nagarajan Vaidehi, PhD	Computational & Quantitative Medicine
Munoz	Ashlie	Xiuli Wang, PhD & Stephan Forman MD	Hematology & Hematopoietic Cell Transplantation
Niewold	Erica	Year 1 Student	TBD
Odhiambo	Dalmas	Year 1 Student	TBD
Ortiz	Jose	Hsun Teresa Ku, PhD	Translational Research & Cellular Therapeutics
Pham	Hoang Quoc Hai	Yanzhong Yang, MD, PhD	Cancer Genetics & Epigenetics
Pollock	Nicolette	John Rossi, PhD	Center for RNA Biology & Therapeutics
Purnell	Benjamin	Tijana Jovanovic-Talisman, PhD	Cancer Biology & Molecular Medicine
Qin	Xi (Iris)	Jianjun Chen, PhD	Systems Biology
Reza	Hernan	Christine Brown, PhD & Forman, Stephen, MD	Hematology/HCT & Immuno-Oncology
Rodriguez	Esther	Javier Gordon Ogembo, PhD	Immuno-Oncology
Saenz	Marissa	Richard Ermel, PhD, DVM & Patrick Fueger, PhD	Center for Comparative Medicine / Molecular & Cellular Endocrinology

<b>Last Name</b>	<b>First Name</b>	<b>Mentor</b>	<b>Dept/Div</b>
Sharkas	Shawn	John Rossi, PhD	Center for RNA Biology & Therapeutics
Sokolich	Thomas	Mark Boldin, MD, PhD	Center for RNA Biology & Therapeutics
Tan	Jiayi (Joyce)	Peter Lee, MD	Immuno-Oncology
Tapia	Alonso	Zhen Chen, BMed, PhD	Diabetes Complications & Metabolism
Tong	Zhen	Christine Brown, PhD	Hematology/HCT & Immuno-Oncology
Trost	Hannah	Jeremy Stark, PhD	Cancer Genetics & Epigenetics
Valerio	Melissa Joyce	Guido Marcucci, MD	Hematologic Malignancies Translational Science
Walker	Mya	Sarah Shuck, PhD	Diabetes & Cancer Metabolism
Wang	Simiao	Michael Barish, PhD & Christine Brown, PhD	Hematology & Immuno-Oncology
Wei	Wenyuan	Nagarajan Vaidehi, PhD	Computational & Quantitative Medicine
Wenning	Leslie	Year 1 Student	TBD
Xu	Senlin	Wendong Huang, PhD	Diabetes Complications & Metabolism
Young	Cari	Saul Priceman, PhD	Hematology & Hematopoietic Cell Transplantation
Zamlot	Vic	Edwin Manuel, PhD	Immuno-Oncology
Zhao	Qianqian	David Ann, PhD, & Hua Yu, PhD	Diabetes Complications & Metabolism/ Immuno-Oncology
Zimmerman	Cloe	Javier Gordon Ogembo, PhD	Immuno-Oncology
Zirbes	Arrianna	Mark LaBarge, PhD	Population Sciences
Zook	Heather	Hsun Teresa Ku, PhD	Developmental & Translational Diabetes and Endocrine Research

## Academic Calendar 2022-2023

Aug-22	
16	BIOSCI 500 Responsible Conduct of Research, Scientific Rigor and Reproducibility (M-Th 9:00-11:00 am from 8/16/2022 to 8/30/22)
19	Deadline to choose Journal Club for 2022-2023 Academic Year <b>2nd year and above for PhD BS and all PhD TM students</b>
26	Graduate Student Symposium <b>All Students</b>
Sep-22	
1	Due by 9:00 am <b>2022 PhD BS cohort</b> to provide via email the list of three (3) potential faculty members for Lab Rotation I to Registrar
1	Summer Trimester Ends - Upload 740/800 Upload Enrollment and Performance form and IDP in Canvas <b>2nd year and above for PhD BS and all PhD TM students</b>
1	Comparative Medicine Seminar occurs every Thur. 1:00 pm - 3:00 pm (DVM all year)
2	Fall Trimester Begins (9/2/2022-1/22/2023)
2	BIOSCI 521 MCB-1 begins (M, W, F at 9:00 - 12:15 pm from 9/2/22 to 11/04/22)
5	Labor Day Holiday - all students off
6	BIOSCI 560 Laboratory Rotation I begin for the 2022 <b>PhD BS</b> cohort students except DVM (9/06/22 to 11/4/22)
8	Introduction to Flow Cytometry from 10:00 - 11:30 am <b>2022 Incoming Cohorts</b>
12	BIOSCI 672 Big Data Analysis Part A (M at 2:00-5:15pm from 9/12/22 to 10/24/22)
27	BIOSCI 625 Advanced Immunology and Immunotherapy (9/27/2022 - 11/10/2022)
30	Deadline for students entering their <b>3rd year PhD BS</b> to submit Qualifying Exam evaluation report
Oct-22	
6	Rotation Talk Workshop 11:00 - 12:30 pm via TEAMS - How to describe your science by writing a succinct report and giving a clear short talk. <b>Required 2022 PhD BS cohort</b>
24	BIOSCI 6732 Big Data Analysis Part B (M at 2:00-5:15pm from 10/24/22 to 12/19/22)
31	Due by <b>noon</b> -2022 PhD BS cohort students to provide via email the name of the faculty member for Lab Rotation II to the Registrar
Nov-22	
2	Laboratory Rotation I abstract due submit in Canvas <b>2022 PhD BS cohort students</b>
3	Lab Rotation I Presentations for <b>2022 PHD BS cohort students</b> at 1:00 to 5:30 pm
4	Lab Rotation 1 Ends Students to upload Mentor evaluation form
7	BIOSCI 522 MCB-2 begins (M, W, F at 9:00-12:15 pm from 11/7/22 to 1/20/23) There will be no class on Monday, 1/16/23 for Martin Luther holiday instead class will be on Tuesday 1/17/23
7	BIOSCI 561 Laboratory Rotation II begins for <b>2022 PhD BS cohort students</b> (11/7/22 to 1/20/23)
24	Thanksgiving Day - <b>all students off</b>
25	Thanksgiving Holiday off <b>2022 PhD BS cohort students only</b>
Dec-22	

26	Christmas Day - all students off
27-30	Christmas Break * Dec. 27 - 30 <b>2022 PhD BS cohort students only</b>
<b>Jan-23</b>	
2	New Year Holiday Observed all students off
16	Martin Luther King holiday - all students off
16	Due by <b>noon</b> - the <b>2022 PhD BS cohort</b> students to provide via email the name of the faculty member for Lab Rotation III to the Registrar
18	Laboratory Rotation II abstract submit in Canvas <b>2022 PhD BS cohort students</b>
19	Lab Rotation II Presentations for <b>2022 PhD BS Cohort</b> students
20	BIOSCI 561 Laboratory Rotation II ends student submit Mentor Evaluation in Canvas
22	Fall trimester Ends -Upload 740/800 Enrollment and Performance Form into Canvas
23	Spring Trimester Begins (1/23/23 to 6/4/2023)
TBD	BIOSCI 610 Advanced Comparative Medicine: The Mouse in Biomedical Research - <b>Offered during spring trimester, dates to be announced in registration email</b>
TBD	BIOSCI 670 Mathematical Modeling and Methods for Biological Science (Advanced Class) - <b>Offered during spring trimester, dates to be announced in registration email</b>
TBD	BIOSCI 641 Advanced Stem Cell Biology (1.5 credit) - <b>Offered during spring trimester, dates to be announced in registration email</b>
23	BIOSCI 562 Laboratory Rotation III begins for the <b>2022 PhD BS cohort</b> students (1/23/23 to 3/24/23)
23	BIOSCI 544 Biostatistics and Computational Biology begins (M, W, F at 9:00 - 12:30 pm from 1/23/23 to 3/25/23)
31	BIOSCI 600 Scientific Writing begins - <b>2021 PhD BS cohort and 2022 PhD TM cohort</b> (T, Th at 10:30 to 12:00 pm from 1/31/22 to 4/7/22)
<b>Feb-23</b>	
1	Due by <b>noon</b> - the prospective graduates to confirm via email with the Registrar if they plan to participate in the 2022 Graduation (must speak with committee)
1	<b>PhD TM 2022 cohort</b> deadline to submit QE committee to Registrar via email
<b>Mar-23</b>	
22	Due by <b>noon</b> - Laboratory Rotation III abstract due submit in Canvas <b>2022 PhD BS cohort students</b>
23	Lab Rotation III Presentations for <b>2022 PhD BS Cohort</b> 1:00 to 5:30 pm
24	BIOSCI 562 Lab Rotation III Ends student submit Mentor Evaluation in Canvas
25	BIOSCI 544 Biostatistics and Computational Biology ends
27	Spring Break 3/27/23 to 3/29/23 * <b>2022 PhD BS Cohort students only</b>
30	BIOSCI 550 Fundamentals of Scientific Research begins (M, Th at 9:00-12:30 pm and TA sessions TBD from 3/30/23 to 6/2/23)

Apr-23	
7	BIOSCI 600 Scientific Writing ends
23-25	Research Staff Organization (RSO) Event 4/23/23 to 4/25/23 (location to be announced)
May-23	
1	Deadline for <b>2022 PhD TM</b> cohort to submit Qualifying Exam evaluation report
20	Deadline for <b>prospective graduates</b> to complete and hand in Oral Defense Report to Registrar to participate in graduation
29	Memorial Day Holiday - all students off
31	Deadline for <b>2021 PhD BS</b> students to submit QE exam committee to Registrar
Jun-23	
TBD	2022 PhD BS DVM student to begin Lab Rotation I
1	Due by <b>noon</b> - the <b>2022 PhD BS cohort students</b> to deliver the completed Petition for Selection of Mentor for Dissertation Research form or submit the dates/Mentor of 4th rotation to the Registrar
2	BIOSCI 550 Fundamentals of Scientific Research ends
4	Spring Trimester Ends - Upload 740/800 Enrollment and Performance Form into Canvas
5	Summer Trimester Begins (6/5/23 - 8/31/23)
5	BIOSCI 565 FSR Practicum begins (9:00-12:30 pm from 6/5/23 to 6/30/23)
9	<b>GRADUATION</b> in the Rose Garden at 4:00 pm
30	BIOSCI 522 FSR Practicum Ends
Jul-23	
3	Summer Break begins 7/3/23 to 7/7/23 <b>2022 PhD BS cohort and 2023 PhD TM cohort only</b>
4	Independence Day Holiday - <b>All students</b>
10	Report to chosen Mentor Lab to begin BIOSCI 740 PhD Research <b>2022 PhD BS cohort and 2023 PhD TM cohort</b>
31	Deadline for <b>2021 PhD BS</b> students to submit QE Exam committee to Registrar
Aug-23	
TBD	2022 PhD BS DVM student to begin Lab Rotation II
14	Orientation for the incoming 2023 cohort students (8/14/23 to 9/01/23)
18	Deadline to choose Journal Club for 2023-2024 Academic Year <b>2nd year and above for PhD BS and all PhD TM students</b>
Sept-23	
TBD	2022 PhD BS DVM student to begin Lab Rotation III
1	2023-2024 Academic Year - Fall Trimester Begins (9/1/2023- 1/21/2024)

## Course Numbering 2022-2023



IRELL & MANELLA GRADUATE SCHOOL  
OF BIOLOGICAL SCIENCES

COURSE NUMBERING as of August 31, 2022

COURSE ID	COURSE NAME	CREDIT UNITS	GRADE
BIOSCI 500	Responsible Conduct of Research, Scientific Rigor and Reproducibility [R]	1	P, I, or F
BIOSCI 501	Rigor and Reproducibility [R]	1	P, I, or F
BIOSCI 502	Introduction to Grant Writing [R]	1	P, I, or F
BIOSCI 505	Concepts in Molecular Genetics Laboratory [R]	2	P, I, or F
BIOSCI 510	Biochemistry and Structural Biology [R]	4	A ~ F
BIOSCI 520	Principles of Gene Expression [R]	4	A ~ F
BIOSCI 521	Molecular and Cellular Biochemistry 1 (MCB1) [R]	3	A ~ F
BIOSCI 522	Molecular and Cellular Biochemistry 2 (MCB2) [R]	3	A ~ F
BIOSCI 530	Cell Biology [R]	4	A ~ F
BIOSCI 540	Biostatistics [R]	2	A ~ F
BIOSCI 542	Bioinformatics [R]	2	A ~ F
BIOSCI 543	Computational Molecular Biology [R]	2	A ~ F
BIOSCI 544	Biostatistics and Computational Biology [R]	3	A ~ F
BIOSCI 550	Fundamentals of Scientific Research [R]	6	A ~ F
BIOSCI 560	Laboratory Rotation I [R]	4	P, I, or F
BIOSCI 561	Laboratory Rotation II [R]	4	P, I, or F
BIOSCI 562	Laboratory Rotation III [R]	4	P, I, or F
BIOSCI 565	Fundamentals of Scientific Research Practicum [R]	2	P, I, or F

BIOSCI 580	Pathology Mini-Course [E] (Dr. Cardiff, 2016 Graduate School Distinguished Visiting Professor from UC Davis)	1	P, I, or F
BIOSCI 600	Scientific Writing [R]	2	P, I, or F
BIOSCI 600 A	Scientific Writing A [R]	1	P, I, or F
BIOSCI 600 B	Scientific Writing B [R]	1	P, I, or F
BIOSCI 601	Ethical Issues in Stem Cell Biology and Medicine [E]	2	P, I, or F
BIOSCI 610	Advanced Topics in Comparative Medicine: The Mouse in Biomedical Research [E]	3	A ~ F
BIOSCI 615	Advanced Comparative Medicine I [E]	3	A ~ F
BIOSCI 616	Advanced Comparative Medicine II [E]	3	A ~ F
BIOSCI 620	Advanced Cancer Biology [E]	3	A ~ F
BIOSCI 625	Advanced Immunology and Immunotherapy	1.5	A ~ F
BIOSCI 630	Advanced Neurosciences [E]	3	A ~ F
BIOSCI 635	Advanced Virology [E]	3	A ~ F
BIOSCI 640	Advanced Stem Cell Biology [E]	3	A ~ F
BIOSCI 645	Advanced Stem Cell Research and Medicine [E]	3	A ~ F
BIOSCI 650	Advanced RNA [E]	3	A ~ F
BIOSCI 655	Advanced DNA Repair, Epigenetics, and Cancer [E]	3	A ~ F
BIOSCI 660	Advanced Epigenomics [E]	3	A ~ F
BIOSCI 665	Advanced Cancer Metabolism [E]	3	A ~ F
BIOSCI 670	Mathematical Modeling and Methods for Biological Science [E]	3	A ~ F
BIOSCI 672	Big Data Analysis – Part A [E]	1.5	A ~ F
BIOSCI 673	Big Data Analysis – Part B [E]	1.5	A ~ F
BIOSCI 675	The Science of Health Disparities [E]	3	A ~ F
BIOSCI 680	Advanced Topics in Medicinal Chemistry: Drug Delivery [E]	3	A ~ F
BIOSCI 685	Advanced Topics in Diabetes: Therapeutic Targets and the Drug Development Pipeline [E]	3	A ~ F
BIOSCI 690	Advanced Topics in Diabetes and Metabolic Disease [E]	3	A ~ F
BIOSCI 700	Comparative Medicine Journal Club [E] *	1	P, I, or F
BIOSCI 701	Current Science Journal Club [E] *	1	P, I, or F

BIOSCI 702	DNA Repair Journal Club [E] *	1	P, I, or F
BIOSCI 703	Epigenetics & Chromatin Structure Journal Club [E] *	1	P, I, or F
BIOSCI 704	Immunology Journal Club [E] *	1	P, I, or F
BIOSCI 705	Protein Post-Translation Modification Journal Club [E] *	1	P, I, or F
BIOSCI 706	RNA Journal Club [E] *	1	P, I, or F
BIOSCI 707	Signaling and Regulation with Translational Focus Journal Club [E] *	1	P, I, or F
BIOSCI 708	Stem Cell, Development, and Regenerative Medicine Journal Club [E] *	1	P, I, or F
BIOSCI 709	Structural and Chemical Biology Journal Club [E] *	1	P, I, or F
BIOSCI 710	Tumor Immunology Journal Club [E] *	1	P, I, or F
BIOSCI 711	RNA and Epigenetics & Chromatin Structure Journal Club [E] *	1	P, I, or F
BIOSCI 712	Diabetes and Dysfunctional Metabolism Journal Club [E] *	1	P, I, or F
BIOSCI 713	T-Cell Immunotherapeutics [E] *	1	P, I, or F
BIOSCI 714	COH/TGen Precision Medicine [E] *	1	P, I, or F
BIOSCI 715	Computational and Theoretical Biology [E] *	1	P, I, or F
BIOSCI 716	The Intimate Link Between Cancer and Metabolism [E] *	1	P, I, or F
BIOSCI 730	Leading-Edge Lecture Seminar [E] *	1	P, I, or F
BIOSCI 735	Qualifying Exam 1 [R]	0	P, I, or F
BIOSCI 740	Lab Research [R] - after lab rotations and before advancement to candidacy *	8 to 12	P, I, or F
BIOSCI 745	Qualifying Exam 2 [R]	0	P, I, or F
BIOSCI 750	Qualifying Exam [R]	0	P, I, or F
BIOSCI 760	Independent Study [E]	3	P, I, or F
BIOSCI 800	Research for Dissertation [R] - prerequisite: advancement to candidacy *	10 to 12	P, I, or F
BIOSCI 805	Oral Dissertation Defense [R]	0	P, I, or F

\* = Repeatable course



## **City of Hope/Beckman Research Institute and University of Southern California Residency and Graduate Training Program in Laboratory Animal Medicine**

The City of Hope/Beckman Research Institute (COH/BRI) and University of Southern California (USC) Residency and Graduate Training Program in Laboratory Animal Medicine is a 3-year residency training component (primarily at USC – laboratory animal medicine resident) and 5-year combined residency and graduate training component (primarily at COH/BRI – laboratory animal medicine fellow) program designed to support preparation toward American College of Laboratory Animal Medicine (ACLAM) board certification and to prepare veterinarians for academic and research careers in the biomedical sciences, laboratory animal science, and comparative medicine.

The training program includes a full spectrum of clinical rounds, seminars, special projects pertaining to laboratory animal medicine, diagnostics, animal care and use, and teaching assignments. Laboratory animal medicine residents/fellows provide clinical services and veterinary care to the centrally administered support service for animal research and teaching programs at the COH/BRI Center for Comparative Medicine (CCM) Animal Care Program (ACP) and USC Department of Animal Resources (DAR) facilities. The training program provides postdoctoral (DVM) laboratory animal medicine residents/fellows with the intellectual depth and breadth, and appropriate clinical and research training in laboratory animal medicine, laboratory animal/comparative pathology, and comparative medicine.

