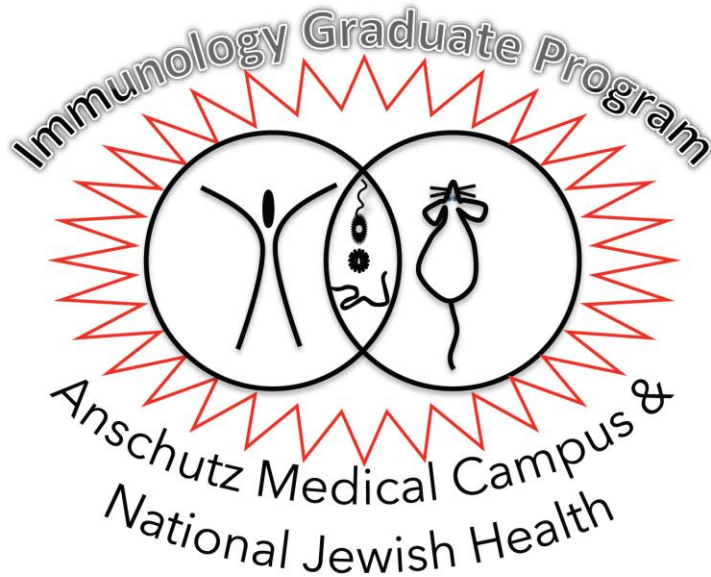


IMMUNOLOGY GRADUATE PROGRAM 2019-2020 HANDBOOK



UNIVERSITY OF COLORADO ANSCHUTZ MEDICAL CAMPUS
NATIONAL JEWISH HEALTH



Graduate School

UNIVERSITY OF COLORADO DENVER | ANSCHUTZ MEDICAL CAMPUS

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INTRODUCTION

Welcome to the Graduate Program in Immunology at the University of Colorado Anschutz Medical Campus. This handbook provides information about the Immunology Graduate Program and is designed to complement Graduate School Student policies. Please refer to the Graduate School webpage for specific Graduate School policies and procedures.

The material contained within this handbook is as current as possible and describes Immunology Program specific policies and procedures that *supersede* those in outlined by the Graduate School. Please be aware that our program continues to evolve and specific policies may be altered, thus, this material may not always be current.

This handbook, which includes policies and procedures for the Immunology Graduate Program, is provided to serve as firm guidelines rather than absolute rules, and exceptions may be made on the basis of an extenuating circumstance. Thus, the handbook does not constitute a contract with the Immunology Graduate Program, the Department of Immunology & Microbiology, or the University of Colorado Denver Anschutz Medical Campus, or Graduate School, either expressed or implied. The Immunology Graduate Program reserves the right at any time to change, delete, or add to any of the provisions at its discretion. Any exceptions to the departmental policies contained herein require approval by the Director of the Graduate Program. Additional information can be found at the Program website:

<http://www.ucdenver.edu/academics/colleges/medicalschoo/departments/ImmunologyMicrobiology/gradprogram/immugradprog/Pages/ImmuGradHome.aspx>

The Graduate School policies can be found here:

<http://www.ucdenver.edu/academics/colleges/Graduate-School/current/Pages/resources.aspx>

The Graduate School Course Book by the University of Colorado Anschutz Medical Campus can be found at <http://www.ucdenver.edu/anschutz/studentresources/Registrar/CourseListings/Pages/default.aspx>.

Before the first day of class, all new graduate students should attend the University of Colorado Anschutz Medical Campus Graduate School Orientation. This orientation is mandatory and will provide you with valuable information regarding student insurance, research ethics and animal facility training.

Students are responsible for knowing the procedures, policies and requirements outlined in all these publications.

Contact Michele Parsons, Immunology Program Administrator with any questions.

Michele.hwozdyk-parsons@CUAnschutz.edu or call 303-724-0107

GRADUATE PROGRAM STAFF

Immunology PhD Program

University of Colorado Anschutz Medical Campus 303-724-0107
Graduate Program in Immunology
Mail Stop 8333
12800 East 19th Avenue
Aurora, CO 80045

Laurel Lenz, Ph.D., Program Director 303-724-8676
laurel.lenz@CUAnschutz.edu
RC1N-9130

Lee Reinhardt, Ph.D., Associate Program Director 303-270-2717
reinhardt@njhealth.org
National Jewish Health – K817a

Michele Parsons, Program Administrator (O) 303-724-0107 (C) 720-352-8655
michele.hwozdyk-parsons@CUAnschutz.edu
RC1N-9112

Miranda McDevitt, Program Coordinator 303-724-3350
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RC1S-9112

Immunology & Microbiology Department

University of Colorado Anschutz Medical Campus 303-724-4224
Department of Immunology & Microbiology Fax 303-724-4226
Mail Stop 8333
12800 East 19th Avenue
Aurora, CO 80045