Training includes a research component that involves the application of the scientific method as applied to a basic or clinical research project. The laboratory animal medicine residents/fellows may fulfill this requirement through the conduct of an independent, original project or as a collaborator working within the laboratory of an established investigator. Preparation of a manuscript for presentation/publication in a refereed journal in an appropriate discipline is required for successful completion of the training program. The Doctor of Philosophy (Ph.D.) in Biological Sciences is utilized as the graduate degree component of the 5-year combined residency and graduate training program and provides ample opportunities for specific training in the development of biomedical models and research methodology as well as in other areas important for specialty board certification by the ACLAM.

The Training Program Directors are:

Dr. Richard W. Ermel DVM, MPVM, PhD, DACLAM

Professor/Director – Center for Comparative Medicine

Director – Animal Care Program; City of Hope/Beckman Research Institute

Dr. Ari Aycock-Williams DVM, DACLAM

Executive Director – Department of Animal Resources

University of Southern California

<b>Residency and Graduate Training Program in Laboratory Animal Medicine</b> <b>Schedule for Laboratory Animal Medicine Fellows (4 Quarters/Year)</b>			
	Summer	Fall	Spring
Year 1	15% Didactic Training 85% Clinical Rotations Courses: Advanced Topics in Comparative Medicine (ATCM); Responsible Conduct of Research	15% Didactic Training Courses: ATCM; Molecular and Cellular Biochemistry 1; Molecular and Cellular Biochemistry 2	15% Didactic Training Courses: ATCM; Biostatistics and Computational Biology; Fundamentals of Scientific Research;
Year 2	15% Didactic Training 85% Laboratory Rotations (2 eight-week rotations) Courses: ATCM; Comparative Medicine Journal Club (CMJC); Fundamentals of Scientific Research Practicum	15% Didactic Training 35% Clinical Rotations 50% Laboratory Rotation (Optional rotation) Courses: ATCM; CMJC	15% Didactic Training 35% Clinical Rotations 50% Thesis Research Courses: ATCM; CMJC; Scientific Writing
Year 3	15% Didactic Training 85% Thesis Research Courses: ATCM; CMJC	15% Didactic Training 85% Thesis Research Qualifying Exam Courses: ATCM; CMJC Dissertation PhD	15% Didactic Training 85% Thesis Research Courses: ATCM; CMJC
Year 4	15% Didactic Training 85% Thesis Research Courses: ATCM; CMJC	15% Didactic Training 85% Thesis Research Courses: ATCM; CMJC	15% Didactic Training 85% Thesis Research Courses: ATCM; CMJC
Year 5	15% Didactic Training 85% Thesis Research Courses: ATCM; CMJC	15% Didactic Training 85% Thesis Research Courses: ATCM; CMJC	Defend PhD Thesis/Dissertation Courses: ATCM; CMJC

Key dates for the Laboratory Animal Medicine Fellows:

1<sup>st</sup> rotation – June – August (Year 2)

2<sup>nd</sup> rotation – August– September (Year 2)

3<sup>rd</sup> rotation – September-October optional (Year 2)

Petition for Dissertation Research Mentor – October 15<sup>th</sup> (Year 2)

Qualifying Exam Deadline – September 30<sup>th</sup> (Year 3)

## Arthur Riggs Diabetes and Metabolism Research Institute of the City of Hope and The Lundquist Institute at Harbor-UCLA Medical Center Basic and Translational Sciences Ph.D. Training Program

The Arthur Riggs Diabetes and Metabolism Research Institute (AR-DMRI) of the City of Hope and Los Angeles Biomedical Research Institute (The Lundquist Institute) at Harbor-UCLA Medical Center Basic and Translational Sciences PhD Training program is designed to prepare individuals for academic physician scientist careers. The training program begins with two years of clinical training rotations under the discretion of Andrew G. Gianoukakis, MD, FACE, ACGME accredited Harbor-UCLA Endocrinology Fellowship Training Program Director, and Fouad Kandeel, MD, PhD, City of Hope Site Director. Following this fellowship training the students/fellows will join the Irell & Manella Graduate School of Biological Sciences (IMGS) as a first-year doctoral student/fellow. The student/fellow will then progress through the standard degree requirements: core curriculum, qualifying examinations, advanced courses and committee meetings before an oral defense and dissertation.

Should timing permit it may be possible for the student/fellow to participate in two six-week research rotations during the second year of the fellowship. Should this schedule be preferred these rotations will be approved before starting. The lab rotation reports and evaluations need to be completed within a week of the rotation ending. If the student has performed early rotations, they would be permitted to join the lab whilst they participate in the core curriculum. Each student/fellow will have a minimum of two faculty members, one for basic science and one for translational research. These mentors are to be selected from the faculty of IMGS or The Lundquist Institute. City of Hope based students/fellows may choose any of the IMGS faculty for their research. The Lundquist Institute students/fellows may choose a mentor from The Lundquist Institute faculty, but that faculty member must agree to fulfill all the requirements of the Irell & Manella Graduate School of Biological Sciences PhD program in terms to regular dissertation committee meetings and reports. After agreeing to this requirement, the mentor would be an adjunct faculty member with full privileges in the program.

The Training Program Directors are:

Fouad Kandeel, MD, PhD

Chair – Department of Clinical Diabetes, Endocrinology and Metabolism

Arthur Riggs Diabetes and Metabolism Research Institute of the City of Hope

Ronald S. Swerdloff, MD

Chief – Division of Endocrinology, Diabetes and Metabolism

The Lundquist Institute at Harbor-UCLA Medical Center

## Policies and Procedures

### Academic Standards

The Faculty and Staff of the Irell & Manella Graduate School of Biological Sciences value high academic standards and believe that they are critical to ensure the overall quality of the Graduate School. The Graduate School Leadership (GSL), in consultation with the Dean and Vice Dean of the School, shall oversee the academic standards of the PhD program including verification of fulfillment of academic and graduation requirements.

### Sanctions

When a student does not meet the standards for adequate academic progress, the following procedures will be used to determine whether the student is failing to make satisfactory progress and/or whether an ethical or behavioral problem exists.

The Graduate School Leadership will review all cases of students who are not in Good Standing. For cases which result in a finding of insufficient academic performance or progress, professional practice field training unsuitability, or unethical or inappropriate behavior the following actions may be recommended.

### Probation

Probationary status is recommended when a student's academic progress or professional development has been inconsistent with the Graduate School's requirements. A student is given a specific amount of time (usually one term) in which to remediate the cause(s) of probation or will otherwise face dismissal from the program. The Graduate School Leadership will make the final determination regarding the length of time to remediate.

When the Graduate School Leadership acts to implement Warning or Probation status, the Associate Dean of Master's Education in conjunction with the Academic Deans will be responsible for monitoring and advising the progression of a student in a remediation plan. The process for monitoring students includes regular reports from the student and/or their mentor, reviewing student files and, as necessary and appropriate, recalling students to meet with the Graduate School Leadership. It shall be the responsibility of the Graduate School Leadership in such circumstances to review the case and to determine whether the student has completed all of the requirements of the remediation, in which case the removal of the Probationary status will be recommended. In the event that the Graduate School Leadership determines that the conditions that resulted in Probation have not been remediated, the Graduate School Leadership may recommend other action including a) continuance of the status of Probation or b) that a more severe sanction be imposed.

## Mandatory Leave of Absence

A student is recommended for Mandatory Leave of Absence in those cases in which the academic work or professional development, in the opinion of the Dean of the Graduate School, and taking into consideration the Graduate School Leadership's recommendations, requires serious remediation that necessitates a temporary leave from the Graduate School in order to complete the required remediation. Required leave of absences may result in the termination of stipend payments.

## Termination

A student may be terminated from the academic program when conditions are judged to be of a serious nature and are not judged to be remediable. Grounds for termination include insufficient grade point average and/or multiple Incompletes or Fail grades, serious violation of the Graduate School's standards of conducts and ethics or when a student has failed to remediate previously identified deficiencies within the specified time.

## Dismissal and Suspension Policies

Students may be suspended or dismissed as a result of unsatisfactory performance as judged by their mentor or dissertation committee.

The grounds for dismissal are:

- twice failing a required course;
- failing a qualifying examination;
- unsatisfactory performance as judged by the thesis committee;
- unethical performance - scientific misconduct, plagiarism, cheating;
- unexcused failure to meet graduate school requirements;
- prolonged, unexcused absence;
- violation of applicable laws and policies, including but not limited to those set forth herein, or other inappropriate misconduct, as may be determined by the Dean of the Graduate School; Unauthorized leaves of absence or failure to return from an approved leave.
- Failure to comply with school and/or City of Hope code of conduct and procedures
- Failure to submit student fees
- Evidence of personal factors (interpersonal or intrapersonal) that may hinder the student's professional and academic competence

One of the consequences of unsatisfactory academic performance is that it inevitably slows a student's progress toward the doctoral degree. A student who has failed two of the first-year courses is not eligible to take the Fundamentals of Scientific Research course. A student who has not passed the core curriculum courses may not take the qualifying examination until the course(s) has been passed. Another consequence of unsatisfactory academic performance is that a student is not eligible for travel grants and merit fellowships.

## Use of Alcohol / Illegal Substances

Use of alcohol or drugs that violates applicable laws is strictly prohibited. In addition, students must comply with rules regarding campus activities involving the legal use of such substances.

The illegal or abusive use of alcohol and/or other drugs by students impacts educational outcomes. Students needing assistance in addressing issues involving drug or alcohol use are encouraged to seek help through the Horizon Health assistance plan offered to students, which may be accessed by calling (888) 293-6948 / TTD (866) 846-5949. This service is available 24 hours a day, 365 days a year.

### Alcohol

Expectations regarding alcohol use include for on and off campus events, include the following:

1. The purchase, possession, or consumption of any alcoholic beverages (including beer and wine) by any person under the age of 21 is prohibited.
2. Alcoholic beverages will not be provided to individuals under 21 years of age.
3. The selling, either directly or indirectly, of alcoholic beverages (including beer and wine) except under the authority of a California Alcoholic Beverage Control Board license is prohibited. This includes selling cups, mixes, ice, tickets for admission, required donations, etc.
4. The serving of alcohol to an intoxicated person or to the point of intoxication is prohibited.
5. The act(s) of being drunk and disorderly in public view, including on campus and public sidewalks and walkways surrounding the campus, is prohibited.
6. Behavior that is disruptive or abusive to others as a result of using intoxicants is strictly prohibited.

Individuals planning to serve alcohol at any on-campus function must get prior approval. Contact the Business Operations Supervisor for additional information. Approval must be obtained for all events on campus.

### Drug Policy

The Graduate School expects all students and student groups to comply with all local, state and federal laws regarding the use, possession, sale or consumption of illegal drugs. It is the responsibility of each individual to be aware of, and abide by, all federal, state and local ordinances and graduate school regulations regarding the same. Current laws provide for severe penalties for violations which may result in criminal records.

### Tobacco Policy

The use of all tobacco products, including E-Cigarettes, is prohibited inside and on all City of Hope premises, including in student housing and vehicles parked on City of Hope premises.

## Grievance Procedure

A grievance is any alleged unauthorized or unjustified act or decision by a member of the faculty, staff, and/or management employee that adversely impacts the status, rights, or privileges of a student. This process should be used to settle grievances that are not considered in the Handbook with respect to specific policies or investigations and that have not been amicably resolved. Members of the grievance committee and the participants in the process must respect confidentially for students and faculty and conform to FERPA regulations.

Student appeals and grievances should be addressed to the Dean of the Graduate School within thirty days of the date of the action notice. Students will be entitled to a hearing, if an appropriate, timely request is made, as determined by the Dean. The request for a hearing should include the student's reasons for requesting the meeting and name parties, if any, who the student believes are pertinent to the grievance.

Within thirty days, the Dean will constitute an *ad hoc* grievance committee comprising at least two faculty members, two student members, and one Director who will chair the committee. None of the members of the committee should be personally involved in the subject matter of the grievance. The grievance committee shall interview parties as they see fit, including those suggested by the student, and gather all materials from the Graduate School that allow them to make a fair and unbiased decision which they should submit to the Dean within thirty days after constitution of the committee.

The Dean shall inform the student of the committee's decision within fifteen days of receipt of the decision and indicate if the Dean supports the committee's decision. If the Dean does not support the committee's decision, the Dean shall indicate the reason in writing.

All cases for dismissal will be brought before the Graduate School Leadership who will make a recommendation to the Dean of the Graduate School.

The Dean will make the final decision in all cases. The proceedings shall become part of the student's record.

## Title IX Equal Education Opportunities

The Graduate School wants its students to be fully informed about Title IX of the Education Amendments of 1972, 20 U.S.C. § 1681 et seq. (1988), which prohibits sex discrimination in federally assisted education programs.

This law states in part:

No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance.

The Title IX coordinator for City of Hope's Irell & Manella Graduate School of Biological Sciences is Joline Treanor, Chief Human Resource Officer, email: [jtreanor@coh.org](mailto:jtreanor@coh.org). The purpose of the Title IX coordinator is to coordinate the Graduate School's efforts to comply with and carry out its responsibilities under Title IX. The graduate school has adopted grievance procedures to govern the resolution of complaints alleging any action prohibited by Title IX. These procedures are attached [Appendix A: Federal Compliance](#) to the student handbook disseminated annually to students and are also available from the Title IX coordinator.

### *Harassment / Discrimination*

The Graduate School is committed to providing an environment that is free from discrimination and harassment. No one may be discriminated against because of national or ethnic origin, sex, sexual orientation, marital status, race, age, color, citizenship or disability. Harassment in any form is prohibited, including verbal, physical and visual sexual harassment. Any student who believes they have been harassed by a fellow student, staff member, mentor, or representative of the institution should promptly report the incident to Title IX Coordinator, Joline Treanor, Chief Human Resource Officer, email: [jtreanor@coh.org](mailto:jtreanor@coh.org).

### *Reasonable Accommodation*

The Graduate School complies with the Rehabilitation Act (Section 504) and the Americans with Disabilities Act (ADA), and has adopted a policy that assures continued reasonable accommodation will be provided for students with disabilities, so they can participate fully in the educational program and activities.

The general definition of a student with a disability is any person who has "a physical or mental impairment which substantially limits one or more of such person's major life activities," and any person who has "a history of, or is regarded as having, such an impairment." The Graduate School is not required by law to change the "fundamental nature or essential curricular components of its programs in order to accommodate the needs of disabled students," but it must provide reasonable academic accommodation.

Students with learning disabilities as well as physical disabilities may register for accommodations with. Mark Briskie, Senior Disability Administrator, [mbriskie@coh.org](mailto:mbriskie@coh.org), extension 85367.

### **FERPA-Family Educational Rights and Privacy Act**

The Family Educational Rights and Privacy Act of 1974, commonly referred to as FERPA, is designed to protect the privacy of student education records. It affords eligible students certain rights with respect to their education records and describes circumstances under which the institution may disclose education records. These rights include:

- The right to inspect and review their educational records
- The right to request an amendment of their education records
- The right to consent to the disclosure of their education records
- The right to file a complaint with the US Department of Education



## Anti-Bullying Environment

The Graduate School will not in any instance tolerate abusive, disrespectful, or bullying behavior (referred to in this policy as “bullying behavior”) by or towards any person, including but not limited to, students, staff, leadership, chairs, faculty and visitors. Any bullying behavior, regardless of intent, is unacceptable. The Graduate School defines bullying as severe and/or repeated mistreatment of one or more people by one or more perpetrators. Bullying generally includes abusive conduct such as:

- Threatening, humiliating or intimidating behaviors.
- Work interference/sabotage that prevents work from getting done (or attempts to prevent work from getting done).
- Verbal abuse.

Bullying conduct does not need to be based upon any aspect of an individual’s identity that is protected by law in order to constitute a violation of this policy.

Although it is not possible to identify every type of conduct that may violate this policy, the Graduate School considers the following types of behavior to be examples of bullying:

- Verbal bullying: Slandering, ridiculing or maligning a person or their appearance, lifestyle, family, or culture; persistent name-calling that is hurtful, insulting or humiliating; using a person as the butt of jokes or pranks; abusive and offensive remarks; or spreading rumors.
- Physical bullying: Pushing, shoving, kicking, poking, tripping, assault or threat of physical assault; or damage to a person’s work area or property.
- Gesture bullying: Nonverbal gestures that can convey threatening messages.
- Exclusion: Socially or physically excluding or disregarding a person in work-related activities.
- Sabotage: Subverting, obstructing, or disrupting another person’s work performance.

Cyberbullying refers to bullying, as defined above, that occurs using a computer, cell phone, smartphone, tablet, pager, or other device that transmits electronic information, regardless of whether the device is owned by or connected to City of Hope’s network. Cyberbullying is also prohibited.

There is a difference between bullying and appropriate supervision. Examples of reasonable supervisory actions, when carried out in an appropriate manner, include:

- Providing performance appraisals, where applicable;
- Coaching or providing constructive feedback;
- Monitoring or restricting access to sensitive information for legitimate business reasons;
- Scheduling ongoing meetings to address performance issues;
- Setting aggressive performance goals to help meet departmental goals; and
- Counseling or disciplining for misconduct.

This policy in no way prohibits students from engaging in any activities that are protected under applicable state and federal laws, including but not limited to any activity that is protected under Section 7 of the National Labor Relations Act, which includes the right of employees to speak, raise concerns and/or debate about their wages, hours and working conditions.

All personnel are strongly encouraged to report any bullying conduct they experience or witness as soon as possible to an Associate Director/Director, the Dean, or the Vice Provost; or to Human Resources so that the concerns can be addressed. Individuals may also report any issues and concerns on a completely confidential basis by completing a TIPS form or by contacting Corporate Compliance.

Anyone in a management or leadership capacity who becomes aware of or receives a complaint of bullying, through any channel, must immediately inform Human Resources. The Graduate School will conduct a fair and timely investigation whenever it receives an allegation of bullying. Complaints and investigations will be kept confidential to the extent possible.

If the Graduate School concludes that a violation of this policy has occurred, prompt and effective remedial action will be taken. The Graduate School may also report to law enforcement, if appropriate. Retaliation is strictly prohibited, and no action will be taken against any person for reporting possible violations of this policy in good faith.

### **Respectful Treatment of Others**

The Graduate School is a multicultural community of people from diverse racial, ethnic and class backgrounds, national origins, religious and political beliefs, physical abilities, and sexual orientations. Our interactions are enriched by our acceptance of one another, and we strive to learn from each other in an atmosphere of positive engagement and mutual respect. Students are expected to take responsibility for awareness of racism, sexism, ageism, xenophobia, homophobia, and other forms of oppression.

Discrimination will not be tolerated in our community. This includes, but is not limited to, verbal or written abuse, threats, harassment, intimidation, or violence against a person or property. In this context, we do not accept alcohol or substance abuse as an excuse, reason, or rationale for such abuse, harassment, intimidation, or violence. Such inappropriate behavior will subject a student to discipline.