RC1N 8th floor

Leslie Berg, PhD, Department Chair 303-724-8664
Sandra Duran, Executive Assistant to Dr. Berg

RC1N- 9th floor

Tom Shallow, Director of Finance and Administration 303-724-8664

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Brooke Lydick, Webmaster & Faculty Appointments 303-724-8675

Gwen Frederick, Department Administrative Assistant & lab purchase agent 303-724-4224

JC Haller, Laboratory Resources Coordinator 303-724-4245

Mike Elmore, IT Systems Administrator 303-724-9033

National Jewish Health
1400 Jackson Street
Denver, CO 80206

Phillipa “Pippa” Marrack, PhD, Chair Biomedical Research Dept
 Jo Alamri, Executive Assistant to Dr. Marrack 303-398-1307

Kelly Bakke, Department Manager 303-398-1309

Maria Millstein, Programs Coordinator 303-398-1830

Graduate School

University of Colorado Anschutz Medical Campus 303-724-2916
Graduate School Fax 303-724-2916
Mail Stop C296
Fitzsimmons Building, W5107
13001 E. 17th Place
Aurora, CO 80045
Email: graduate.school@cuanschutz.edu

David Engelke, Ph.D., Dean
 Lauren Field, Executive Assistant to the Dean 303-724-2911

Inge Wefes, Ph.D., Associate Dean

Shawna Cox, PhD., Assistant Dean, Student Admissions and Support 303-724-2915

Teresa Bauer-Sogi, Program Manager, Admissions and Student Progress 303-724-291

GRADUATE PROGRAM STUDENTS

	<i>Name</i>	<i>Matriculation Year</i>	<i>Lab/PI/Mentor</i>
1	Higa, Kelly	2013 (MSTP)	DeGregori
2	Agazio, Amanda	2014	Torres
3	Crisler, William (Cris)	2014	Lenz
4	Jamison, Braxton	2014	Haskins
5	Wemlinger, Scott	2014	Cambier
6	Boe, Devin	2015 (MSTP)	Kovacs
7	Smith, Nicholas	2015	Rochford
8	Bortell, Nikki	2015 (BSP)	Lenz
9	Crute, Bergren	2015 (BSP)	Cambier
10	Fernandez, Zoila (Isabel)	2015 (MSTP)	Kedl
11	Kilgore, Augustus (Gus)	2015	Kedl
12	Lucas, Erin	2015	Tamburini
13	Smith, Nicholas	2015	Rochford
14	Camp, Faye	2016 (MSTP)	Slansky
15	Chung, Jeffrey	2016 (BSP)	Jacobelli
16	Hulsebus, Holly	2016	Kovacs
17	Mills, Taylor	2016	Pietras
18	Whitesell, Jennifer	2016	Friedman
19	Woolaver, Rachel	2016	Wang
20	Chriswell, Meagan	2017 (MSTP)	Kuhn
21	Cimons, Jennifer	2017 (BSP)	Fry
22	Hay, Zachary	2017	Slansky
23	Lefferts, Adam	2017	Kuhn
24	Liu, Victor	2017 (BSP)	Hsieh
25	Schoenbach, Mary	2017	Reinhardt - NJH
26	Sweet, Lydia	2017 (BSP)	Keestra-Gounder
27	Waldman, Monique	2017	Jacobelli
28	Willett, Benjamin	2017	Kedl
29	Brown, Alex	2018	Marrack – NJH
30	Darragh, Laurel	2018 (MSTP)	Karam
31	DeGolier, Kole	2018	Fry
32	DeVoe, Stephanie	2018	Demoruelle
33	Doan, Thu “Autumn”	2018	Tamburnini
34	Illies, Alysha	2018	Lenz

GRADUATE PROGRAM STUDENTS CONTINUED

35	Cullander, Brynn	2019	Rotating
36	Heiden, Dustin	2019	Rotating
37	Loftus, Shannon	2019	Rotating
38	Sigler, Ashton	2019	Rotating
39	Ware, Brian	2019	Rotating

COMMITTEES & OFFICERS

Steering Committee

Laurel Lenz, PhD
Raul Torres, PhD
Pippa Marrack, PhD (NJH)
John Cambier, PhD
Ross Kedl, PhD
Peter Henson, PhD (NJH)
Rachel Friedman, PhD
Leslie Berg, PhD
Lee Reinhardt, PhD (NJH)
Rachel Woolaver (Student)

Admissions Committee

Laurel Lenz, PhD
Lee Reinhardt PhD (NJH)
Pippa Marrack, PhD (NJH)
Rachel Friedman, PhD (NJH)