## Academic Standing

Students are expected to make satisfactory academic and professional progress throughout their academic program.

### Satisfactory Academic Progress

All enrolled students are required to demonstrate good academic standing and satisfactory progress toward their degree. Students with particular questions concerning satisfactory progress should contact the Registrar. The following policy statements describe the general parameters for satisfactory academic progress at the Irell & Manella Graduate School of Biological Sciences at City of Hope.

Satisfactory Academic Progress and good academic standing are generally defined as:

- Meeting the professional and academic expectations as defined in the degree requirements section in the Student/Faculty Handbook
- Behaving consistently with professional and ethical standards as outlined in the Ethical Principles and Practices in the Student/Faculty Handbook
- Completing academic and educational projects, reports, and programs by deadlines

### Unsatisfactory Progress

The following are grounds for determining that satisfactory progress in the academic program is not being made:

- Failure to maintain a **B-** in every course
- Failure to complete required LEL seminars, journal club, rotations or annual committee meeting by deadlines
- Failure to complete rotation reports by due dates as indicated in the Student/Faculty Handbook
- Failure to adhere to Qualifying Examination guidelines and deadlines as defined in the Student/Faculty Handbook
- Failing a qualifying examination
- Violation of professional or ethical conduct policies
- Little or no progress on the dissertation, as determined by dissertation mentor and/or committee meetings

## Failure to Meet Academic Standards

At the close of each trimester the academic status of every student will be audited. All students who have met standards for academic progress will be deemed to be in “Good Standing”. Any student who has failed to meet the standards described above will have their file reviewed by the Graduate School Leadership.

The following sanctions will apply to any student not in Good Standing:

- A registration hold may be placed on the student record which will prohibit registration for courses. This also includes auditing a course.
- The student may not apply for travel funding, institutional fellowships, or other Graduate School funding.
- The student may not submit to or collect business requests from the Registrar’s office. This may include certifications, loan deferrals, proof of student status, academic audits, diploma requests, official or unofficial transcripts, and grade requests.

## Exceptions to Academic Regulations

A request for an exception to a published Graduate School academic policy or a request for any special academic privilege must be made in writing via email to the Registrar. All documentary evidence in support of each application for academic extension, exception or academic privilege should be submitted with the written request. Each case will be decided on its own merits. All extensions, exceptions, waivers, and special privileges are subject to review by the Dean and/or the Graduate School Leadership for a final decision. Students are encouraged to maintain their own personal copies of all paperwork submitted.

## Mandatory Compliance Training

Graduate Students must comply with yearly mandatory compliance, harassment training and submit annual health paperwork (in the month of birth). If students fail to complete these requirements by the due date, they will be suspended from the graduate school until all requirements are completed.

## International Students (F-1):

To maintain their immigration status, international students on F-1 visa must maintain full course of study at all times. International students seeking to take leave or drop below full course of study must first obtain approval from the school’s Designated School Officials (DSOs). Requests may be approved for the following reasons (8 CFR 214.2(f)(6)(i) and (iii)):

- (1) Initial academic difficulties;
- (2) A temporary illness or medical condition (with medical documentation from a licensed medical doctor, doctor of osteopathy, or licensed clinical psychologist but not to exceed an aggregate of 12 months); or
- (3) Need fewer courses than a full course load in their last term to complete the program of study.

## Benefits

Graduate Student/Non-Employees receive medical and dental benefits through Gallagher (formerly named Garnett Powers), and they are administered through City of Hope Human Resources. Details about benefits may be found at <http://www.garnett-powers.com/coh>.

## Wellness

The Graduate School Administration (Dean, Vice Dean, Directors, Co-Directors, Associate Directors, Assistant Directors and Office Staff) are here to assist if a graduate student needs help. There are resources that may not be listed. If the student reaches out, we can connect them accordingly. Please feel free to email or come into the Graduate School if additional assistance is needed.

- Rideshare Program: Benefits include free shuttle from Baldwin Park station, reserved carpool spaces, bike lockers, bike racks, and a public transportation subsidy for a Metrolink/Metro Pass depending monetary amount depends on the type of pass. You can view these at [cityofhope.commuterportal.com](http://cityofhope.commuterportal.com) with the access code: climate.
- Lyra Health Program – Students are eligible to participate in this program which helps with a variety of personal life matters including stress management, legal/financial services, childcare/elder care referrals, parenting skills, grieving, managing relationships or balancing work and life. There is online help as well as access to Dr. Martinez, our onsite counselor. Register for these services at [coh.lyrahealth.com](http://coh.lyrahealth.com). For additional assistance you can use the toll-free number 877-672-1266.
- Wellness Program: Students can earn points towards \$350.00 in gift cards for daily activities such as tracking healthy habits, reading about healthy habits, walking, and for getting an annual biometric screening or flu shot. Plus, you will receive an additional \$25.00 credit toward purchasing a step-tracking device. You can join this program by visiting [join.VirginPulse.com/CityofHope](http://join.VirginPulse.com/CityofHope) then download the Virgin Pulse app.

## Stipend Support

The Graduate School offers all PhD students five years of guaranteed stipend support, provided that they remain in good academic standing throughout the whole training period. This financial support applies to both domestic and international students admitted to our doctoral programs. Before entering their sixth or seventh year, students may petition the Graduate School for an extension to their stipend support beyond the fifth year. In consultation with the student's dissertation committee and mentor, the request will only be granted if the student sufficiently demonstrate the need for extension, which includes, but is not limited to, additional time needed to complete dissertation/manuscript writing or to wrap up final experiments. Students beyond their seventh years are not eligible for stipend support but may continue without funding or with funding through an external fellowship.

## Student Fees

Student fees are used for student activities such as off campus outings, the Beckman Pub, GSO meeting refreshments, outreach activities such as adopt a family and the pediatric parade. The utilization of these student fees is decided by the Graduate Student Organization (GSO).

Student fees of \$75 are collected twice a year from doctoral graduate students. First-year students must pay by check in advance. Advanced students pay by payroll deduction (October and March).

## Transcript Request

Official academic transcripts can be ordered from the Registrar using the Transcript Request Form ([Graduate School Intranet - Find in Graduate Student Documents](#)). A fee of \$10 will be charged per transcript payable by personal check. Checks should be made payable to City of Hope. This fee shall be waived if the school receives proof that a fellowship or grant application has been submitted. Standard orders are processed within four business days of receipt of the order. Delivery time is not included in processing time and varies by delivery service and local area. Transcripts held for in-person delivery are picked up from the Registrar. If you have outstanding financial obligations to the school your transcript request will be delayed until payment is received.

## Replacement Diplomas

A graduate of the Irell & Manella Graduate School of Biological Sciences can request a replacement diploma if the original has been lost or destroyed, or to request a re-issue after a graduate's legal name change. Evidence of a court order changing the legal name is required. A fee of \$25 will be charged per request payable by personal check. Checks should be made payable to City of Hope. The replacement diploma bears a re-issue date and the signatures of the current Dean and City of Hope signatories. A replacement diploma has an eight-week processing time. Delivery is not included in the processing time and varies by delivery service and local area.

## Student Loans

Irell & Manella Graduate School of Biological Sciences at City of Hope does not offer financial aid to PhD students. IMGS does participate in Title IV loan deferment as an exempt institution so that students may defer student loans from previous education. Please contact the Registrar to assist graduate students in good academic standing to defer their government and private undergraduate study loans and obtain the U.S. Department of Education Office of Post-Secondary Education identification number (OPEID).

When a graduate student in good academic standing needs to provide a certification of current enrollment letter to their private loan agency or other entity, the Registrar can also help with this matter.

## Hardship Supplement

Students with demonstrable financial hardship can apply to the Graduate School for an annual “Hardship Supplement”. Supplements will be provided as funding permits. Applications should be submitted to the Director of PhD Administration and Admissions. The application form can be found under ([Graduate School Intranet - Find in Graduate Student Documents](#) ). To apply the student must also supply a complete budget with a request for a specific dollar amount per month. Additional documentation may be requested to demonstrate financial hardship. The supplement, if awarded will be available for one year and must be renewed by reapplication each year. The student must demonstrate that they are eligible for each request. To qualify students must be in good academic standing.

## Laptops

The Irell & Manella Graduate School of Biological Sciences provides each first-year PhD graduate student with a laptop during orientation. It is each student’s responsibility to maintain the laptop in good working order and utilize it appropriately ([Graduate School Intranet - Find in Graduate Student Documents](#)). Should the laptop be damaged, it is the student’s responsibility to contact the City of Hope IT department to arrange for repairs at the student’s expense. The student shall return the laptop and all peripheral equipment to the Registrar before the student exits the program. If laptops are not returned the school will be unable to provide transcripts upon request or degree diplomas. Also, students run the risk of being personally responsible for full repair or replacement cost of the computer.

## Attendance

Students are required to be in attendance full-time for both instructional and research activities. The student commitment is full time, subject to any rights to time off under applicable law and with reasonable consideration for holidays, illness, and leaves of absence as described below. Students are expected to make steady progress on their dissertation topic because the outcome of their research impacts their mentors, colleagues in the lab, and the entire institute. Students are discouraged from engaging in part-time employment on the side as this will diminish the quality of their research and slow their progress toward their degree. Occasionally, an advanced student may begin to transition to their next position, such as teaching part-time at night, but given the nature of the program, students are expected to advise the Graduate School Office before beginning any outside employment, so that City of Hope and the student may determine that the outside employment does not pose a conflict of interest. This policy is specifically for employment that provides a unique/distinct training experience for the student that is not possible without such employment. Additionally, any student holding outside employment will be expected to meet all expectations of the Graduate School Program, regardless of any outside employment.

## Remote Work Outside the Region

Remote working from any domicile that is outside the immediate region of City of Hope (i.e., within a daily commutable distance) is strongly discouraged and considered detrimental to the intentions of a graduate education in the biological sciences. Graduate students are required to be in attendance full time for instructional, professional development, and research activities. If a student requests to work away from this area, they must verify that all the potential lab work needed to defend their dissertation or thesis is completed and submit a Request to Work Outside the Region Form ([Graduate School Intranet - Find in Graduate Student Documents](#)) via email to the student's mentor, and the Registrar. Permission to work outside the COH region can only commence after all parties have agreed to a timeframe, work plan, and benchmarks/deliverables, indicating agreement by signing of the afore mentioned request form. Signing by the student's committee chair indicates the committee's general agreement that work on the dissertation research can continue towards completion according to the described plan. 1st year students are ineligible for work outside of the region. As a reminder, international students on Visa status should contact the City of Hope Immigration Services Administrator before travelling abroad. Leaving the area without permission, or beyond the approved timeframe, will result in academic probation, which can lead to mandatory leave of absence, suspension, or dismissal from the program.

### Leaves of Absence

The student's advisor and the Graduate School Office must be informed when a student is not available to conduct their laboratory research or attend classes. Students are provided ten sick days per year. If a student expects to be absent for more than seven (7) calendar days due to a family and/or medical leave, accidental injury, or pregnancy, they may request a leave of absence from their mentor and the Graduate School Office by submitting the Absence Request Form ([Graduate School Intranet - Find in Graduate Student Documents](#)).

### Pay While on Medical Leave

If a student is approved for a disability leave, the school or the mentor will continue stipend payments (provided that the student is in good academic standing) up to a maximum of eight (8) weeks at 100%, reduced and coordinated with City of Hope's Short-Term Disability Insurance Plan and California's State Disability Insurance, if applicable. City of Hope's Short-Term Disability Insurance Plan provides sixty percent (60%) of pre-disability income up to a weekly maximum of \$1,500 per week.

After eight (8) weeks, if the student is unable to return to the program due to a continued qualified disability, the student will continue to receive weekly disability benefits under the provisions of City of Hope's Short-Term Disability Insurance Plan. If student is no longer deemed disabled by their healthcare provider and the leave of absence is approved for additional days, the remaining approved leave period is unpaid. Any unused vacation hours provided by the Graduate School may be used to supplement pay.



### Pay While on Family or Parental Leave

If a student is approved for family or parental leave, the school or the mentor will continue stipend payments (provided that the student is in good academic standing) up to a maximum of eight (8) weeks at 70%. This benefit may be reduced and coordinated with California's State Paid Family Leave program, if applicable.

After eight (8) weeks, if the student is unable to return to the program due to reasons other than their own serious health condition, the remaining approved leave period will be unpaid. Any unused vacation hours provided by the Graduate School may be used to supplement pay.

### Health Benefits While on Leave

While on an approved leave of absence, students are eligible to continue coverage under the Trainee and Affiliate's health benefit plans (administered by Gallagher). If the student is receiving stipend payments through City of Hope's payroll, contributions are deducted from the student's paycheck and health coverage remains active. If the approved leave becomes unpaid, City of Hope will pay the student's portion of the cost of benefits up to 6 months. When the student returns from leave, the student will be required to repay missed contributions through payroll deduction. If the approved leave becomes unpaid after 6 months, health benefits will terminate on the 1st of the following month and the student will be offered *Consolidated Omnibus Budget Reconciliation Act (COBRA)* continuation coverage at their own expense.

To obtain more information regarding leave of absence, disability payments and filing a claim, students may contact City of Hope's Benefits department at [benefitsLOA@coh.org](mailto:benefitsLOA@coh.org) or (626) 476-4240.

Re-enrollment after > 12 months of leave of absence requires Graduate School approval.

### Holidays

The Graduate School observes the same seven holidays observed by City of Hope [New Year's Day, Martin Luther King, Memorial Day, July 4<sup>th</sup>, Labor Day, Thanksgiving, and Christmas]. For standard holidays, an Absence Request Form is not required. Additionally, the Graduate School encourages students to take additional days off (e.g., 10 per year) as part of maintaining balance. Seventeen days (including observed holidays) is the amount of time the Graduate School believes is reasonable for students to be absent for non-illness related reasons and still be able to meet the program commitments. However, given the program commitments, students must receive approval from their mentor before taking time off. To obtain approval, students should:

1. Consult with their mentor.
2. Complete an Absence Request Form and submit the form to the student's mentor, the Graduate School Registrar and the mentor's Business Manager.

Students should contact the Registrar with any questions about attendance or requests for time off. Days off are not an accrued benefit and will not be paid out in the event a student leaves the program.

Absence Request Form is located under [Graduate School Intranet - Find in Graduate Student Documents](#)

### **International Students: Attendance and Traveling**

When traveling internationally ensure your I-20 document has been signed by a designated school official. Please see the Registrar or Sherri Pattanakiat.

## **Payroll Categories**

As a reference point, students are not employees. They may receive stipends or other forms of compensation and such payments may be processed via City of Hope's payroll system or Accounts Payable department. For the purposes of payroll, graduate students will be separated into a different category with the following title: Graduate Student/Non-Employee

This distinct category will allow the administration to better track required tax withholding for domestic and foreign students and will provide a means to ensure the accuracy of time and effort reporting.

### **Payroll Method**

Graduate Student/Non-Employee

Even though the Graduate Student/Non-Employee is not an "employee," they may receive stipends or compensation via the COH payroll system so that the required tax withholdings can be adequately calculated and tracked.

Graduate students, unlike employees, are exempt from paying Federal Insurance Contributions Act (FICA) and may be exempt from Federal Tax if their country of origin has a tax treaty with the United States. Employees who believe they may qualify for this exemption should complete Form 8233 and W8 and submit to [Payroll@coh.org](mailto:Payroll@coh.org) for review and determination. Foreign students, who are exempted initially from Federal Tax obligations, should consult tax laws concerning future tax liabilities.

All employees, regardless of visa type, country, or residency status are subject to California income tax withholding but are not eligible for California SDI (short term disability insurance).

Graduate Student/Non-Employees will receive a W-2 form and will need to file a tax return annually, per Internal Revenue Service (IRS) and California Franchise Tax Board (FTB) guidelines. As part of the onboarding process, students will need to complete a new W-4 and DE 4 form and provide updated home address information by April 1st. W-2 forms will be generated and mailed

to your home by January 31<sup>st</sup> of every year. International Student forms may be a different time consult with Payroll for timing of tax documents.

Paychecks may also include deductions for benefits depending on your benefit selections, if you use your badge in the cafeteria or gift shop or if you donate to employee giving.

### **Direct Deposit**

All graduate students will have the ability to have their payments “direct deposited.” Any student wishing to participate in direct deposit must complete a direct deposit form, attach a canceled check and submit these items to Payroll.

### **PeopleSoft Access**

Graduate Student/Non-Employees are active in PeopleSoft and will be able to log in and access personal information.

## Training Program in Bioscience Management

The Irell & Manella Graduate School of Biological Sciences in collaboration with the Keck Graduate Institute (KGI) of Claremont Colleges is proud to offer a Management Training Program for graduate students. To participate the student must have passed their Qualifying Exam, advanced to candidacy, and received the full permission of their research mentor. Students will receive full scholarships to take business-related courses at KGI and to earn a certificate in bioscience management. The program is designed to prepare students for intellectually challenging careers in the private sector. The program consists of 12 credit hours of courses. It may be taken as 3 credits per semester for four semesters OR as 6 credits per semester for two semesters.

Required courses include finance and accounting principles, corporate finance, bioscience strategy, introduction to bioscience industries, and professional development for scientists. This program provides excellent preparation for careers in biotechnology and pharmaceutical companies as science and disease concepts are integrated with management and industry.

To learn more about the program visit <https://www.kgi.edu/academics/degrees-certificates/certificate-in-bioscience-management/>

## Ethical Principles and Practices

### Academic Honesty of Students - Academic Integrity Committee Overview

Since the scientific research enterprise is built upon a foundation of trust, unethical student activity, such as fabrication, plagiarism, and cheating, shall be dealt with firmly. The Academic Integrity Committee (AIC) (chaired by the Director of PhD Administration and Admissions) will investigate allegations of improper student behavior, including fabrication, plagiarism and cheating in student's examination, qualifying exam, term paper, report or dissertation exam. The findings of the Committee will be transmitted to the Dean, and the Dean, in consultation with the Graduate School Leadership, shall determine what, if any, disciplinary action shall be taken. The possible consequences of violations of academic integrity range from a reprimand in the student's file to suspension or dismissal from the program. Appeals should be addressed to the Dean of the Graduate School.

### AIC Jurisdiction

The AIC will fall under the jurisdiction of the Graduate Student Organization (GSO) and the Graduate School Leadership. When necessary, the AIC will present updates to the GSO Student Body at GSO meetings being sure to maintain individual student's anonymity. Also, when necessary, the GSO President will present the recommendations of the AIC to the members of the Graduate School Leadership.

### Standing AIC Membership

The AIC will be composed of three voting members. The Director of PhD Administration and Admissions will serve as AIC Chair, organize AIC meetings, delegate responsibilities amongst the other members of the standing AIC, and report to the GSO Student Body at GSO meetings. The President and Secretary of the GSO will serve as members of the Standing AIC.

In addition to the AIC Chair, one voting member will be elected by the committee to serve as the AIC Secretary. The AIC Chair cannot serve as the AIC Secretary. The AIC Secretary will be responsible for taking detailed notes at AIC meetings, compiling written AIC recommendations to the Graduate School Leadership.

The AIC Chair is responsible for compiling an annual report in September that describes the cases investigated by any ad hoc AIC to be submitted to the Graduate School Leadership.

In addition to the three voting members, the current GSO President will serve as a non-voting member and will act as the AIC's liaison with the Graduate School Leadership.

## Standing AIC Duties

### Recommended Measures to Prevent/Deter Academic Dishonesty

Each year, the AIC will compile a list of recommended measures that will prevent/deter cheating, plagiarism and other acts of academic dishonesty. These recommendations will be submitted to the Graduate School Leadership, and it is the responsibility of the members of the Graduate School Leadership to implement these measures as they deem fit.

The initial list of measures was based on the Student Academic Integrity Survey results obtained in March/April of 2009. This list of recommendations will be revised annually by the newly convened AIC, incorporating new ideas and altering old ideas in order to best represent the current students' opinions.

### Ad Hoc Investigation of Academic Dishonesty/Suggestion for Consequences

The Standing AIC chair will appoint a 3person ad hoc AIC faculty committee to investigate allegations of academic dishonesty. None of the faculty appointed will have a conflict of interest with the student(s) or faculty concerned. The Standing AIC Chair will oversee the committee proceedings, organize meetings, and report the results to the Graduate School Leadership. The Standing AIC Chair is a non-voting member of the committee. One of the 3 faculty AIC committee members will be selected as ad hoc AIC faculty committee Chair.

The AIC will serve as the first step in enforcing the academic integrity policy of the Graduate School. The ad hoc AIC faculty committee will perform the initial investigations of academic dishonesty allegations. These investigations will include: 1) interviewing the person(s) making the allegation, 2) evaluating the merits of the allegation, 3) interviewing the accused student, 4) interviewing other parties involved in the incident, and 5) compiling the above findings.

Following the investigation of each academic dishonesty allegation, the ad hoc AIC faculty committee will compile a written report of the investigation that concludes with suggestions for the Graduate School Leadership regarding consequences for the student's infringement. The guilt of the individual and the suggested consequences should be voted upon by the AIC, and the results of these votes should be included in the written report. The GSO President will present the report to the Graduate School Leadership, and it will be the responsibility of the members of the Graduate School Leadership to implement the AIC recommendations based on the ruling of the Graduate School Leadership.

### Annual Report: Summary of Academic Dishonesty Cases

Each September, the Standing AIC Chair will compile an annual report that summarizes the cases investigated by the ad hoc AIC faculty committee(s) during the previous year's term. This annual report will remove student's names from the cases and refer to the accused students as Student A, Student B, and so on. Each case will be briefly summarized to include: the alleged incident of academic dishonesty, the main findings of the investigation, the ad hoc AIC faculty committee votes, the recommendations of the AIC to the Graduate School Leadership, and the consequences for the accused student.

The report will be submitted to the Dean and distributed to the GSO Student Body following revision by the Graduate School Leadership to ensure that student anonymity is maintained. Investigation notes, reports, and related documentation will be maintained confidentially by the Registrar.

## Academic Programs Overview

City of Hope's Irell & Manella Graduate School of Biological Sciences offers rigorous programs of course work and laboratory research culminating in a PhD degree. The goal is to develop professionally trained scientists, prepared for a career in academic, medical or industrial research. A PhD degree will be conferred upon completion of all the necessary requirements. The time spent in the program will be devoted to full-time study and research, and the number of years dedicated to this pursuit will depend on the student's prior training and the dissertation project chosen. Nonetheless, completion of the PhD requires a minimum of 132 total Credit Units.

### Degree Requirements - Required coursework and milestones.

A grade of B- or higher is required to pass all coursework, unless the course is graded Pass/Fail. If a student does not pass a class for any reason, the Graduate School Leadership will determine whether the student must repeat the entire class or simply the sections that the student failed. Students who fail a class will have an F on their permanent record, but if they repeat and pass the class the new grade will also be recorded on the transcript and the failure will not be calculated in the grade point average.

#### **BS-PhD for current students for the 2019-2020 cohort and before**

BIOSCI 500 Responsible Conduct of Research

BIOSCI 505 Concepts in Molecular Genetics Laboratory

BIOSCI 520 Principles of Gene Expression

BIOSCI 510 Biochemistry and Structural Biology

BIOSCI 530 Cell Biology

BIOSCI 544 Biostatistics and Computational Biology

BIOSCI 550 Fundamentals of Scientific Research

BIOSCI 565 Fundamentals of Scientific Research Practicum (2019-2020 cohort only)

BIOSCI 600A Scientific Writing A

BIOSCI 600B Scientific Writing B

BIOSCI 735 Qualifying Exam 1 (2018-2019 cohort and before only)

BIOSCI 745 Qualifying Exam 2 (2018-2019 cohort and before only)

BIOSCI 740 Lab Research (before Qualifying Exam)

BIOSCI 750 Qualifying Exam (2019-2020 cohort only)

BIOSCI 800 Research for Dissertation (after Qualifying Exam or Qualifying Exam 2, 2018-2019 cohort)

BIOSCI 610-699 A total of (3) credit units of Advanced Topics courses

Minimum of two dissertation committee meetings after Qualifying Exam/Qualifying Exam2

BIOSCI 805 Oral Dissertation defense (see Dissertation Requirements and Graduation Checklist for details, which include submitting a final IDP and Exit Interview form)



**BS-PhD beginning 2020-2021 cohort**

BIOSCI 500 Responsible Conduct of Research, Scientific Rigor and Reproducibility  
BIOSCI 521 Molecular and Cellular Biochemistry 1  
BIOSCI 522 Molecular and Cellular Biochemistry 2  
BIOSCI 544 Biostatistics and Computational Biology  
BIOSCI 500 Fundamentals of Scientific Research  
BIOSCI 565 Fundamentals of Scientific Research Practicum  
BIOSCI 600 Scientific Writing  
BIOSCI 740 Lab Research (before Qualifying Exam)  
BIOSCI 750 Qualifying Exam  
BIOSCI 800 Research for Dissertation (after Qualifying Exam)  
BIOSCI 610-699 A total of (3) credit units of Advanced Topics courses  
Minimum of two dissertation committee meetings after Qualifying Exam  
BIOSCI 805 Oral Dissertation defense (see Dissertation Requirements and Graduation Checklist for details, which include submitting a final IDP and Exit Interview form)

**TM-PhD**

Completion of the MSTM degree is a prerequisite  
BIOSCI 500 Responsible Conduct of Research, Scientific Rigor and Reproducibility  
BIOSCI 550 Fundamentals of Scientific Research  
BIOSCI 565 Fundamentals of Scientific Research Practicum  
BIOSCI 600 Scientific Writing  
BIOSCI 740 Lab Research (before Qualifying Exam)  
BIOSCI 750 Qualifying Exam  
BIOSCI 800 Research for Dissertation (after Qualifying Exam)  
BIOSCI 610-699 A total of (6) credit units of Advanced Topics courses  
Minimum of two dissertation committee meetings after Qualifying Exam  
BIOSCI 805 Oral Dissertation defense (see Dissertation Requirements and Graduation Checklist for details, which include submitting a final IDP and Exit Interview form)

**B. Coursework and documentation that is required to remain in good academic standing, starting the 2021-2022 academic year, for both BS-PhD and TM-PhD students, following completion of FSR (2018-2019 cohort and before) and FSR practicum (beginning 2019-2020 cohort). Although, 1st year BS-PhD students also have an LEL requirement (see syllabus). All of these requirements to remain in good academic standing persist until successful completion of the dissertation defense.**

- For Research Courses (BIOSCI 740 and BIOSCI 800), a passing grade for the past trimester, and enrollment in current trimester
- Committee meetings complete each Fall and Spring Trimester (documented in the BIOSCI 740 and BIOSCI 800 enrollment form)
- Update IDP document and attach to Fall trimester BIOSCI 740 / BIOSCI 800 enrollment form
- Passing grade and continual enrollment and participation in Journal Club Course
- Passing grade and continual enrollment and participation in LEL

## Path to Graduation for PhD BS (Student cohorts starting prior to 2020)

(Note: 2019 PhD BS cohort took FSR Practicum instead of QE1)

	Fall Trimester (September to January)		Spring Trimester (January to June)		Summer Trimester (June to August)		
Year 1	Responsible Conduct of Research		Cell Biology		Fundamentals of Scientific Research		
	Concepts in Molecular Biology and Genetics Lab		Biostatistics and Computational Biology		Rigor and Reproducibility		
	Biochemistry and Structural Biology		Scientific Writing A			Research	
	Principles of Gene Expression						
	Rotation 1	Rotation 2	Rotation 3		Rotation 4 (Optional)		
	Leading-Edge Lecture						
Year 2	Advanced Topics Class						Qualifying Exam September 30 <sup>th</sup>
	Scientific Writing B						
	Research						
	Journal Club						
	Leading-Edge Lecture						
Year 3	Research						Committee meetings - Fall and Spring Trimester
	Journal Club						
	Leading-Edge Lecture						
Year 4	Research						Committee meetings - Fall and Spring Trimester
	Journal Club						
	Leading-Edge Lecture						
Year 5	Research						Committee meetings - Fall and Spring Trimester
	Journal Club						
	Leading-Edge Lecture						

### Path to Graduation for PhD BS (Student cohorts starting at 2020)

	Fall Trimester (September to January)		Spring Trimester (January to June)		Summer Trimester (June to August)		
Year 1	Responsible Conduct of Research, Rigor and Reproducibility		Biostatistics and Computational Biology		Research		
	Molecular and Cellular Biochemistry I		Fundamentals of Scientific Research				
	Molecular and Cellular Biochemistry II				Fundamentals of Scientific Research Practicum		
	Rotation 1	Rotation 2	Rotation 3		Rotation 4 (Optional)		
	Leading-Edge Lecture						
Year 2	Advanced Topics Class						
			Scientific Writing				
	Research						
	Journal Club						
	Leading-Edge Lecture						
Year 3	Research						Qualifying Exam September 30 <sup>th</sup>
	Journal Club						
	Leading-Edge Lecture						Committee Meetings - Spring Trimester
Year 4	Research						Committee Meetings – Fall and Spring Trimester
	Journal Club						
	Leading-Edge Lecture						
Year 5	Research						Committee Meetings – Fall and Spring Trimester
	Journal Club						
	Leading-Edge Lecture						

### Path to Graduation for PhD TM (Student cohorts starting at 2021)

MSTM Year 1	MSTM Course Requirements					
MSTM Year 2	MSTM Requirements	MSTM Requirements				
MSTM Year 2 Prep. for PhD TM	Fall Trimester (September to January)	Spring Trimester (January to June)		Summer Trimester (June to August)		
		Apply to PhD TM Program	FSR	FSR Practicum	Research	
PhD TM Year 1	Responsible Conduct of Research, Rigor and Reproducibility					Qualifying Exam May 1
	Advanced Topics Class					
		Scientific Writing				
	Research					
	Journal Club					
	Leading-Edge Lecture					
PhD TM Year 2	Advanced Topics Class					Committee Meetings – Fall and Spring Trimester
PhD TM Year 2	Research					
	Journal Club					
	Leading-Edge Lecture					
PhD TM Year 3	Research					Committee Meetings – Fall and Spring Trimester
	Journal Club					
	Leading-Edge Lecture					

## Grading System

Students will receive letter grades for their course work. Students must receive a grade of 80 percent or above (B- or better) in all course work to continue in the program. Non-graded courses receive a Pass, Fail or Incomplete.

Letter Grade	Percentage	GPA	
A+	97% - 100%	4.00/4.00	Pass
A	93% - 96%	4.00/4.00	Pass
A-	90% - 92%	3.67/4.00	Pass
B+	87% - 89%	3.33/4.00	Pass
B	83% - 86%	3.00/4.00	Pass
B-	80% - 82%	2.67/4.00	Pass
C+	77% - 79%	2.33/4.00	Fail
C	73% - 76%	2.00/4.00	Fail
C-	70% - 72%	1.67/4.00	Fail
D+	67% - 69%	1.33/4.00	Fail
D	63%-66%	1.00/4.00	Fail
D-	60% - 62%	0.67/4.00	Fail
F	0% - 59%	0.00/4.00	Fail

## Grade Change Policy

Evaluating student work and maintaining academic standards are the responsibility of the faculty, and faculty decisions about grades will only be overruled in cases where there is clear evidence of arbitrary and/or inconsistent grading. If a student wishes to challenge a grade, the student should discuss the grade with the course coordinator. If the matter cannot be resolved at this level, the student should make a request to the Dean to appoint a three-person Grade Change Committee, which will include the course coordinator, and two faculty actively involved in teaching and/or curriculum but excluding the Dean or Directors. The Dean will also appoint one member as the Chair (not the course coordinator), who will work to find consensus, but the final decision will be made by committee majority vote. This committee will consider the grading issue separately from any potential consequences of the grade for the student's academic standing, which is covered under a separate policy (see Academic Standards section).

## Course Drop Policy

Students may drop a course without any record on their transcript if they notify the registrar and course coordinator within the first third of the course. Students may drop the class any time between then and the final class/assignment, again by notifying the registrar and course coordinator, but will receive an "incomplete" on their transcript. It is not possible to drop the course after the final class or final assignment/test is posted, and students will receive the grade assigned by the coordinator.

## Transfer Credit

(Applied to students that are moving with PIs from other institutions)

Transfer credit as defined by Irell & Manella Graduate School of Biological Sciences includes two distinct situations. Transfer credit for classes taken prior to acceptance into the graduate program will be considered. This includes classes taken while the student was a graduate student. Transfer credit for classes must be approved by the Graduate School Leadership/Curriculum Committee and be recorded on the students' transcript and course syllabus. Students must earn a B- or better to receive course credit.

## Credit Hour Policy

### Definitions

*Trimester:* Irell & Manella Graduate School of Biological Sciences at City of Hope is on a trimester system. Each trimester (Fall, Spring, Summer) is approximately 17 weeks. Once students advance to candidacy, they are expected to perform research for 17 weeks per trimester unless on leave.

*Credit Hour:* Per WSCUC "Except as provided in 34 CFR 688.8(k) and (l), a credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than – (1) one hour of classroom or direct faculty instruction and a minimum of two hours of out of class work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time; or (2) At least an equivalent amount of work as required in paragraph (1) of this definition for other academic activities as established by the institution including laboratory work, internships, practicum, studio work, and other academic work leading to the award of credit hours."

*Classroom hours:* class or supervised meeting times for lecture, exams, or classroom discussion.

*Non-classroom hours:* supervised or non-supervised student work out of classes.

### **Full Time Credit Hour Policy**

All full-time students at Irell & Manella Graduate School of Biological Sciences at City of Hope are required to be enrolled in a minimum of 10 credits per trimester.

Each course provides the student with 1-5 credits. Each seminar and journal club will provide one credit per trimester of attendance at City of Hope's Irell & Manella Graduate School of Biological Sciences. Laboratory research shall have an equivalent level of effort, with one credit hour being awarded for forty-five hours of research or study.

Course syllabi should clearly indicate the credit hours and expectation of effort of the class. The Curriculum Committee will annually review the application of the policy on credit hours for accuracy and reliability.

### **Trimester Dates**

Fall – September 2<sup>nd</sup> – January 22<sup>nd</sup>

Spring – January 23<sup>rd</sup> – June 4<sup>th</sup>

Summer – June 5<sup>th</sup> – August 31<sup>st</sup>

## Laboratory Rotations (PhD BS students only) and Mentor Selection

Laboratory education is the foundation of the PhD program. The lab rotations enable the student to identify a research topic and mentor. Each first-year PhD BS graduate student is required to select three lab rotations. The purpose of the rotations is (1) to help students find the research area and lab in which they want to conduct their dissertation research, (2) to learn experimental techniques, (3) to expose students to a broad range of intellectual and technical approaches to address current research challenges, and (4) to develop students' skills in public speaking and scientific writing. The rotation mentor should help the student understand how their experiments fit into the overall approach of the laboratory to the biomedical problem under investigation, and the strengths and limits of different techniques. Assessment of the rotation includes a written summary, rotation presentation and faculty evaluation form as detailed in the Laboratory Rotation Syllabus.

For the first rotation, first-year PhD BS students (except DVM) submit a list of their top three choices and the Graduate School Leadership make the final selection. Please send your selections to the Registrar by noon on September 1<sup>st</sup>. For the second and third rotations, students are free to approach any professor from the Professor-Series Graduate School Faculty Members listed in this handbook. Again, to distribute the students as widely as possible, no professor may take more than one rotation student at the same time without the permission of the Graduate School Leadership.

The IMGS encourages students to select a mentor's lab that is different from where they have previously worked, to ensure that all students receive rigorous training, including developing a research dissertation that is distinct from prior work. Accordingly, students are not permitted to rotate in a lab at City of Hope in which they have previously worked for  $\geq 1$ yr. Following these three rotations, students may nonetheless select such a mentor, but they must provide assurances that the dissertation research is distinct from prior work. Specifically, for the Qualifying Exam and each committee meeting, the student must provide a written memo that they performed prior research in their mentors lab and provide a one-page statement detailing how their dissertation project is distinct from prior research, including topic focus and techniques, and the committee must approve this statement by mentioning that this "statement on work prior to the PhD program was reviewed and approved" in the Comments section of the rubric form.

PhD BS students (except DVM students) begin their rotations in the middle of September. By June 1<sup>st</sup>, students must have established a dissertation mentor, or have selected an optional rotation. Mentor Selection Form is found in ([Graduate School Intranet - Find in Graduate Student Documents](#)). Either dissertation research or the optional rotation will begin after summer break\*. Students that choose to perform an optional rotation should find a rotation mentor well in advance of the end of first year curriculum and contact the Registrar to provide a record of this selection and the dates of the rotation. The final deadline for establishing a dissertation mentor is September 1<sup>st</sup>, or the student may be subject to dismissal.



# Guidelines for Writing and Defending a Doctoral Dissertation

## Principles Underlying the Ph.D. Degree

The PhD degree is awarded by the Irell & Manella Graduate School of Biological Sciences to a candidate who has made a significant, original contribution to scientific knowledge by the submission of a satisfactory dissertation. All other requirements, such as course work, examinations, and rotations, must be completed prior to the awarding of the degree. With rare exceptions, the dissertation research will have been conducted at City of Hope after enrollment in the graduate program.

The writing of the dissertation should prove that the candidate can conduct research, think analytically, and critically relate their research to that of others in their field. The dissertation is an account of the candidate's own research. If parts of the dissertation are the result of team-based research, the candidate should indicate the nature and degree of collaboration involved.