Student Officers 2019-2020

IGSB Director/President – Jen Whitesell

Recruitment & Admissions Chairs - Autumn Doan & Alysha Illies

Team Building Officer - Zack Hay

Graduate Affairs Student Rep (Steering Committee) - Rachel Woolaver

Journal Club Officers - Victor Lui & Ben Willett

Student Retreat Chair - Jen Cimmons

Student Invited Speaker Officer - Holly Hulsebus

Graduate Relations Officer – Meagan Chriswell

Teaching & Learning Opportunitites Officer – Bergren Crute

Student Wellness Officer – Jen Whitesell

Secretary – Monique Waldman

GRADUATE PROGRAM FACULTY

Rafeul Alam, Professor of Medicine

National Jewish Health – Department of Medicine, Division of Allergy and Clinical Immunology

Chief, Division of Allergy and Clinical Immunology
Veda H. and Chauncey H. Ritter Chair in Immunology
Ph.D., M.D., Lodz Medical College (Poland)

Research Interest: *Signal transduction mechanism of eosinophils and T cells, and signaling mechanism of asthma*

Accepting Students: unknown

877-225-5654 rafeul.alam@cuanschutz.edu

Scott Alper, Assistant Professor

Department of Immunology and Microbiology
National Jewish Health – Department of Biomedical Research
Ph.D., 1996, Harvard College

Research Interest: *Genetic control of TLR signaling pathways*

Accepting Students: YES

303-270-2659 scott.alper@cuanschutz.edu or alpers@njhealth.org

Jeffrey Bennett, Professor of Medicine

Departments of Neurology & Ophthalmology

Gertrude Gilden Professor of Neurodegenerative Disease Research
Ph.D., M.D., 1993, Stanford University

Research Interest: *Identify primary target of the humoral immune response in ON and MS*

Accepting Students: unknown

303-724-2184 Jeffrey.bennett@cuanschutz.edu

Leslie Berg, Professor and Chair

Department of Immunology and Microbiology
Ph.D., 1986, University of California, Berkeley, CA

Research Interest: *specializes in understanding how T cells develop and help fight infection*

Accepting Students: YES

303-724-2214 Leslie.Berg@CUAnschutz.edu

303-724-8665 Sandy Duran, Assistant to the Chair

John C. Cambier, Distinguished Professor

Department of Immunology and Microbiology

National Jewish Health – Department of Biomedical Research
Ph.D., 1975, University of Iowa

Research Interest: *BCR Antigen Receptor Structure and signaling, MHC Class II signaling, Inhibitory “Checkpoint” Receptor Signaling Molecular basis of B cell anergy, Description of STING/MPYS, a transducer of innate immune signals*

Accepting Students: NO

303-724-8663 john.cambier@cuanschutz.edu

Eric Clambey, Assistant Professor

Department of Anesthesiology

Ph.D., 2002, Washington University

Research Interest: *My research focuses on the dynamic interface between the immune system, inflammation and tissue repair. In particular, my lab studies how T cells, pivotal cells of the immune system, influence the balance between health and disease at mucosal surfaces, including the lung and gastrointestinal tract. These studies focus on diverse contexts, ranging from anti-viral to anti-tumor immunity, with an emphasis on immunomodulatory approaches to limit infection and malignancy*

Accepting Students: unknown

393-724-7783 eric.clambey@cuanschutz.edu

J. John Cohen, Professor

Department of Immunology and Microbiology

Barbara Davis Center for Diabetes

Ph.D., MDCM, McGill University

Research Interest:

Accepting Students: NO

303-724-3998 john.cohen@cuanschutz.edu

Sean P. Colgan, Professor

Department of Medicine, Division of Gastroenterology and Hepatology

Director of Mucosal Inflammation Program

Vice Chair for Research, Department of Medicine

Levine-Kern Professor of Medicine and Immunology

Ph.D., 1991, Colorado State University

Research Interest: *Role of leukocytes, epithelium and hypoxia in inflammatory bowel disease*

Accepting Students: NO

303-724-1858 sean.colgan@cuanschutz.edu

Shaodong Dai, Associate Professor

School of Pharmacy & Pharmaceutical Sciences

Ph.D., 1998, Uppsala Biomedical Center, (Sweden)

Research Interest: *Understanding the mechanisms of the metal containing ligands for alpha/beta TCRs from metal reactive human T cells*

Accepting Students: YES

303-724-3276 shaodong.dai@cuanschutz.edu

Howard W. Davidson, Associate Professor

Department of Pediatrics, Section of Pediatric Endocrinology

Barbara Davis Center for Diabetes

Ph.D., 1988, University of Cambridge

Research Interest: *T and B cell responses to type 1 diabetes autoantigens in human and mouse*

Accepting Students: unknown

303-724-6852 howard.davidson@cuanschutz.edu

Eduardo Davila, Associate Professor

School of Medicine, Medical Oncology

Ph.D., 2002, Mayo Clinic Graduate School, Rochester, MN

Our long-term goals are to develop novel approaches for treating immunorefractory cancers and to develop predictive models and diagnostics to identify compounds that sensitize tumors to T cell-based therapies.

Accepting Students: unknown

(303) 724-0817 eduardo.davila@cuanschutz.edu

Kevin Deane, Associate Professor

Department of Rheumatology

M.D., 1997, Loma Linda University

Ph.D., 2011, University of Colorado Anschutz Medical Campus

Research Interest: *Epidemiology of Rheumatoid Arthritis (RA), Translational Research in RA Pathogenesis, Clinical Trials in RA Prevention*

Accepting Students: unknown

303-724-7608

James DeGregori, Professor

Department of Biochemistry and Molecular Genetics

Ph.D., 1993, Massachusetts Institute of Technology

Research Interest: *Pathways and mechanisms that contribute to leukemia initiation and maintenance*

Accepting Students: YES

303-724-3230 james.degregori@cuanschutz.edu

Kelly Doran, Professor

Department of Immunology and Microbiology

Ph.D., 1998, University of California San Diego

Research Interest: *Studying host - pathogen interactions in the central nervous system (CNS) and the female reproductive during infection and colonization*

Accepting Students: unknown

303-724-4224 kelly.doran@cuanschutz.edu

Gregory P. Downey, Professor of Medicine

National Jewish Health - Division of Pulmonary, Critical Care and Sleep Medicine

M.D., 1980, University of Manitoba

Research Interest: *Acute Lung Injury and Repair, Epithelial Injury, Fibrosis, Chronic respiratory infections, asthma*

Accepting students: unknown

303-398-1436 gregory.downey@cuanschutz.edu or downeyg@njhealth.org

Stephen Dreskin, Professor of Medicine

Department of Medicine, Division of Allergy, Asthma and Clinical Immunology

Director, University of Colorado Allergy and Immunology Practice

Director, Allergy, Asthma, Immunology, Rhinology and Inflammation Pillar, University of Colorado Health Center for Lung and Breathing

Ph.D., M.D., 1977, Emory University

Research Interest: *asthma, rhinitis, urticaria, severe food allergy, angioedema and immunodeficiency*

Accepting Students: NO

303-724-7190 stephen.dreskin@cuanschutz.edu

Christopher Evans, Professor

Department of Pulmonary Sciences and Critical Care Medicine

Ph.D., 2001, Johns Hopkins University

Research Interest: *Mucins in innate defense: determination of their immunomodulatory roles through direct activation of leukocyte glycan receptors*

Accepting Students: YES

303-724-6573 christopher.evans@ucdenver.edu

Andrew Fontenot, Professor of Medicine

Department of Medicine, Division of Allergy, Asthma and Clinical Immunology

Head, Division of Allergy, Asthma and Clinical Immunology

M.D., 1990, Louisiana State University Medical College

Research Interest: *Allergic lung disease; The role of T cells in the development of lung disease. In particular, the laboratory is interested in determining the mechanism by which CD4 T cells recognize the beryllium antigen in the context of HLA-DP2*

Accepting Students: YES

303-724-7192 andrew.fontenot@cuanschutz.edu

Brian Freed, Professor

Department of Medicine, Division of Allergy, Asthma and Clinical Immunology

Ph.D., 1990, Albany Medical College

Research Interest: *Immunogenetics*

Accepting Students: unknown

303-724-0535 brian.freed@cuanschutz.edu

Rachel S. Friedman, Associate Professor

Department of Immunology and Microbiology

Barbara Davis Center for Diabetes

Ph.D., 2007, University of California, San Francisco

Research Interest: *Cell trafficking in type 1 diabetes; Immunotherapeutics development*

Accepting Students: YES

303-TBA rachel.s.friedman@cuanschutz.edu

Terry J. Fry, Professor of Medicine

Department of Pediatrics, Division Hematology, Oncology & Bone Marrow Transplantation

Director, Cancer Immunotherapy

Co-Director, Human Immunology and Immunotherapy Initiative

Robert and Kathleen Clark Endowed Chair in Pediatric Cancer Therapeutics

Children's Hospital Colorado Center for Cancer and Blood disorders (CCBD)

M.D., 1992, Georgetown University

Research Interest: CD4 CAR T cells using the OTII model

Accepting Students: unknown

303-724-7293 terry.fry@cuanschutz.edu

720-777-5179 Administrative Support for Dr. Fry

Mayumi Fujita, Professor of Medicine

Department of Dermatology

M.D., 1983, Kyoto University (Japan)

Ph.D., 1992, Kyoto University (Japan)

Research Interest: *Melanoma biology, melanoma immunology, skin immunology and disease biomarkers*

Accepting Students: YES

303-724-4045 mayumi.fujita@cuanschutz.edu

Laurent Gapin, Professor

Department of Immunology and Microbiology

National Jewish Health – Department of Biomedical Research

Ph.D., 1997, Pasteur Institute (France)