Though the candidate works under the supervision of their mentor, the doctoral dissertation demonstrates the candidate's intellectual independence. By granting a PhD degree, Irell & Manella Graduate School of Biological Sciences at City of Hope certifies that the candidate is sufficiently an expert in the techniques of research as to be able, without further supervision, to apply these techniques to other research projects. They must be sufficiently familiar with their area of investigation to be able to conceive of original ideas for further research.

The significance of the dissertation may be measured in different ways. The research should be timely relative to current research. The research should be of publishable quality, having either already been accepted for publication in recognized referred research journals or at least having, in the opinion of the Dissertation Committee members, the potential for publication.

The originality of the dissertation has several aspects. The candidate may have confronted a new question or have taken a novel approach to an existing question. The dissertation may investigate previously ignored material or apply new techniques.

The dissertation must be written in English, at a professional level of expression and presentation.

## Written Dissertation Requirements (content)

**A.** The student must independently write a section titled "Introduction to Dissertation Research," or something similar. The goal of this section is to provide background and context for the research described in the dissertation. The learning objective for writing this section is that the student gains experience in synthesizing a cohesive summary of a set of research findings (in this case, the overall findings of the dissertation). This section can either be an independent Preface, or as a section of Chapter 1, which is the Introduction chapter. This section will be written entirely by the student, but of course they can seek feedback on their drafts. Accordingly, a published review article, even if the student is a first author, is not an appropriate substitute for this section.

However, such an article may be used as part of Chapter 1, if it is adapted/expanded by the student to include this specific section on the dissertation.

**B.** The chapters following the Introduction should have the typical sections of a published research article, with flexibility on the precise format. Nevertheless, figures should not be placed together at the end of the chapter, but rather must be interspersed in the chapter when they are first mentioned. Figures should be labeled with the chapter number, followed by the figure number (e.g., Figure 2-1, 2-2, or 2.1, 2.2, etc.). The figure should fit onto one page, followed by pages for the figure legend, which are separated from the main text.

**C.** If a chapter is composed of a manuscript that is published or submitted for publication, the student may use the manuscript text as the basis for the chapter, but needs to add the following sections:

**Publication reference.** If the manuscript has been published and/or deposited on a pre-print server, the reference should be included. Often the entire paper is included but it is up to the discretion of the student and the dissertation committee. For example, the paper may be edited to focus on their contributions, in which case this section should state: “This chapter represents parts of the following publication:”

**Significance to Dissertation.** The student must independently write a summary of the significance of the publication, and how it contributes to the overall goals of the entire dissertation. This section should be included in all such chapters, even for unpublished data. The learning objective of writing this section is similar to that of point (A).

**Contributions of others.** The student should clearly state the contributions of others in the chapter, listing their names, the figure panels, and the contribution. This information should be included in all such chapters, even for unpublished data. The format of this information is at the discretion of the student and dissertation committee. As examples, this information can be consolidated into one text section at the beginning or end of the chapter or could be included in each figure legend. The learning objective of including this information is training in the appropriate assessment of scientific contributions and in transparency.

**D.** The dissertation should conclude with a short chapter, written by the student, on possible future directions for the research. The learning objective of writing this section is similar to that of point (A).

**E.** Methods can be consolidated as a separate chapter, or may be included in the individual chapters, and is at the discretion of the student and committee.

## Format

### Inclusion of Previously Published Material

If inclusion of previously published, co-authored material is used, the published material must be incorporated into a larger discussion that binds together the whole dissertation. The common thread linking various parts of the research, represented by individual papers, should be made explicit, and you should join the papers into a coherent unit. You are required to prepare introductory, transitional, and concluding sections. As a matter of courtesy, you should give credit to the publisher.

Use of copyrighted works in your dissertation without securing permission and without paying royalties is permissible when the circumstances amount to what the law calls "fair use," that is, when the following factors are weighed: the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes; the nature of the copyrighted work; the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and the effect of the use upon the potential market or value of the copyrighted work.

A statement from the copyright owner giving you permission to use the material must be submitted with the dissertation. This permission letter must state that the copyright owner is aware that ProQuest/UMI may supply single copies upon request and may proceed under the contract on the agreement form.

### Margins

For binding purposes and later ease in copying, every page of the dissertation needs to maintain the following margins: Top: 1 inch; Right: 1 inch; Bottom: 1 inch; Left: 1 1/2 inches (Binding edge).

All manuscript material must fit within these margin requirements (including tables, headers and footers, figures, and graphs). The page number can be positioned outside of these margins, but no less than 3/4 inch from the paper edge. When full-page prints of photographs are desired, the image area of the print must conform to the same margins as the text.

### Spacing

The dissertation must be double-spaced on one side of the page. Footnotes, bibliographic entries, long quoted passages, and items in lists, tables, and appendices may be single-spaced.

### Pagination

Each page of the entire manuscript must be numbered, except where stated below in the upper right corner or the bottom center of the page, no less than 3/4 inch from the edge of the page. The placement of page numbers should be consistent throughout the manuscript. Pages should be counted or numbered sequentially throughout as follows:

1. The title page is not numbered, although it is counted as "i" in the pagination
2. The approval page is not numbered, although it is counted as "ii" in the pagination
3. The copyright page, if included, is not counted, or numbered
4. The abstract is numbered in Arabic numerals (1, 2, 3, etc.). It has separate pagination from the remainder of the manuscript
5. The remaining preliminary pages are numbered with lower case Roman numerals (iii, iv, v, etc.)  
Begin numbering the preliminary pages with "iii." Preliminary pages may include dedications, tables of contents, lists of figures, tables, symbols, illustrations, or photographs, prefaces, introductions, acknowledgments, and vitae, if included in the manuscript
6. The main body of the text is numbered with arabic numerals beginning with page "1" and continuing throughout, including text, illustrative materials, bibliography and appendices

### Figures and Tables

Figures, tables, and images must be clear and legible. If necessary, print figures on photo-quality paper to enhance their clarity.

### Number of Copies

An original and three copies of your doctoral dissertation on approved paper must be submitted to the Graduate School Office. One copy is for the Lee Graff Medical and Scientific Library. One copy is for the Graduate School, one copy is for the student, and one for the mentor. The COH (City of Hope) print shop can print your copies. For the printing you will need to purchase the paper as described below and deliver it to the flash building. Submit a request for the number of copies you need by submitting a ticket here: [Service Ticket](#). Make sure you specify one sided, in color and do not bind. It usually takes a day or two then they will email for pick up.

Once you deliver the copies to the graduate school they will be mailed out for binding. If you want additional bound copies deliver the extra printed copies with a check for \$35 each copy made payable to the City of Hope.

An electronic copy must be submitted via ProQuest.

### Paper

All copies of the dissertation must be on approved white bond paper, 20 lb. weight, 25 % Cotton Fiber.

## Typeface

Any legible typeface, except script, italic, or ornamental fonts, is acceptable for the body of the text. The chosen typeface should be used consistently throughout the manuscript. Italics may be used appropriately. Type used for appendices, charts, drawings, graphs, and tables may differ from that used for the text. The recommended font size for text is twelve.

## Manuscript Arrangement

The manuscript should be arranged in the following sequence:

Preliminary Pages:

1. Title Page
2. Approval Page
3. Copyright Page or a blank page
4. Abstract
5. Dedication Page (optional)
6. Table of Contents
7. List of Figures, List of Tables. List of Symbols (if applicable)
8. Preface or Introduction (if any)
9. Acknowledgments (optional)
10. CV (optional)

Text:

Text, divided into chapters or sections

Reference Section:

1. References or Bibliography
2. Appendices (if any)
3. Addenda (if applicable)

## Title Page, Approval Page, and Abstract

Title Page

1. Indicate full title.
2. The name that appears on your dissertation must be your name exactly as it is recorded with the Graduate School Office. You must include your full middle name, not just an initial, if that is the name under which you are registered.

3. Show the exact degree you are receiving, i.e., Doctor of Philosophy. Do not use abbreviations.
4. The committee must be approved by the Graduate School Leadership. If it has been changed at any time you must be sure the revised committee has been approved.
5. The trimester and year listed should be the trimester in which your degree will be conferred.

#### Approval Page

Your committee members must sign the approval page, indicating the final approval of your manuscript. Approval pages are produced by the Graduate School and will be sent electronically or if your defense is in person they can be picked up by the student prior to the defense. After the defense, the approval pages will remain in the Graduate School Office until the dissertation is completed.

#### Abstract

Your abstract should be prepared carefully because it will be published exactly as you submit it. Be sure symbols, as well as foreign words and phrases, are printed clearly and accurately. Please do not include graphs, charts, tables, or illustrations in your abstract. The abstract should conform to the same requirements regarding spacing and margins as the main body of the work. The body of the text of the abstract should not exceed 2 pages in length.

#### Acceptability of Dissertation

If all members of your committee approve the dissertation, they sign the approval signature page. You then file four copies of the dissertation in the Graduate School following the requirements in these instructions. If any member of your committee doubts the acceptability of the dissertation, the committee chair convenes the committee to discuss it. If one or more members of the committee feel unable to pass you, you will have to revise your work to meet the member(s) objection. If the objections are arbitrary or impossible to meet, you have the right to create a new dissertation committee, with approval of the Graduate School Leadership. If the committee reaches agreement on its acceptability, the dissertation is signed and filed. If the committee continues to disagree, the dissertation is sent to the Dean of the Graduate School with a brief statement of each committee member's opinion. If all members of the committee reject the dissertation, it is sent to the Dean with a statement to that effect by the committee chair. In all cases of rejection or split vote, the Graduate School Leadership of the Graduate School makes the final decision.

Title Page Sample

Title: Centered, Capital Letters and Lower-Case, 16 Point

Dissertation by

Your Name As It Appears In School Records

In Partial Fulfillment of the Requirements

for the Degree

of Doctor of Philosophy

Committee Members:

Irell & Manella Graduate School of Biological Sciences at City of Hope

Duarte, California

Trimester, Year

## Table of Figures Sample:

Use Table Format to Separate Sections in the Table of Contents

### CHAPTER 1

Figure 1: Structure of a cis-syn cyclobutane pyrimidine dimer and photoproducts.	77	(6-4)
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### CHAPTER 2

Figure 1: Sequencing and methylation analysis of the lower strand of the lacI gene from nt. +286 to +422.	14
Figure 2: Sequencing and methylation analysis of the upper strand of the lacI gene from nt. +202 to +329 (left panel) and nt. +106 to +227 (right panel).	47
Figure 3: Sequencing and methylation analysis of the lower strand of the lacI gene from nt. +69 to +206 (left panel) and the upper strand from nt. -12 to +125 (right panel).	49
Figure 4: Summary of the methylation pattern along the lacI gene.	51
Table 1: Oligonucleotide primers.	53

### CHAPTER 3

Figure 1: Mutational spectrum of the p53 gene in human skin lesions.	85
Figure 2: Methylation analysis of the lacI transgene in embryonic mouse fibroblasts. (A) Analysis of the upper strand of the lacI gene from nt. +61 to +138. (B) Analysis of the lower strand from nt. +235 to 337.	116
Figure 3: Emission spectrum of the solar UV simulator with atmospheric attenuation filter.	145
Figure 4: Mutational spectra of UVC-induced and simulated sunlight-induced mutations. (A) nt. +1 to +600. (B) nt. +601 to +1100.	167
Figure 5: (A) Sequence distribution of UVC, UVB, and sunlight-induced cyclobutane pyrimidine dimers and (B) repair of sunlight-induced dimers.	189



## Electronic Dissertation Submission to ProQuest

Your dissertation will also be entered into a national database of dissertations. You will submit this electronic copy via ProQuest.

1. Create a PDF file of your dissertation.
2. Go to <http://www.etsadmin.com/cityofhope> to access the ProQuest/UMI electronic dissertation system.
3. In the upper right-hand corner of the page, choose Student: Submit.
4. The first time you use the system, choose Create an account to choose your own username and password.
5. Once you are logged in you will see the list of submission steps - work through each of the steps using the guide below.
6. Submit your dissertation to the system as the last step in the process. The Graduate School will be notified and will check to make sure all requirements have been met.

## Publishing Options

Your doctoral dissertation is a published work that announces the results of your research. The Graduate School holds to the tradition that you have an obligation to make your research available to other scholars. This obligation is met when the Graduate School submits your dissertation to the Lee Graff Medical and Scientific Library to be bound and shelved for public use.

### Type of Publishing

The Graduate School will pay for Traditional Publishing. If you would like to make your work freely available to anyone on the internet, you may choose to upgrade to the Open Access option and pay the difference.

### Publishing Restrictions

If you plan to publish articles based on the content in your dissertation (or if your dissertation contains commercial intellectual property) you may wish to delay the release of your dissertation online until a later date. You may choose to delay release for 6 months, 1 year, or 2 years.

Check the No third party search engine access button if you do not want Google and other search engines to display your dissertation abstract when users search for keywords that match your dissertation topic.

## Dissertation Details

### **Mentor/Committee Chair**

Enter both the name of your mentor and committee chair.

### **Committee Members**

Include the names of the rest of the individuals listed on your dissertation signature page.

### **Description of Dissertation**

Choose up to three of the best match subject categories. Add additional keywords that will help searchers find your dissertation. Copy and paste the abstract into the form.

### **PDF**

Upload a PDF version of your dissertation. The online system includes a PDF conversion tool, but it is not an easy tool to use. Contact the City of Hope help desk if you need assistance creating a PDF file.

### **Supplemental Files**

If you have additional images, data sets, charts, graphs, code, or other content that supplements your dissertation, you may upload the files and link them to your dissertation.

### **Notes**

If you have comments to send to the system administrator (Graduate School staff) related to your submission, please include them here.

### **Register US Copyright**

By default, every creative work produced is covered by US Copyright. However, if you ever need to defend your copyright in court, official registration in the copyright office will be necessary. If you wish to file for copyright, you may pay ProQuest/UMI \$65 to register on your behalf. You may also register directly with the copyright office online for only \$35. Go to <https://www.copyright.gov/registration/> to file with the Electronic Copyright Office (eCO).

### **Order Copies**

ProQuest/UMI will sell you additional bound copies of your dissertation now or any time in the future. However, check with the Graduate School if you would like to order copies for yourself now. Their binding is better and less expensive than the ProQuest/UMI options.

## Institutional Learning Outcomes

### 1. Scientific Rationale

Outcome: Mastery in describing the significance, innovation, and state of the field of a scientific study to the particular field of biomedicine and to human health.

### 2. Rigorous Experimentation

Mastery in describing how experimental design elements ensure rigor of the study, including choice of method(s) and technical details, statistical approaches, and controls.

### 3. Research Plan

For programs involving research, an advanced capacity to plan and generate original research findings that advance scientific knowledge in biomedicine; including the ability to troubleshoot experimental challenges; compile, analyze, and interpret data; and effectively document and describe research findings.

### 4. Ethical Practices

To describe and practice responsible research conduct.

### 5. Professional Skills and Career Development

To gain core competency in professional skills of an independent scientist: oral communications/presentations, preparation of written documents, collaboration, construction of data figures/tables, and networking.

## The Leading-Edge Lectures

Description: The Leading-Edge Lectures (LEL) which includes Ohno, Rossi, Shively, and Riggs lectures are sponsored by the Irell & Manella Graduate School of Biological Sciences Graduate School and organized by the graduate students. Each year the students select outstanding biomedical scientists to present a research seminar. Before each talk, the students and the faculty administrator will meet for a presentation and discussion session (the pre-LEL). Here, the student sponsor will summarize one or two of the most relevant articles by the invited scientist and lead a discussion of the techniques and data with the other students. Students will then attend the seminar, lead the question, and answer session that follows.

Objectives: The best and most current scientific information is most often obtained from seminars. However, presenters often omit important information in the interest of brevity or fail to discuss interesting implications. In these circumstances it is the obligation of the seminar audience to bring these issues forward in the form of questions to the speaker. Primed with the proper questions, the period following a seminar can be where the speaker's best thinking on the subject is revealed. Asking questions of the caliber that will compel the speaker to reveal such information after the lecture requires that the attending scientists possess the capacity to rapidly assimilate information during the lecture. Since familiarity with a subject greatly improves this capacity, the summary and discussion session that precedes the lecture should greatly facilitate the students' participation in the post-seminar questioning.

Speaker Selection: The student body is responsible for assembling the list of speakers. The students vote on a LEL student coordinator that directs the speaker selection process with a faculty advisor.

Student Sponsorship: Each speaker will be represented by a student sponsor responsible for arranging the speaker's visit, assisted by the Graduate School administration. The sponsor will elect a hosting committee to help them select the speaker key publications, and to select top student questions after the pre-LEL session. The sponsor will summarize the relevant papers at the pre-LEL meeting, lead the discussion, introduce the speaker before the seminar, and lead the question and answer session. Any student may sponsor a speaker once. However, more senior students are particularly encouraged to be sponsors as their greater insight and experience will be useful in introducing the material to their fellow students. It is also possible to team up with another student to co-sponsor a speaker. All students are welcome to participate in hosting committees. LEL is intended to promote teaching and teamwork skills. More details on the structure of this course are outlined in the LEL syllabus.

- Grading/Attendance: Complete the Leading-Edge Lecture requirements, which includes both Pre-LEL and Lectures (See LEL Syllabus).

Timing: Pre-LEL and LEL seminars cannot be scheduled on Graduate School Admissions Days or during other courses.

## Journal Club Seminars

Every student after the first year is required to participate in a journal club, where members take turns presenting a current research article to the group. General format is one hour for a seminar and discussion. It is a required course, graded pass (P) or Fail (F), and the specific requirements are detailed in the course syllabus.

Available Journal Clubs (All 3 Units – 1 per trimester)

### **Comparative Medicine**

Coordinator: Richard Ermel, DVM, PhD

### **Computational and Theoretical Biology**

Russel Rockne, PhD, Sergio Branciamore, PhD & Andrei S. Rodin, PhD

### **Current Science**

Coordinator: Michael Barish, PhD

### **Diabetes and Dysfunctional Metabolism**

Coordinator: Qiong Wang, PhD & Rupangi Vasavada, PhD

### **DNA Repair**

Coordinator: Jeremy Stark, PhD

### **Epigenetics and Chromatin Structure**

Coordinator: Dustin Schones, PhD & Zhen Chen, PhD

### **Immunology**

Coordinator: Zuoming Sun, PhD

### **RNA**

Coordinator: Mark Boldin, MD, PhD

### **The Intimate Link between Cancer and Metabolism**

Coordinator: David Ann, PhD and Ke Ma, MD, PhD

### **Stem Cell**

Coordinator: Hsun Theresa Ku, PhD

### **Structural and Chemical Biology**

Coordinator: John C. Williams, PhD

### **T Cell Immunotherapeutics**

Coordinator: Stephen Forman, MD

## Qualifying Examination

The Qualifying examination identifies students who are PhD candidates based on their performance. Thus, this examination is a point at which the student and/or the Qualifying Examination Committee can evaluate the suitability of a student to continue in the program.