Research Interest: *Mechanisms of iNKT cell development and antigen recognition*

Accepting Students: YES

303-270-2071, laurent.gapin@cuanschutz.edu or gapinl@njhealth.org

Andrew Getahun, Assistant Professor

Department of Immunology and Microbiology

National Jewish Health – Department of Biomedical Research

Ph.D,

Axis Tunes PI3K Activity to Control Expression of Recombination Activating Genes in Early B Cell Development. F

Accepting Students: unknown

(303) 398-1228 Andrew.Getahun@CUAnschutz.edu

Ronald G. Gill, Professor

Department of Surgery, Colorado Center for Transplantation Care, Research and Education

Barbara Davis Center

Scientific Director - CCTCARE

Ph.D., 1976, University of California, Los Angeles

Research Interest: *Transplantation of pancreatic cells as a treatment for insulin-dependent diabetes*

Accepting Students: unknown

303-724-5321 ronald.gill@cuanschutz.edu

James R. Hagman, Professor

National Jewish Health – Department of Biomedical Research

Ph.D., 1989, University of Washington

Research Interest: *Regulation of B cell development, epigenetics and cancer*

Accepting Students: NO

303-398-1398 james.hagman@cuanschutz.edu or hagmanj@njhealth.org

Kathryn Haskins, Professor

Department of Immunology and Microbiology

Barbara Davis Center for Diabetes

Ph.D., 1981, University of Kansas

Research Interest: *Immunoregulation in autoimmune diabetes; pancreatic beta-cell autoantigens*

Accepting Students: unknown

303-724-2093 katie.haskins@cuanschutz.edu

Peter Henson, Distinguished Professor

National Jewish Health – Department of Biomedical Research

Ph.D., 1967, Cambridge University

BVM & S, 1963, Edinburgh University

Research Interest: *Innate immunity, inflammation and apoptotic cell recognition*

Accepting Students: NO

303-398-1325 peter.henson@cuanschutz.edu or hensonp@njhealth.org

V. Michael Holers, Professor of Medicine

Department of Medicine, Division of Rheumatology

Head, Division of Rheumatology

M.D., 1978, Washington University School of Medicine

Research Interest: *Complement-mediated tissue injury; preclinical autoimmune disease pathogenesis*

Accepting Students: unknown

303-315-7592 michael.holers@cuanschutz.edu

303-724-7610 Carissa Figal, Administrator

Elena Hsieh, Assistant Professor of Medicine

Department of Immunology and Microbiology

Department of Pediatrics, Division of Allergy and Immunology

Children's Hospital Colorado

M.D., University of California, San Francisco

Research Interest: *Mechanistic and translational questions in human immunology using high-dimensional single-cell mass cytometry and ex-vivo cellular manipulation*

Accepting Students: NO

303-724-9650 elena.hsieh@cuanschutz.edu

Hua Huang, Professor of Medicine

Department of Immunology and Microbiology

National Jewish Health – Department of Biomedical Research

Ph.D., 1993, University of Wisconsin-Madison

M.D., 1984, Sun Yat-Sen University School of Medicine, Guangzhou (P.R. China)

Research Interest: *Cytokine signaling; T-helper-cell differentiation; allergic inflammation; asthma*

Accepting Students: YES

303-398-1281 hua.huang@cuanschutz.edu or huangh@njhealth.org

Jordan Jacobelli, Assistant Professor

Department of Immunology and Microbiology

Barbara Davis Center for Diabetes

Ph.D., 2002, University of Rome

Research Interest: *Lymphocyte trafficking and cell-cell interactions in health and disease*

Accepting Students: YES

303-TBA jordan.jacobelli@cuanschutz.edu

Edward N. Janoff, Professor of Medicine

Department of Medicine, Division of Infectious Diseases, Mucosal and Vaccine Research Colorado Program (MAVRC)

M.D., 1981, University of Arizona

Research Interest: *Mucosal immunity; HIV transmission and vaccine; pneumococcal infections and vaccine; B cell regulation*

Accepting Students: YES

303-724-4936 edward.janoff@cuanschutz.edu

John Kappler, Distinguished Professor

Department of Immunology and Microbiology

National Jewish Health – Department of Biomedical Research

Ph.D., 1970, Brandeis University

Research Interest: *Structure and function of the T-cell receptor and its ligands in autoimmunity, cancer and hypersensitivity*

Accepting Students: unknown

303-39-1322 john.2.kappler@cuanschutz.edu or kapplerj@njhealth.org

Ross Kedl, Professor & Associate Director, Graduate Program in Immunology

Department of Immunology and Microbiology

Ph.D., 1997, University of Minnesota

Research Interest: *Intersection between innate and adaptive signals which lead to potent cellular immunity; exploration of how these signals might be manipulated for vaccine development and design*

Accepting Students: NO

303-270-2061 ross.kedl@cuanschutz.edu

Marijke Keestra-Gounder, Assistant Professor

Department of Immunology and Microbiology

Ph.D., 2008, Utrecht University (The Netherlands)