### Qualifying Exam: Dissertation Proposal

#### Qualifying Exam Purpose

To test rigorously student capacities to:

- Survey the literature and identify knowledge gaps in the dissertation research area
- Establish an initial plan for dissertation research
- Formulate a hypothesis and choose experimental models
- Evaluate approaches and design experiments to test the hypothesis with preliminary data
- Discuss potential pitfalls and alternative approaches
- Demonstrate a capacity to address the dissertation research area in writing, presentation, and responses to questions

#### Qualifying Exam Policy

- The Qualifying Examination (QE) is generally completed during the summer trimester at the end of the 2<sup>nd</sup> academic year for PhD BS, and the final report is due to the Registrar September 30<sup>th</sup> of the third academic year. The PhD TM qualifying exam is completed during the Spring trimester of the 1<sup>st</sup> year and the final report is due to the Registrar May 1<sup>st</sup> of the first academic year.
  - All students must successfully complete the core curriculum prior to taking the QE. For students who take additional time to finish the first-year core curriculum, the deadline to complete QE is extended by 6 months from the completion of the last first-year courses.
- The QE Committee composition:
  - The QE Committee is composed of the thesis mentor and at least 3 other Graduate School Faculty members, one of whom will be identified as Chair. Additional voting or non-voting members may be added, when necessary, from the ranks of Research Professor or Clinical Professor series researchers. **The proposed makeup of the student QE committee is due to the Registrar by email by July 31<sup>st</sup> of the second academic year for PhD BS and February 1<sup>st</sup> of the first academic year for PhD TM,** to ensure that the committee makeup meets policy (i.e., that you have a quorum of faculty that are actively part of the Graduate School Faculty, and that you have selected a Chair).
- The student must write a proposal on the dissertation topic and defend it by presenting a private seminar to the QE Committee and responding to relevant questions. The written proposal is due to the committee no later than **2 weeks prior to the scheduled oral presentation**. If this deadline is not met, or the written proposal is not considered

adequate for oral presentation, any member of the committee can require that the oral presentation be rescheduled for a later date, even if this causes the student to miss their QE deadline. Should this occur, students must contact the Registrar to inform the school of the situation. Finally, an oral presentation cannot commence without a complete and adequate written proposal submitted to the committee.

- The QE requirement will be considered fulfilled only if a majority of voting members QE Committee agrees in writing on the quality of the written proposal and the oral defense. This feedback is provided using the QE evaluation form, which is submitted to the Registrar (see below).
- Students are strongly encouraged to use the QE Research Proposal as an opportunity to construct a graduate fellowship proposal.

### Written QE Proposal Guidelines

- Students are encouraged to seek advice or comments from their Mentor, other QE Committee members, other faculty members, and/or researchers, but work as independently as possible on the written proposal.
- The format for the proposal follows that of [NIH Pre-Doctoral Fellowships](#) for the
  - Title
  - Research Summary (30 lines)
  - Specific Aims (1 page)
  - Research Strategy (6 pages)
  - Literature cited
  - 0.5" margins on all sides.

## Written QE Proposal Submitted or to be Submitted to an Outside Funding Organization

Students are encouraged to submit original research proposals to outside organizations to obtain funds that would also support their dissertation research. In order to use those proposals for the QE Proposal, students shall obtain permission from the QE Committee.

- NIH Pre-Doctoral Fellowship format is acceptable for the QE without modification.
- Other Agencies: If the agency is not the National Institutes of Health Pre-doctoral Fellowship program, students must submit the outlines of the requirements of the proposed funding agency to the Dissertation Mentor and the QE Committee.
  - For other organizations, the requirements of the proposal can differ, and students are required to adhere to the formats required by the funding organization.
  - Equivalency: The decision of equivalency must be a unanimous decision made by the QE Committee prior to preparing the QE document. If the QE Committee decides that the outside organization requires sections or equivalent sections to those of the NIH Predoctoral Fellowship, there is no need for the student to submit separate documents.
- Outside proposals must be submitted to the Graduate School Registrar as a PDF document.

## Oral Defense

- A private, formal, professional seminar presentation of 40-50 minutes that describes the ideas of the written proposal
- An examination period during which the QE Committee asks questions relevant to the proposal and to core curriculum if deemed necessary
- The QE Committee will vote concerning the student's performance of QE and will include the written proposal and the oral defense in the decision
- There are three possible decisions for the QE at the oral defense:

(1) "Pass": the QE Committee recognizes the proficiency of the student in the written, oral, and questioning parts of the examination. The committee can "Pass" with also requesting Minor Revisions, which refers to revisions that do not need to be reviewed by the committee. "Pass" permits the student to advance to Doctoral Candidacy, once the steps below in "Final Outcome of the Qualifying Exam" are complete.

(2) "Revisions": The QE Committee requires text changes that can be completed within two weeks and reviewed and approved by the Chair. This interim QE evaluation form will be submitted to the Registrar. Upon successful completion of the revisions, the Chair will email the Registrar and copy the student indicating the student has "Passed".



(3) “Fail”: The QE Committee has judged that the student did not adequately complete the requirements of the QE. Note that students are allowed to take the exam twice.

### **Final Outcome of Qualifying Exam**

Following the determination of the final outcome, the QE Committee Chair submits a single final report to the student using the QE evaluation form. The student needs to review the report, then sign the report, and submit it to the Registrar along with their QE written document. The possible final outcomes for QE are “Pass” and “Fail” as described above.

### **Plagiarism**

For the Qualifying Examination, students are warned that submitted documents are subject to review by electronic methods to scan for potential plagiarism. Significant instances of plagiarism brought to the attention of the Graduate School Leadership can be referred to the Academic Integrity Committee. Any procedures that are required by such action should be strictly adhered to by all involved parties.

## Aids for the Written Proposal

Sections on Significance and Innovation are available on the NIH web site.

Another helpful source of information from which some of this is derived is the “The Grant Application Writer’s Workbook” by Stephen W. Russell and David C. Morrison.

These sections must be included and an organization for the Research Strategy section is suggested:

*Specific Aims* (Limited to 1 page). Detail a rationale for studying the problem that has been identified and present an introduction to the problem. Briefly, use the rationale to set up the reasons to test the hypothesis. Identify the gap in the knowledge to be investigated. Clearly state the **central hypothesis** that will be tested. List the broad, long-term objectives and what the proposed research is intended to accomplish. Testable sub-hypotheses must be stated for each aim. Concisely describe what the experiments in the aims are expected to show.

*Significance.* (~0.5-1 page) State the significance of your proposal. Why is doing the work important? In any proposal, this is one of the most critical elements.

*Innovation.* (~0.5 page) State the novel aspects of the proposal (new vectors, new approaches, change in methodology, etc.). Innovation is considered an integral part of new grant applications.

*Research Strategy* (~5 pages). Generally, to complete the research in 2-3 years, there should not be more than 2 aims. The outline for each specific aim in the Research Strategy section is as follows:

Specific Aim (restate the specific aim from the Specific Aim section [use copy-paste])

- 1.1 Rationale and Feasibility- Provide a brief background that includes a rationale for the experiments and the sub-hypothesis of the aim. Preliminary data from the literature that support the hypotheses must be discussed. Proper references to the literature are required. The gaps in the knowledge must be identified for the experiments suggested. The experiments suggested must test the sub-hypothesis and contribute to testing the central hypothesis.
- 1.2 Research Design- Describe experiments that will be performed and the procedures to be used to accomplish only this specific aim. Include how the data will be collected, analyzed, and interpreted. Describe any new methodology and its advantage over existing methodologies.
- 1.3 Expected Results- Summarize the results anticipated from the described experiments and how those results support the aim. Do not use “fabricated data” to describe expected results. Although this is a good visual aid during presentations, including “fabricated data” is to be avoided in written proposals.

- 1.4 Alternative Outcomes/Approaches- Discuss the major potential difficulties and limitations of the proposed procedures and other viable means that could be used to achieve the aims if the original experiments are unsuccessful.

*Figures and Tables.* All Figures and Tables must be clear with legible labels and captions. Moreover, all Figures and Tables must be referred to in the text. If these are taken from references, they must be properly cited. The Figures and Tables should appear in the text immediately following their appearance and **not** at the end of the document.

*Literature Cited.* List all references. The in-text format for references is not specified, but in the literature cited section, each reference must include the title, complete list of all authors, book or journal, volume number, page numbers, and year of publication. The references should be limited to relevant and current literature. While there is no page limitation, it is important to be concise and to select only those literature references pertinent to the proposed research. It is suggested that the number of references not exceed 100. A reference program such as EndNote or Reference Manager is highly recommended for this purpose.

Find the Qualifying Exam Evaluation form here: ([Graduate School Intranet - Find in Graduate Student Documents](#))

## Dissertation Requirements

### Dissertation Committee Meetings

Every trimester students receive a pass or fail grade on their transcript for their dissertation research. **To receive a grade of pass, a student must make progress on their dissertation research and hold a dissertation committee meeting each Fall and Spring Trimester.** The first dissertation committee meeting after the QE must be held by the end of the Spring Trimester of the third year for PhD BS and the end of the Fall Trimester of the second year for PhD TM students. Failure to hold this meeting by the end of the Trimester deadline will result in an Incomplete on the transcript. If action has not been taken to remove the Incomplete four weeks from the end of the Trimester deadline, the Incomplete will turn into an F on the transcript. If needed, the student or mentor can summon a committee meeting at any time to address the concern(s) from student or mentor.

The Dissertation Committee is based upon the QE Committee but may change over time. For example, the committee membership may be reconstituted whenever the student's dissertation topic is significantly modified. Committee vacancies will be filled promptly, and, in all cases, prior to the next meeting following a member's resignation or reassignment. Any such changes to the Dissertation Committee, relative to the QE committee, should be submitted in writing to the Registrar, along with a brief rationale for the change, prior to scheduling any Dissertation Committee Meetings. Such changes will generally be reviewed by the Graduate School Leadership.

As with the QE committee, the Dissertation Committee is composed of at least three Graduate School Faculty members, one of whom will be identified as Chair. The Committee is chaired by a member other than the student's research mentor or co-mentor. Additional voting or non-voting members may be added when necessary from the ranks of Research Professor or Clinical Professor series researchers.

These voting members will be chosen jointly by the student and their research mentor. They should be familiar with the research area that encompasses the student's dissertation project. In addition, the student's research mentor will participate as a non-voting member. They will serve primarily as a mentor to the Committee and to facilitate discussion.

The student is expected to initiate meetings which will be scheduled jointly by the student and their mentor after consultation with the committee chairperson. The Committee may schedule more frequent meetings with the student whenever a review indicates that the student's progress may benefit from such additional consultation (the required timing of the meeting is detailed below).

Prior to each meeting, the student will provide each committee member with:

1. A two- page progress report on the work that has been conducted since the last meeting and the material that will be discussed during the meeting. The focus should be on the

experiments related to the specific aims. The suitability of the experiments to address the hypothesis should be discussed.

2. An updated biosketch or curriculum vitae.

After each meeting, the Dissertation Committee must prepare a concise evaluation of the student's progress and any recommendations for adjustments in the research program ([Graduate School Intranet - Find in Graduate Student Documents](#)). The report will be signed by all members. The report will be submitted to the Registrar. Any conflicts between the student, the student's mentor, and the voting members of the Dissertation Committee will be resolved by the Graduate School Leadership. Any of these principals may petition the Graduate School Leadership for a review when an excessive delay in or acceleration of the preparation or evaluation of a dissertation is encountered.

Students must hold at least two dissertation committee meetings (in addition to the QE exam) before considering an oral defense. The student must obtain the approval from the dissertation committee to start working on the process of oral defense. The student may obtain the approval either at their last committee meeting or after discussing with all committee members via email (see below section on Dissertation Exam Committee).

Committee meetings are an important part of progressing toward a PhD. The scheduling of committee meetings is:

1. The first dissertation committee meeting after the QE must be held by the end of the Spring Trimester of the third year for PhD BS and the end of the Fall Trimester of the second year for PhD TM students.
2. In following years, a committee meeting is due every Fall and Spring trimester.
3. Students are required to prepare a 30 minute, concise, speaking presentation on their progress at each meeting.
4. The research course grade/registration form will include a section where students must include the date of their last committee meeting and attach the committee meeting report to the form as one PDF that is uploaded to Canvas.

## Dissertation Oral Defense Committee

The Dissertation Oral Defense Committee is composed of the members of the student's Dissertation Committee augmented with a qualified investigator from another academic/research institution who is knowledgeable in the student's area of research. The student and their mentor will discuss the selection of the outside member. Then, in consultation with the student's research mentor, the student's Dissertation Oral Defense Committee will approve the external member. The outside member should be determined at least two months before the dissertation defense. At its discretion, the Graduate School Leadership may augment the committee with additional City of Hope or external members. The Dissertation Oral Defense Committee will be chaired by one of the City of Hope faculty voting members who served on the Dissertation Committee.

The Dissertation Oral Defense Committee is appointed as described above when the Graduate School Office is notified that the student, the student's mentor, and the Dissertation Committee have agreed that the student has accumulated sufficient research findings to prepare a defensible dissertation.

Each member of the Committee is expected to review the dissertation and attend a public seminar in which the degree candidate presents the dissertation research findings. Immediately thereafter, the Committee will meet privately with the student to review any aspect of the dissertation including the research methodology, findings, and conclusions. The committee meeting cannot be scheduled on Graduate School Interview Days, therefore avoid all Fridays in February.

Approval of the dissertation requires the dated signature of all members of the Dissertation Oral Defense Committee on the Oral Defense Report ([Graduate School Intranet - Find in Graduate Student Documents](#)). Committee members who decline to approve the dissertation must submit individual statements explaining their decision. If one or more members of the committee feel unable to pass the student, the student will have to revise their work to meet the member(s) objection. If the objections are seemingly arbitrary or impossible to meet, the student has the right to create a new dissertation committee, with approval of the Graduate School Leadership. If a committee unanimously agrees that a dissertation is unacceptable, a single statement signed by all members will suffice. The signed dissertation or dissenting statement should be submitted promptly to the Registrar.

Please note that there are key timing deadlines for completing the written dissertation prior to the defense, which are detailed in the Graduation Checklist, particularly in Footnotes 1 and 2. No exceptions will be given for these deadlines, and so review them carefully.

### **External Committee Member**

Outside committee members do not receive an honorarium for their service. Their travel expenses will be paid by the graduate school, with the understanding that they will usually come from Southern California universities and institutes. Permission to invite an outside committee member from beyond Southern California must be obtained from the Dean of the graduate school. Expenses will be paid up to \$500, additional expenses are to be covered by the student mentor.

## Graduation Guidelines Checklist

The Graduation Guidelines Checklist must be completed by the student and emailed to the Registrar before the degree will be conferred. The checklist can be found under ([Graduate School Intranet - Find in Graduate Student Documents](#)). Note that the checklist includes specific requirements for pre-approval of the written dissertation by the committee at least two weeks prior to the oral defense (see checklist for details).

## Graduate Student Travel Grant

The Graduate School encourages **second-year PhD graduate students and beyond** to attend national and international scientific meetings. Students planning to attend meetings are expected to apply to the meeting organizers for student assistance funds. In addition, as funding permits, the school will grant up to \$2,000 of support to graduate students who wish to present their work at scientific meetings to offset the costs of registration, travel, lodging, and food. Students will be reimbursed for expenses after submitting their receipts to their departmental business manager. To qualify, students must be in good academic standing and presenting their research at the conference.

Students must apply before the meeting. Applications should be submitted to the Registrar by these Deadlines:

- January 1<sup>st</sup>, for conferences that will be held in March, April, May, June, and July
- May 1<sup>st</sup>, for conferences that will be held in July, August, September, October, and November
- September 1<sup>st</sup>, for conferences that will be held in November, December, January, February, and March

The application must follow the Graduate Student Travel Grant Program Overview ([Graduate School Intranet - Find in Graduate Student Documents](#))

## Graduate Student Entitlement

Each student has the possibility once during their graduate career to attend one workshop or course with the Graduate School funding \$1,000. This is not a competitive award, and the number of such awards is limited during the academic year. A brief one-paragraph statement of the applicability to the student's career plan should be submitted to the Registrar at least 3 months prior to the workshop or course. A decision will be made by the Deans and the Director of Admissions and Administration will be based on applicability and the availability of funds. The application can be found at ([Graduate School Intranet - Find in Graduate Student Documents](#)).



## Individual Development Plan

The Individual Development Plan (IDP) program has been developed to assist graduate students in preparing for their scientific careers. It involves an annual process where the student engages in self-examination, preparation, or modification of the IDP document, review of the document with the PhD mentor, and submission of the document to the graduate school. There is also an optional meeting with the Career Advisor should you want to discuss your progress and career plans. To schedule these meetings, reach out to the graduate school office.

The IDP document will have the additional important purpose of providing the graduate school with critical data regarding student progress and achievement. Such data is integral to ongoing program improvement, accreditation activities, and reporting to funding agencies. The data will be collected from the Performance Record component of the annual IDP documents of each student. The graduate school will request submission of the IDP document, including the Performance Record to be submitted at the end of summer with the fall trimester enrollment form (740/800) along with a final IDP following the dissertation oral defense. You can find the form at ([Graduate School Intranet - Find in Graduate Student Documents](#)). On time submission of a complete Performance Record will be required.

## Graduate School Fellowships

As funding permits there are a number of fellowships which the Graduate School offers to eligible PhD students. Students must be of good academic standing to be considered for fellowships. If a student already has a fellowship, they are not eligible to apply or receive the graduate school fellowships until their current fellowship ends. The fellowships cover the year they are applied for and/or awarded and cannot be deferred.

### Dr. Arthur Riggs Fellowship

This one-year fellowship is awarded by the Graduate Admissions Committee to an outstanding incoming first year student as part of their offer of admission. The fellowship is for the first year.

### Berger Fellowship

This one-year fellowship covers five first year students and is awarded by the Graduate Admissions Committee to an outstanding incoming first year student as part of their offer of admission. The fellowship is for the first year.

### Dean's Fellowship

This one-year fellowship is awarded by the Graduate Admissions Committee to an outstanding incoming first year student as part of their offer of admission. The fellowship is for the first-year.

### The Held Foundation

This one-year fellowship will be awarded to a second-year student who is pursuing research in hematologic cancer. To be eligible to apply, a graduate student must be in good academic standing. This fellowship is awarded by a faculty committee comprised of faculty who do not have students involved in the competition. This award is given annually.

### Helen and Morgan Chu Fellowship

This one-year fellowship covers one student stipend for a portion of a year depending on funding. To be eligible to apply, a graduate student must be in their third year (PhD BS) or second year (PhD TM) and must have submitted an application for an external pre-doctoral fellowship or major award within the last two years. The application process is managed by the Assessment committee once the competition opens. The awardees will be determined by a faculty committee comprised of faculty who do not have students involved in the competition. This award is given annually

### Dr. Norman and Melinda Payson Fellowship

This one-year fellowship covers one student stipend for a year depending on funding. To be eligible to apply, a graduate student must be in their fourth year (PhD BS) or third year (PhD TM) and must have submitted an application for an external pre-doctoral fellowship or major award

within the last two years. The application process is managed by the Assessment committee once the competition opens. The awardees will be determined by a faculty committee comprised of faculty who do not have students involved in the competition. This award is given annually. If a student has previously been awarded the Helen and Morgan Chu Fellowship, they are ineligible to apply for this fellowship.