Research Interest: *Elucidating pathways of innate immunity that can distinguish harmless microbes from pathogens, thereby enabling the host to mount responses that are commensurate with the threat*

Accepting Students: unknown

303-724-8668 marijke.keestra-gounder@cuanschutz.edu

Elizabeth J. Kovacs, Professor

Department of Surgery, Division of Gastroenterology, Tumor and Endocrine Surgery

Ph.D., 1984, University of Vermont

Research Interest: *Overall focus: The effects of advanced age, alcohol intoxication, and radiation exposure on inflammatory responses after injury or infection*

Accepting Students: YES

303-724-8243 elizabeth.kovacs@cuanschutz.edu

Kristine A. Kuhn, Assistant Professor of Medicine

Department of Medicine, Division of Rheumatology

Barbara Davis Center for Diabetes

Ph.D., 2005, University of Colorado Health Sciences Center

M.D., 2007, University of Colorado Health Sciences Center

Research Interest: *Microbiome and mucosal immunity in the development of autoimmune diseases*

Accepting Students: YES

303-724-8258 kristine.kuhn@cuanschutz.edu

Laurel L. Lenz, Professor

Department of Immunology and Microbiology

Ph.D., 1998, University of Washington, Seattle

Research Interest: *Molecular mechanisms of bacterial pathogenesis, host-bacteria interactions, host-directed therapeutics, innate immunity, interferons, Listeria monocytogenes*

Accepting Students: YES

303-724-8676 laurel.lenz@cuanschutz.edu

Philippa “Pippa” Marrack, Distinguished Professor

National Jewish Health – Department of Biomedical Research

Ida & Cecil Green Professor

Chair, Department of Biomedical Research

Ph.D., 1970, Cambridge University (United Kingdom)

Research Interest: *T cell development; T-cell responses and death*

Accepting Students: NO

303-398-1322 philippa.marrack@cuanschutz.edu or marrackp@njhealth.org

**Thomas E. “Tem” Morrison, Associate Professor & Director, Graduate Program in Microbiology
Department of Immunology and Microbiology**

Ph.D., 2004, University of North Carolina-Chapel Hill

Research Interest: *Immunological mechanisms that influence the clearance or persistence of arboviruses and protozoan parasites; molecular mechanisms by which pathogens counteract host innate and adaptive immune responses*

Accepting Students: YES

303-724-4283 thomas.morrison@cuanschutz.edu

Maki Nakayama, Associate Professor

Department of Immunology and Microbiology

Department of Pediatrics, Barbara Davis Center for Diabetes

M.D., 1994, Ph.D., 2002, Kobe University (Japan)

Research Interest: *To understand the mechanism how anti-beta cell autoimmunity is initiated, my laboratory focuses on the tri-molecular complex consisting of antigen, major histocompatibility complex (MHC), and T cell receptor (TCR), which could be a key component for the development of type 1 diabetes*

Accepting Students: YES

303-724-4076 Maki.Nakayama@cuanschutz.edu

Rebecca O’Brien, Professor

Department of Immunology and Microbiology

National Jewish Health – Department of Biomedical Research

Ph.D., 1986, University of Washington, Seattle

Research Interest: *Specificity and function of gamma delta T lymphocytes*

Accepting Students: NO

303-398-1158 rebecca.obrien@cuanschutz.edu or obrienr@njhealth.org

Brian P. O’Connor, Assistant Professor

National Jewish Health – Division of Cell Biology

Scientific Director Genomics

Ph.D., 2003, Dartmouth College

Research Interest: *Epigenetics, immune system, diet and asthma*

Accepting Students: NO

303-270-2754 oconnorB@njhealth.org

Roberta Pelanda, Professor

Department of Immunology and Microbiology

Ph.D., 1992, University of Milan (Italy)

Research Interest: *Molecular mechanisms of B cell development and selection and the development of autoimmunity*

Accepting Students: unknown

303-720-8666 roberta.pelanda@cuanschutz.edu

Eric Pietras, Assistant Professor

Department of Medicine, Division of Hematology, Blood Cancer & BMT Program

Ph.D., 2008, University of California, Los Angeles

Research Interest: Signals and molecular mechanisms that allow blood-forming stem cells to tailor their output in response to inflammation and other physiological challenges.