### External Funding Bonus Program

The external funding bonus program was developed to encourage training experience in applying for external funding grants, increase external support of students and reward students that are awarded external fellowships, or a research training supplement. A bonus of 10% of the student's annual stipend will be paid to students that receive an external fellowship with substantial external funding covering at least 50% of their stipend and fringe. A \$1,500 bonus will be paid to the named pre-doctoral student who is awarded a research supplement to promote Diversity in Health-Related Research based on the NIH grants listed below covering at least 50% of the student's stipend and fringe. Students in their third year and beyond the bonus will be paid by the Mentor and first or second year student's the bonus will be covered by the graduate school. These annual bonuses will be effective for each year the student has external funding. A student can only earn one bonus in any given year. To apply for the external bonus program, the student must fill out the bonus application each year ([Graduate School Intranet - Find in Graduate Student Documents](#)) within 30 days of the award approval or renewal and submit it to the Registrar. The Graduate Leadership Committee will review the application to determine if the application meets the criteria outlined above.

#### List of NIH Grant Research supplements

<b>Research project grants</b>	R00, R01 (or RL1), R10, R18, R21/R33, R22, R24, R35, R37
<b>Multi-project grants</b>	P01 (or PL1), P20, P30, P40, P41, P50, P51, P60
<b>Small business awards</b>	R41, R42, R43, R44
<b>Cooperative agreements</b>	U01 (or UL1), U10, U19, U41, U42, U54
<b>Director's awards</b>	DP1, DP2

## Alumni Positions

Graduates of City of Hope's Irell & Manella Graduate School of Biological Sciences have gone on to positions at Duke, University of Chicago, Harvard, Stanford, Caltech, Scripps Research Institute, UCLA, USC, UCSF, UCSD and UC Berkeley, among others. Alumni lead research teams in the biotechnology industry at Wyeth, Genentech, Isis, Allergan and more.

The following is a listing of our alumni and last reported position:

**Bradley Ahrens**, Site Lead/Attending Veterinarian and Associate Director of Animal Welfare and Comparative Medicine, Labcorp Drug Development

**Jerlisa Arizala**, Senior Scientist, Vaxart Inc.

**Vania Ashminova**, Director of Protein and Cell Sciences, TCR2 Therapeutics, Inc.

**Krist Azizian**, Senior Scientist, Janssen Pharmaceuticals

**Thomas Bane**, Director of Medical & Scientific Affairs, Beckman Coulter Diagnostics

**Emilee Bargoma**, Owner and Founder, Mercymie Natural

**Nicole Bennardo**, Postdoctoral Fellow, University of California, San Francisco

**Ragini Bhargava**, Postdoctoral Researcher, UPMC Hillman Cancer Center, University of Pittsburgh

**Liu Bi**, Staff Scientist, Kaiser Permanente

**Maggie Bobbin**, Associate, Mammoth Biosciences

**Marisa (Bowers) Almonte**, Education Outreach Program Assistant Director, City of Hope

**Victoria Buettner**, Assistant Project Manager, Beverly Hospital

**Leticia Cano**, President, Biomarker

**Kaniel Cassidy**, Associate Director, Hematology & Translational Sciences, Regeneron

**Sarah Cha**, Scientist, Atara Biotherapeutics

**Deepti Chadalavada**, Veterinary Medical Officer/Facility Vet, National Institutes of Health

**Qing Chai**, Executive Director, Eli Lilly and Company

**Jackson Champer**, Assistant Professor, Peking University

**Carmel Chan**, Principal Scientist, Preclinical Research, Nkarta Inc.

**Hei Jason Chan**, Senior Scientist, New Horizon Health Limited

**Valerie Chavez**, Faculty, California State University, Fullerton

**Cyndi Chen**, Senior Scientist, Kite Pharmaceuticals, Inc.

**Zhaoxia Chen**, Staff Scientist, City of Hope

**Chun-Ting (Isaac) Cheng**, Vice President of Research, Suntec Medical

**Gregory Cherryholmes**, Senior Clinical Affairs Scientist, Strategy, Agilent Technologies

**Abby Chiang**, Senior Scientist, AstraZeneca

**Andrew Chin**, Scientific Grant Writer, Stanford University

**Cecilia Choy**, Associate Attorney, Intellectual Property, McDermott Will & Emery

**Jessica Christenson**, Faculty Instructor, University of Colorado Anschutz Medical Campuses

**Alexandra Ciminera**, Scientist, Rampart Bioscience

**Caroline Richard Clark**, Manager, Custom Products, Thermo Fisher Scientific

**Alissa Clear**, Manager, Clarion

**Amy Cook**, Director of Foundation Relations, Keck Medicine of USC

**Yvonne Cornejo**, Clinical Veterinarian, Altasciences

**Renzo Corzano**, Physician, Desert Oasis Healthcare and Optum  
**Kevin Costello**, Postdoctoral Research Associate, University of Cambridge  
**Jennifer Covello**, Analytical Development Scientist, Turnstone Biologics  
**Christiana Crook**, Clinical Research Assistant II, Beckman Research Institute of City of Hope  
**Qi Cui**, Assistant Research Professor, Beckman Research Institute of City of Hope  
**Alicia Davis**, Research Scientist II, Poseida Therapeutics  
**Daniel Delgado**, Adjunct Professor of Microbiology & Biological Sciences, Pasadena City College, Citrus College  
**Jiehui Deng**, Research Assistant Professor, NYU Langone Health  
**Erin Denny** Director, Oncology Business Department, Amgen Inc.  
**Kenneth Dery**, Associate Project Scientist, UCLA  
**Supriya Deshpande**, Staff Scientist, Department of Surgery, City of Hope  
**Juan Du**, Manager, Applied Bioinformatics, 10X Genomics, Inc.  
**Ali Ehsani**, Assistant Research Professor, RNA Center, Beckman Research Institute of City of Hope  
**Kathleen Elison**, Scientist, Terray Therapeutics  
**Catherine Elix**, Postdoctoral Research Fellow, Cancer Therapeutics, Loma Linda University  
**Elizabeth Eng Gielow**, Research Scientist, Allergan Pharmaceuticals  
**Renee Estephan**, Quality Control Analyst at NKGen Biotech Inc.  
**James Finlay**, Associate Director/Associate Research Professor, Comparative Medicine, Beckman Research Institute of City of Hope  
**Geoffrey Frank**, Lecturer, Los Angeles Valley College  
**Richard Frank**, Research Scientist, Ajinomoto Althea Inc.  
**Haike Ghazarian**, Senior Scientist/Protein Biochemist, Curia Global  
**Angel Gu**, Director, DMRI Manufacturing, City of Hope  
**Shuo Gu**, Investigator, National Institutes of Health and National Cancer Institute  
**Mausumee Guha**, Senior Director/Drug Safety Team Lead, Medivation/Pfizer  
**Amanda Gunn**, Staff Scientist, Fred Hutchinson Cancer Research Center  
**Cai Guo**, Principal Scientist, RemeGen Biosciences  
**Roberto Gutierrez**, Scientist, Quest Diagnostics  
**Bret Heale**, Consulting Senior Medical Informaticist, Elimu Informatics and Founder/Principal, Humanized Health Consulting LLC  
**Michael Hedvat**, Associate Director, Xencor  
**Seth Hilliard**  
**Michelle Ho**, Postdoctoral Fellow, National Cancer Institute/National Institutes of Health  
**Leo Holguin**, Postdoctoral Fellow, Beckman Research Institute of City of Hope  
**Yanyan Hong**, Medical and Laboratory Director, Guardant Health  
**Sean Howard**, Lab Manager, Boise State University  
**Jie Huang**, Associate Director, Drug Discovery Sciences, Takeda Pharmaceutical Company  
**Yu-Wen Hung**, Postdoctoral Fellow, Beckman Research Institute of City of Hope  
**Michelle Hunter**, Life Science Teacher, Frontier Middle School  
**Richard Jaramillo**, Associate Director, New Product Planning, Chinook Therapeutics Inc.  
**Kurt Jenkins**, Director, Xilio therapeutics, Inc.  
**Donald Jhung**, Senior Scientist, Cue Health

**Lan Jin**, Senior Research Fellow, National Institutes of Health and National Cancer Institute  
**Seung-Gi Jin**, Sr. Research Scientist, Van Andel Research Institute  
**Wen Jin**, Principal Scientist, Intellia Therapeutics, Inc.  
**Benjamin Johnson**, Molecular Scientist I, Kriya Therapeutics  
**Heather Johnston**, Postdoctoral Fellow, Stanford University  
**Swati Kadam**, Senior Director, Oncology Product Management and Marketing, Veracyte  
**Julie Kanjanapangka**, Adjunct Professor, Department of Life Sciences, Santa Monica College  
**Ikuko Kijima**, Research Business Manager, Beckman Research Institute of City of Hope  
**Daniel Kim**, Assistant Professor, University of California, Santa Cruz  
**Julia Kirshner**, Founder, Fantastic Voyage Labs  
**Cheng-Fu (Jeff) Kuo**, Postdoctoral Fellow, Beckman Research Institute of City of Hope  
**Ching-Ying Kuo**, Assistant Professor, National Taiwan University  
**Jessica Kurata**, Manager of Bioinformatics, Guardant Health  
**Samuel LaBarge**, Principal Scientist, Cancer Immunotherapy, Fate Therapeutics  
**Dong-Hyun Lee**, Associate Professor, Chonnam National University, Biological Sciences Department, South Korea  
**Michael Lee**, TBD  
**Min-Seob Lee**, Managing Director, Sharegenome  
**Kathleen Lennon**, Applications Development Scientist, ONI  
**Michael Lewis**, Professor, University of Missouri- Columbia, College of Veterinary Medicine  
**Chen Li**, Scientist, Sana Biotechnology Inc  
**Hubert Li**, Principal Scientist I, Application Science, Schrodinger LLC  
**Jianren Li**, Clinical Genetics and Molecular Biology Scientist, Kaiser Permanente  
**Li, Li**, Postdoctoral Fellow, Stanford University  
**Shan Li**, Senior Product Manager, Illumina  
**Tracy Chunxia Li**, Physician, Kaiser Permanente  
**Yan Li**, Associate Professor, Case Western University  
**Yun Li**, Global Import/Export Family Entrepreneur, Shanghai - China  
**Wei Liang**, Associate Director of Research and Development, Ansun Biopharma. Inc.  
**Lauren Liddell**, Science Technical Lead, Logyx, LLC and Scientist, NASA Ames Research Center  
**Alice Liu**, Senior Scientist, Terray Therapeutics  
**Limin Liu**, Research Fellow, University of Virginia Health System  
**Lucy Liu**, Faculty, California State Polytechnic University, Pomona  
**Xuxiang Liu**, Postdoctoral fellow, Beckman Research Institute of City of Hope  
**Pingfang Liu**, Applications and Product Development Scientist, New England Biolabs Inc.  
**Ren Liu**, Associate Principal Scientist, Merck Inventing for Life  
**Elizabeth (O'Bryan) Lobo**, Full-time Tenure-Track Biology Instructor, Cuesta College  
**Rongze Lu**, Assistant Professor, Neurological Surgery, UCSF  
**Xiaoxiao Ma**, Postdoctoral Scholar, Cleveland Clinic  
**Yuelong Ma**, Assistant Research Professor, Beckman Research Institute of City of Hope  
**Adam Maddox**, Research Scientist, Molecular Instruments  
**Nathaniel Magilnick**, Senior Scientist, T-Cure Biosciences  
**Armen Mardiros**, Director, Translational Science, A2 Biotherapeutics Inc.  
**Selma Masri**, Associate Professor, Biological Chemistry, University of California, Irvine

**Carlos, Mendez-Dorantes**, Postdoctoral Fellow, Dana-Farber / Harvard Medical School/Broad Institute of MIT and Harvard

**Zhipeng Meng**, Assistant Professor, University of Miami Miller School of Medicine

**Karla Merz**, Senior Associate, Business Development, Amgen

**Damon Meyer**, Associate Professor of Molecular Genetics and Assistant Dean of Faculty Affairs and Pedagogy, California Northstate University, College of Health Sciences

**Megan Minnix**, Scientist 1, VC-Backed Biotech NewCo

**Meilen Chang Muñoz**, Resident Physician, UC Davis Health

**John Murad**, Staff Scientist, Beckman Research Institute of City of Hope

**Jodi Lehiwa Kazuyo Murakami**, Director, Cell Therapy Research and Head of B Cell Malignancies, Kite Pharmaceuticals Inc.

**Jennifer Murray**, Staff Scientist, Beckman Research Institute of City of Hope

**Michelle Navarro**, Assistant Professor, Cerritos College

**Stephanie Nay**, Postdoctoral Fellow, Duke University

**Sergey Nechaev**, Associate Director, Clinical Business Development, Illumina

**Maria (Tina) Negritto**, Associate Professor and Director of Molecular Biology, Pomona College

**Serina Ortiz**, Co-Founder and Vice President, San Gabriel Valley Animal Advocates and RVT, Wellness Clinic Manager, SGV Animal Advocates Inc

**Hao Pan**, Director, Strategic and Biopharma Business Development, China and APAC, Personalis, Inc.

**Nicholas Pannunzio**, Assistant Professor, University of California, Irvine

**Anthony Park**, Staff Scientist, Beckman Research Institute of City of Hope

**Shayla Paulekas** - TBD

**Patrick Perrigue**, Assistant Professor, Nanobiomedical Center, Adam Mickiewicz University in Poznan, Poland

**Karineh Petrossian**, Director, Philanthropic Communications, City of Hope

**Monika Polewski**, Manager, Clinical Affairs Science, Agilent Technologies

**Megan Prosser**, Dean, Henry E. Riggs School of Applied Life Sciences, Keck Graduate Institute

**Sumanth Putta**, Senior Director Animal Resources, Genentech

**Ying Qing**, Postdoctoral Fellow, Beckman Research Institute of City of Hope

**Jeremy Racine**, JAX Scholar, Postdoctoral Fellow, The Jackson Laboratory

**Cassandra Ramos**, Policy Associate, Center for Science in Public Interest

**Jacqueline Register**, Associate Consultant, Oxford PharmaGenesis

**Michael Reid**, Scientist, Precision Oncology, Amgen

**Robert H. Ring**, Chief Executive Officer, Kaerus

**Cai Roberts**, Assistant Professor of Pharmacology, Midwestern University

**Saurabh Sahar**, Manager, GenMark Diagnostics

**Kumi Sakurai**, Process Development/Intellectual Property Manager, FUJIFILM

**Vishnu Amaran Samara Simha Subhash Chandra**, Clinical PhD. Fellow, UCLA

**Sridhar Samineni**, Attending Veterinarian, US Department of Agriculture (USDA) Agriculture Research Service (ARS)

**Manbir Sandhu**, Bioinformatics Analyst, St. Jude Children's Research Hospital

**Sangeetha Satheesan**, Clinical Veterinarian, AbbVie

**Ryan Setten**, Senior Business Development Associate, Sapient

**Sundus Shalabi** - TBD

**Galina Shevchenko**, Postdoctoral Research Associate, University of Cambridge

**Sophia Shahin**, Director of Education, Falcon Wealth Planning and Lecturer, Department of Medicine and Food Science, Huntley College of Agriculture, Cal Poly Pomona

**Edward Silverman**, Vice President of AI and Analytics, Within3

**Lindsey Skrdlant**, Associate Director, Analytical Operations, Sana Biotechnology Inc

**Laura Smith**, Scientific Co-founder and Project Lead Scientist, Homology Medicines Inc  
Lexington, Massachusetts

**Nicholas Snead**, Associate Director, Biology and Pharmacology, Orbital Therapeutics

**Charmaine Soco**, Postdoctoral Research Fellow, Stanford University School of Medicine

**Jing Song**, Investigator, Beigene Inc., China

**Kiran Sriram**, Sr. Associate Scientist, Functional Genomics, 23andMe

**Kenneth Stapleton**, Scientist II, Guardant Health

**Richard Stewart**, Head of Regulatory Affairs and Interim Head of Quality, Verily Life Sciences

**Kandis Stubblefield**, Licensing Manager, Business Development, BD Biosciences

**Guihua Sun**, Staff Scientist, Beckman Research Institute of City of Hope

**Daniel Tamae**, Assistant Professor of Biochemistry, California State University, Northridge

**Jazma, Tapia**, Postdoctoral Fellow, Beckman Research Institute of City of Hope

**Ben-Yi Tew**, Postdoctoral Fellow, University of Southern California

**Alyssa Thunen**,

**Pamela Tiet**, Associate Scientist, United Therapeutics

**Steven Tobin**, System Optical Scientist, Collins Aerospace

**Diana Tran**, Senior Manager, Regulatory Affairs, ImmunityBio

**Jacob Tremblay**, Postdoctoral Research Scientist, Salk Institute for Biological Studies

**Khue Truong**, Principal Scientist, Process and Analytical Development, Gensun Biopharma

**Jill Tsai**, Medical Science Liaison, Guardant Health

**Jui (Rose) Tu**, Research Veterinarian, The Henry M. Jackson Foundation for Advancement of Military Medicine, Inc. (HJF), the Wounded Infections Department

**Yuqing Tu**, Vice President, Citibank

**Ryan Urak**, CIRM Scholar, Beckman Research Institute of City of Hope

**Michael Valentine**, Associate Professor, Cleveland Chiropractic College

**Desiree Van Haute**, Manager, Lab Operations, Terray Therapeutics

**Karina Vega**, Lab Manager and Adjunct Instructor, Department of Pharmaceutical Sciences,  
Western University of Health Sciences

**Veronica Verplancken**, Patent Agent, Patterson & Sheridan, LLP

**Christina Vidal**, Postdoctoral Fellow, Beckman Research Institute of City of Hope

**Louisa Villeneuve**, Faculty, California State University, Fullerton

**Reena Vishwanath Thomas**, Clinical Associate Professor, Neurology and Neurological Sciences, Neurosurgery (by courtesy), Stanford University Hospital; Associate Dean of Diversity in Medical Education, Stanford School of Medicine; Vice Chair of Diversity and Inclusion, Department of Neurology, Stanford University Hospital

**Nadiah Wan Mohd Ghazalli**, Medical Affairs, GSK

**Dongrui Wang**, Principal Investigator, Zhejiang University

**Jun Wang**, Director of Business Development, GemPharmatech



**Lin Wang**, Hematology Oncology Fellow, Sutter Health-CPMC  
**Ruiqing (Rachel) Wang**, Principal Scientist, Hengenix Biotech, Inc.  
**Tianyi (Jenny) Wang**, Senior Scientist, Process Sciences, Resilience  
**Wei-Le Wang**, Assistant Research Fellow, Academia Sinica, Taiwan  
**Xichun (Steve) Wang**, Public Health Informatics Scientist, Southern Nevada Health District  
**Michael Weist**, Scientist, IMMPACT BIO USA INC  
**Chunyue Weng**, Lecturer, Zhejiang University of Technology  
**Ethan White**, Scientist, Biologics  
**Lindsay Williams (O'Brien)**, Postdoctoral Fellow, Beckman Research Institute of City of Hope  
**Jonathan Wise**, TBD  
**Cynthia Wong**, Principal Scientist, NeoGenomics Laboratories  
**Chen Wu**, Director of Cell Engineering, Quintara Biosciences  
**Juli (Hsiao-Huei) Wu**, Senior Program Manager, Office of the Chief Scientific Officer, Children's Hospital Los Angeles  
**Jun Xie**, Assistant Research Professor, Beckman Research Institute of City of Hope  
**Min Xiong**, Postdoctoral Fellow, Beckman Research Institute of City of Hope  
**Peizhang Xu**, Postdoctoral Fellow, University California, San Francisco  
**Tongyuan Xue**  
**Su Yang**, Senior Scientist, Predictive Biology Inc  
**Tangsheng Yi**, Senior Director, Inflammation Biology/Immunology  
**Jung-Hoon Yoon**, Scientist, University of Texas Medical Branch  
**Young You**, Project Scientist, University of California, San Diego  
**James Young**, Regulatory Affairs Manager, Regeneron  
**Hui Zhang**, Postdoctoral Fellow, Stanford University  
**Jane Zhang**, Senior Manager, Global R&D Tech Transfer and Technical Project Management, CSL Behring  
**Jing Zhang**, Postdoctoral Fellow, Wake Forest University  
**Xizhe Zhang**, Staff Scientist, Beckman Research Institute of City of Hope  
**Yijia Zhang**  
**Zheng Zhang**  
**Ziming Zhang**, NMR Spectroscopist, Abzena  
**Lingwen Zhong**, Postdoctoral Fellow, Roswell Park Cancer Center

## Appendix A: Federal Compliance

### Title IX Complaint Procedures

#### I. Introduction

Irell & Manella Graduate School of Biological Sciences at City of Hope (the “School”) has developed the following procedures to provide prompt and equitable resolution of complaints alleging any action prohibited by Title IX of the Education Amendments Act of 1972 (“Title IX”). Title IX prohibits sex discrimination in federally assisted education programs. This law states in part:

No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance...

Use of these procedures does not affect other rights and remedies that may be available to a complainant under federal and state statutes prohibiting discrimination. These procedures are available to anyone who, at the time of an alleged violation, is enrolled at or employed by the School.

#### II. Definitions

*Complainant:* person filing the complaint of discrimination (including harassment) on the basis of sex.

*Respondent:* person alleged to have discriminated (including harassment) on the basis of sex.

*Title IX Coordinator:* means the employee designated to coordinate the School’s efforts to comply with and carry out its responsibilities under Title IX and the Title IX implementing regulations.

#### III. Procedures

A. Any person enrolled at or employed by the School and claiming to have been discriminated against by the School in its education programs or activities on the basis of sex may use these procedures. All complaints of sex discrimination will be promptly investigated by the Title IX Coordinator or their designee.

1. Complaints should be addressed to:

Joline Treanor, Title IX Coordinator  
City of Hope Graduate School of Biological Sciences  
1500 E. Duarte Road  
Duarte, CA 91010  
jtreanor@coh.org

2. Complaints against the Title IX Coordinator will be processed in accordance with these procedures except that all responsibilities of the Title IX Coordinator will be fulfilled by the Corporate Compliance Officer of City of Hope or their designee. Under these circumstances, complaints should be addressed to:

Chief Compliance Officer

[CorporateCompliance@coh.org](mailto:CorporateCompliance@coh.org) (ext.88084)

## B. Informal Resolution

1. Any person subject to this policy may seek advice or information on matters relating to discrimination or harassment without having to lodge a formal complaint. However, a person subject to this policy is not required to pursue informal resolution before making a formal complaint.

2. The Title IX Coordinator or the Corporate Compliance Officer, if the matter relates to the Title IX Coordinator, may be able to mediate the conflict by discussing the allegation informally with relevant parties in an attempt to end the alleged discrimination or harassment and resolve the issue. If there is a resolution acceptable to both parties, the matter will not proceed further.

3. Records will be kept of materials generated by such informal mediation along with an informal written agreement that will be reviewed and signed by both parties and maintained by the Title IX Coordinator.

## C. Formal Complaint Procedures

1. In order for a complaint to be formally investigated, the complaint must be filed in writing. The complaint must be filed within one hundred eighty (180) days after the complainant became aware of the alleged violation. Complaints must contain the following information:

- Name, address, and telephone number of the complainant
- A brief description of the alleged violation, including the location and date of the incident(s) and the names of all participants and known observers of the offensive conduct
- The relief the complainant seeks
- The complainant's signature

2. Within ten (10) days of receipt of the complaint, the Title IX Coordinator will determine whether the complaint merits formal review. A formal complaint may be dismissed at this stage if the complaint is deemed groundless for such reasons as the following: the complaint is not filed in a timely fashion; or the alleged behavior does not constitute a violation of Title IX. The Title IX Coordinator will seek the advice of the Office of General Counsel as needed.

3. If the Title IX Coordinator determines that the complaint merits formal review, the Title IX Coordinator will advise the Dean about the complaint and will, in consultation with the Office of General Counsel, initiate a formal investigation of the complaint. An individual, a committee or an outside party may conduct the investigation. The purpose of the investigation is to determine the facts relating to the complaint. The investigation will include, at a minimum, the following steps:

- interviews with each of the complainant and the respondent
- interviews with others identified as witnesses
- review of any relevant documents submitted to the investigator

If appropriate, the respondent may be placed on a leave of absence during the investigation.

4. It is expected that the investigation of a complaint will be completed within sixty (60) days of receipt of the complaint. This timeline, however, is subject to change depending on various factors, including but not limited to, the complexity of the investigation.

5. Within thirty (30) days of the conclusion of the investigation, the investigator shall issue to the Title IX Coordinator, and, if appropriate, the Office of General Counsel, a written report of the findings and conclusions of the investigation. The report will provide a determination of the merits of the complaint related to Title IX and, if applicable, options for substantive resolution of the complaint and recommendations for corrective measures. The Title IX Coordinator shall review the written report and submit it to the Dean within five (5) days of receipt of the report.

6. The Dean shall decide based on the record and shall notify the complainant and the respondent in writing of the decision and the basis for the decision, including any corrective action to be taken, within fifteen (15) days of receipt of the investigator's report.

7. If a violation of Title IX occurred, sanctions will be imposed, and actions will be taken to prevent any further discrimination or harassment. Depending on the severity of the case, sanctions include, but are not limited to:

- verbal counseling/training
- a formal written warning placed in respondent's file
- transfer of advisees and/or removal from positions of administrative responsibility
- removal from a supervisory position
- enforced leave of absence/suspension
- termination of employment or permanent dismissal

#### IV. Appeal

A. If the complainant is not satisfied with the Dean's decision, the complainant may file a written appeal to Corporate Compliance Officer. The written appeal must include a detailed statement of the basis of the appeal. The Corporate Compliance Officer shall notify the complainant of the final decision within thirty (30) days of receipt of the appeal.

## V. General Considerations

A. Retaliation Prohibited. No person shall be subject to discharge, suspension, discipline, harassment, or any form of discrimination for having used or having assisted others in using the grievance process. The Title IX Coordinator will, where warranted, investigate a complaint of alleged retaliation in the same manner as is described herein.

B. Calculation of Time. Saturdays, Sundays, and holidays shall be disregarded in calculating time periods specified in these grievance procedures.

C. Respondent Not a Student or Employee. If the respondent is not enrolled at or employed by the School, there may be additional procedures that apply. For example, if a respondent were a member of the City of Hope National Medical Center Medical Staff, the provisions of City of Hope's Harassment Policy addressing harassment by a member of the Medical Staff would be applied.

### FERPA-Family Educational Rights and Privacy Act

The Family Educational Rights and Privacy Act (FERPA) affords eligible students certain rights with respect to their education records. (An "eligible student" under FERPA is a student who is 18 years of age or older or who is attends a postsecondary institution.) These rights include:

1. The right to inspect and review your education records within 45 days after the day IMGS receives a request for access. A student should submit to the Registrar a written request that identifies the record(s) the student wishes to inspect. The Registrar will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the Registrar to whom the request was submitted, that Registrar shall advise the student of the correct official to whom the request should be addressed.

2. The right to request an amendment to your student education records that you believe is inaccurate, misleading, or otherwise in violation of the privacy rights under FERPA.

A student who wishes to ask the IMGS to amend a record should write to the Registrar to identify clearly the part of the record the student wants changed and specify why it should be changed.

If the IMGS decides not to amend the record as requested, the Registrar will notify the student in writing of the decision and the student's right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

3. The right to provide written consent before the graduate school discloses personally identifiable information (PII) from the student's education records, except to the extent that FERPA authorizes disclosure without consent.

The school discloses education records without a student's prior written consent under the FERPA exception for disclosure to school officials with legitimate educational interests or in the case the information is designated as directory information.

4. The right to file a complaint. An eligible student has the right to file a complaint with the U.S. Department of Education concerning alleged failures by IMGS to comply with the requirements of FERPA. The name and address of the Office that administers FERPA is:

Family Policy Compliance Office  
U.S. Department of Education  
400 Maryland Avenue, SW  
Washington, DC 20202

## Definitions

**Directory Information:** Under FERPA directory information is information contained in a student's education record that would not be considered harmful or an invasion of privacy if disclosed. Institutions may disclose designated directory information without written consent at the discretion of the Registrar. The IMGS considers the following to be directory information:

- Name
- Email address
- Program
- Dates of attendance
- Enrollment status
- Degree status
- Major Field of Study
- Awards received include honors, scholarships, fellowships, grants, and dean's list
- Photographic, video, or electronic images

If you do not want IMGS to disclose directory information from your education records without written consent, you must notify the Registrar in writing.

Note: Once a student's record has been made confidential, no information can be shared about the individual without the student's written consent. In such a case, problems may occur thereafter when potential employers or other parties make inquiries about the student.

**Education Records:** An education record is defined as any information or data that is related to a student and is maintained by an educational agency, or institution, or by a party acting for the agency or institution. Education records include any information or data recorded in any medium.

Examples of education records include, but are not limited to the following:

- Academic assessments
- General counseling and advising records
- Disciplinary records
- Financial aid records
- Admissions information for students who are accepted and enrolled
- Biographical information (date and place of birth, gender, nationality, race and ethnicity, and identification photographs)
- Course work, schedules or communication that are part of the academic process

Education records DO NOT include (narrowly defined):

- Records in the sole possession of the maker
- Law enforcement records
- Employment records when employment is not contingent on being a student
- Medical or psychological treatment records
- Alumni records

**School Official:** A school official is a person employed by IMGS in an administrative, managerial, academic, research, or support staff position (including human resources and health staff); a person serving on the board or committee; or a student serving on an official committee, such as a disciplinary or grievance committee. A school official also may include a volunteer or contractor outside IMGS who performs an institutional service or function for which the school would otherwise use its own employees and who is under the direct control of the Graduate School with respect to the use and maintenance of educational records, such as an attorney, auditor, collection agent, a hosted software company or a verification agency.

**Legitimate Educational Interest:** A school official has a legitimate educational interest when the official needs to review an education record in order to fulfill their responsibility on behalf of the graduate school, such as when the official is performing a task that is specific in their job description, or by a contract agreement, or other official appointment; performing a task related to a student's education; performing a task related to the discipline of a student; or providing a service or benefit relating to the student or student's family, such as health care, counseling, job placement, or financial aid.

The complete regulations and full definitions of terminology are on the [U.S. Department of Education site](#).

## Appendix B: Important Contacts

**IMGS Direct Line:** (877) 715-4723 or extension 60518

**Graduate Student Documents:** [Graduate School Intranet - Find in Graduate Student Documents](#)



**Health Care Benefits: Gallagher (formerly known as Garnett-Powers & Associates),** provides customer service support for your health benefit programs. For customer service regarding enrollment, general benefit questions and confirmation, you should contact:

**Toll Free: 1 (800) 261-7109, Email: [COHBP@garnett-powers.com](mailto:COHBP@garnett-powers.com), Website [coh.gpa.services](http://coh.gpa.services)**

**Lyra** makes it easier to find and receive confidential, personalized, short-term mental health care. Their online platform allows you to sign up in just a few clicks, find the right coach or therapist for your needs, and quickly book an appointment in-person or via live video. You and your spouse or domestic partner, dependents under age 26 and household members are each eligible for up to 12 sessions per year with a Lyra Therapist or coach covered at no cost to you.

- Register at [coh.lyrahealth.com](http://coh.lyrahealth.com)
- Complete a brief wellness questionnaire to receive personalized care recommendations
- Review high-quality coaches and therapists matched to your needs.
- Book an appointment in-person or via video as early as the next day or tap into self-care apps.

Learn more at [coh.lyrahealth.com](http://coh.lyrahealth.com); [care@lyrahealth.com](mailto:care@lyrahealth.com); 877-672-1266

### Work-Life Services

Are also available to help you resolve emergencies, guide you through challenges and help you stay on top of your busy life. Services available to support you include legal and financial consultations, identity theft support and child, elder and pet care resources and referrals. [Click here](#) to access the Work-Life Services flier. **\*Use access code: Lyra-Coh.**

**Onsite Support:** Dr. Monica Martinez [providermartinezrmonica@gmail.com](mailto:providermartinezrmonica@gmail.com)

**Security:** Emergency **on Duarte Campus:** Call 55 or 626-218-5555 or **off Campus:** Call 911  
If you are uncomfortable walking to your vehicle, call **security (ext. 84000)** they will escort you.

**Anonymous Compliance Hotline**

(877) COH-COH8

(877) 264-2648



**Shuttles:** Shuttle Services approximately every ½ hour between the hours of 7:00 am and 4:30 pm. If shuttle is needed before or after those hours call ext. 82006 or 626-218-2006 for assistance.

**ITS:** Computer Support 84357 or (626) 218-4357

**Title IX Coordinator:** Joline Treanor, Chief Human Resource Officer, email: [jtreaor@coh.org](mailto:jtreaor@coh.org)

## Appendix C: Abbreviations List

ACLAM - American College of Laboratory Animal Medicine

ADA - Americans with Disabilities Act

AIC - Academic Integrity Committee

ARC - Animal Resources Center

COH – City of Hope

CPI - Characters per inch

DAR - Department of Animal Resources

DCM - Department of Comparative Medicine

AR-DMRI – Arthur Riggs Diabetes and Metabolism Research Institute of the City of Hope

DVM- Doctor of Veterinary Medicine

FERPA - Family Educational Rights and Privacy Act

FICA - Federal Insurance Contributions Act

FSR - Fundamentals of Scientific Research

FTB - California Franchise Tax Board

GSBS - Graduate School of Biological Sciences

GSL - Graduate School Leadership

GSO - Graduate Student Organization

IDP - Individual Development Plan

IMGS - Irell & Manella Graduate School of Biological Sciences

IRS - Internal Revenue Service

KGI - Keck Graduate Institute

The Lundquist Institute-Los Angeles Biomedical Research Institute/Harbor at UCLA Medical Center



LEL - Leading-Edge Lectures

NIH - National Institutes of Health

PDF - Portable Document File

QE - Qualifying Examination

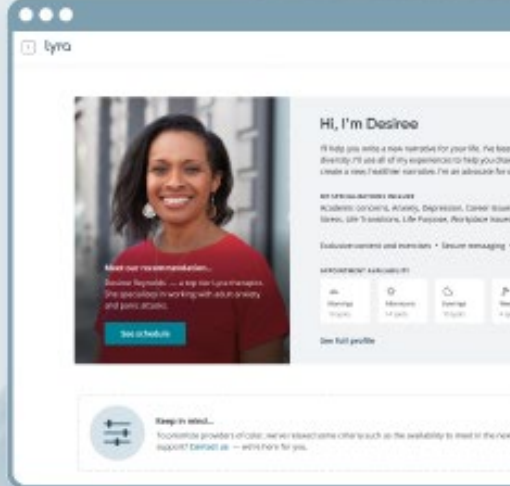
## Appendix D: Employee Assistance Program (Lyra)




**OVERVIEW**


# Your Go-To for Mental Health

Enhance your wellness and find confidential care for your emotional and mental health, how, when and where you need it. Whether you're feeling stressed, burned out or grieving a loss, support from Lyra can help.




**Guided self-care with a coach**


Get a care plan crafted by your Lyra coach and learn new mental health strategies at your own pace.

**Mental health coaching**

Get to the root of your challenges with effective care from a mental health coach via video or live messaging.

**In-person and video therapy**

Meet with a therapist for diagnosis and treatment of mental health conditions like depression, PTSD and more.

**Essentials**

Tap into self-led wellness tools anytime, anywhere.

“

*I can't believe that genuine help was only a click away. I'm beyond grateful for Lyra.*

— Lyra client

Learn more at [coh.lyrahealth.com](https://coh.lyrahealth.com).  
[care@lyrahealth.com](mailto:care@lyrahealth.com) | (877) 672-1266

PROVIDED BY LYRA PARTNERS

## Work-Life Services

Sometimes life throws a wrench in the works. Experts beyond mental health are available to resolve emergencies, guide you through challenges and help you stay on top of your busy life.

### Services and available support



#### Legal Consultations

Partner: CLC Incorporated

- 30-minute free consultation with an attorney or mediator and a 25% discount on ongoing services
- 24/7 emergency services
- Easy-to-use legal forms, documentation preparation and online legal library



#### Identity Theft Support

Partner: CLC Incorporated

- 60-minute free consultation with a fraud resolution specialist
- Assists members with restoring their identity and good credit
- Free ID theft emergency response kit



#### Child, Elder, Pet Care

Partner: EmployeeCare

- Access code: Lyra-Coh
- Child, elder and pet care consultations, resources and referrals
- 24/7 access to services online or by phone
- Online library of educational resources



#### Financial Consultations

Partner: CLC Incorporated

- 30-minute free consultation with experienced financial counselor
- 30-minute free consultation on income tax planning and a 25% discount on the CPA's normal fee for document preparation
- Online financial library

Get started at [coh.lyrahealth.com](https://coh.lyrahealth.com).  
care@lyrahealth.com | (877) 672-1266

Lyra Health, Inc. works in partnership with Lyra Clinical Associates P.C. and other contracted partners to be your Lyra care team and deliver clinical services. Your Lyra benefit covers the cost of as many in-person or live video sessions clinically indicated by your Lyra provider, up to 12 care sessions. For care exclusions, please see the Lyra FAQ.