Accepting Students: YES

303-724-9657 eric.pietras@cuanschutz.edu

Lee Reinhardt, Professor

Department of Immunology and Microbiology

National Jewish Health – Department of Biomedical Research

Ph.D., 1990, Albany Medical College

Research Interest: *Immunogenetics*

Accepting Students: unknown

303-270-2717 ReinhardtL@NJHealth.org

Nichole Reisdorph, Associate Professor

Department of Pharmaceutical Sciences

Director, Skaggs School of Pharmacy Mass Spectrometry Facility

Ph.D., 2002, University of South Dakota

Research Interest: *Proteomics, metabolomics and disease*

Accepting Students: unknown

303-724-9234 nichole.reisdorph@cuanschutz.edu or reisdorphn@njhealth.org

David W.H. Riches, Professor

Department of Immunology and Microbiology

National Jewish Health – Division of Cell Biology

Head, Division of Cell Biology, NJH

Ph.D., 1979, University of Birmingham (United Kingdom)

Research Interest: *Basic mechanisms involved in the development lung inflammation and fibrosis*

Accepting Students: NO

303-398-1188 david.riches@cuanschutz.edu or richesd@njc.org

Rosemary Rochford, Professor

Department of Immunology and Microbiology

Ph.D., 1989, University of California, Irvine

Research Interest: *Co-infections with and immune responses to human gammaherpesviruses and P. falciparum malaria*

Accepting Students: YES

303-724-9960 rosemary.rochford@cuanschutz.edu

Mario L. Santiago, Associate Professor of Medicine

Department of Medicine, Division of Infectious Diseases

Ph.D., 2003, University of Alabama at Birmingham

Research Interest: *Innate host restriction and adaptive immunity against pathogenic retroviruses*

Accepting Students: unknown

303-724-4946 mario.santiago@cuanschutz.edu

David Schwartz, Professor of Medicine and Chair

Department of Medicine, Pulmonary Sciences

National Jewish Health – Department of Pediatrics, and Immunology
Chair, Department of Medicine

Director, Center for Genes, Environment, & Health, NJH

M.D., 1979, University of California, San Diego

Research Interest: *Effects of microbiome on the innate immune system*

Accepting Students: YES

303-724-1783 david.schwartz@cuanschutz.edu or schwartzd@njhealth.org

James Scott-Browne, Assistant Professor

Department of Immunology and Microbiology

Ph.D., 2009, University of Colorado

How T Cells recognize potentially harmful invaders

Accepting Students: unknown

James.scottbrowne@cuanschutz.edu

Jill Slansky, Professor

Department of Immunology and Microbiology

Ph.D., 1995, University of Wisconsin

Research Interest: *Immune response to cancer*

Accepting Students: unknown

303-724-8665 jill.slansky@cuanschutz.edu

Beth Tamburini, Assistant Research Professor

Department of Immunology and Microbiology

Ph.D., 2006, University of Colorado Health Sciences Center

Research Interest: *Understand the mechanisms behind antigen transfer from non-hematopoietic to hematopoietic cells in order to enhance protective immunity*

Accepting Students: unknown

303-724-8848 beth.tamburini@cuanschutz.edu

Joshua Thurman, Professor of Medicine

Department of Medicine, Division of Renal Diseases and Hypertension

M.D., 1997, University of Chicago Division of the Biological Sciences The Pritzker School of Medicine

Research Interest: *The role of the complement system in inflammatory injury*

Accepting Students: YES

303-724-7584 joshua.thurman@cuanschutz.edu

Raul Torres, Professor, & Director, Graduate Program in Immunology

Department of Immunology and Microbiology

Ph.D., 1992, University of Washington

Research Interest: *B cell development and antibody response, regulation of tumor immunity by lysophospholipids*

Accepting Students: YES

303-724-8669 raul.torres@cuanschutz.edu

Kenneth Tyler, Professor and Chair

Department of Neurology

Reuler-Lewin Family Professor

Louise Baum Endowed Chair in Neurology

M.D., 1978, Johns Hopkins University School of Medicine

Research Interest: *Our laboratory studies mechanisms of virus-induced CNS injury and the nature of CNS-specific host-innate immune responses using reoviruses, flaviviruses (West Nile, Japanese Encephalitis, Zika) in a variety of experimental systems including primary cell culture, ex vivo brain and spinal cord slices and mice*

Accepting Students: YES

303-724-4329 ken.tyler@cuanschutz.edu

Linda F. van Dyk, Associate Professor & Vice Chair

Department of Immunology and Microbiology

Ph.D., 1994, University of Texas Southwestern, Dallas, Texas

Research Interest: *Genetic and molecular approaches to infection and pathogenesis by lymphotropic herpesviruses*

Accepting Students: YES

303-724-4207 linda.vandyk@cuanschutz.edu

Andrés Vázquez-Torres, Professor

Department of Immunology and Microbiology

DVM, 1988, University of Cordoba, Spain

Ph.D., 1996, University of Wisconsin, Madison

Research Interest: *Molecular and redox determinants in the pathogenesis of intracellular bacteria*

Accepting Students: YES

303-724-4218 andres.vazquez-torres@cuanschutz.edu

Michael Verneris, Professor of Medicine

Department of Medicine, Division of Hematology

Director of Bone Marrow Transplantation and Cellular Therapy

The Barton Family Endowed Chair of Bone Marrow Transplant

MD, 1992, Dartmouth Medical School

Research Interest: *Developing cellular therapy to reduce leukemia recurrence by enhancing immune recovery and by more effectively treating sites of leukemia (with a newly developed method of bone marrow irradiation)*

Accepting Students: YES

720-777-1234 michael.verneris@cuanschutz.edu

David H. Wagner, Jr., Associate Professor of Medicine

Department of Medicine, Division of Pulmonary Sciences and Critical Care

Chief Scientific Officer and Head, Immunology Section

Ph.D., 1994, East Tennessee State University

Research Interest: *Role of CD40 in Autoimmune Inflammation*

Accepting Students: NO

303-724-4787 david.wagner@cuanschutz.edu

Jing H. Wang, Associate Professor of Medicine

Department of Immunology and Microbiology

M.D., 1996, Beijing Medical University (Beijing, P.R. China)

Ph.D., 2004, University of Chicago

Research Interest: *Immune Evasion of Cancers, Genomic instability in B cells, Regulation of Secondary Antibody Gene Diversification*

Accepting Students: YES

303-724-8673 jing.wang@cuanschutz.edu

Cara Wilson, Professor of Medicine

Department of Medicine, Division of Infectious Diseases

M.D., 1988, University of Virginia

Research Interest: *Cell-mediated responses to HIV*

Accepting Students: YES

303-724-4922 cara.wilson@cuanschutz.edu

Gongyi Zhang, Professor

Department of Immunology and Microbiology

National Jewish Health-Department of Biomedical Research

Ph.D., 1993, Institute of Biophysics, Academic Sinica

Research Interest: *Structural and functional studies of proteins, epigenetics*

Accepting Students: unknown

303-398-1715 zhangg@njhealth.org

PROGRAM REQUIREMENTS AND CURRICULUM

Coursework and Registration

Registering for Classes

<http://www.ucdenver.edu/anschutz/studentresources/Registrar/RegisterForClasses/Pages/default.aspx>

First year students. A rotation lab must be chosen before registering for classes. New students are strongly encouraged to discuss potential rotation labs with the Director or Associate Director of the program.

Second year students. Prior to registering for Fall semester the Preliminary Examination must be passed, a thesis laboratory chosen and continuation approved by the Graduate Program Steering Committee. Prior to registering for Summer semester a Thesis Advisory Committee meeting must be held and the Comprehensive Exam passed.

Third year students and beyond. Students must be current with Thesis Advisory Committee meetings prior to registering each semester. (Thesis Committee meetings for students in the 3rd year and beyond must be held **every six months** unless another time frame is specified by their Committee Chair.)

Courses

The Program Curriculum and Graduation requirements are 30 semester credit hours of coursework and 30 semester credit hours of thesis credits. All required course work should be completed before the end of the second year. Changes in the overall structure of the program may occur. This summary reflects the current requirements.

To register, please click on the link below using your university credentials and navigate to the registration page. <https://portal.prod.cu.edu/UCDAccessFedAuthLogin.html> The UCDAccess provides How To instructions inside the Portal.

For questions, please contact: <http://www.ucdenver.edu/about-us/contact/Pages/default.aspx>

Required Courses

Year 1			
COURSE	CREDITS	SEMESTER	TITLE
IDPT 7806	6	FALL	Foundations in Biomedical Sciences
IDPT 7810	2	FALL	Core Topics in Biomedical Sciences – Topics A
IDPT 7810	2	FALL	Core Topics in Biomedical Sciences – Topics B
IMMU 7650 (001)	1	FALL	Research in Immunology (lab rotation)
IMMU 7650 (002)	1	FALL	Research in Immunology (lab rotation)
BIOS 6606	3	FALL	Statistics for the Basic Sciences
IMMU 7650 (001)	1	SPRING	Research in Immunology (lab rotation)
IMMU 7662	6	SPRING	Immunology *
IMMU 8990	1	SUMMER	Doctoral Thesis

*MSTP student will take this in their second year.

Year 2			
COURSE	CREDITS	SEMESTER	TITLE
IMMU 7607	1	FALL	Science as a Profession (including ethics)
IMMU 7602	1	FALL	Special Topics in Tumor Immunology
IMMU 7605	1	SPRING	Scientific Writing Workshop
IMMU 7603	1	SPRING	Special Topics in Clinical Immunology
IMMU 7604	1	SPRING	Special Topics in Signal Transduction
IMMU 7650 (0V3)	3	FALL/SPRING	Research in Immunology (lab evaluation)
IMMU 8990	1 (or 5 if defending)	SUMMER	Doctoral thesis

Elective Courses

The courses in this group may change from year to year. Students completing the required courses will have accumulated the necessary 30 semester hours of course work and will not need to complete additional course work. However, the following list of electives are available but must be approved by the thesis advisor and should be approved by the written permission of the Graduate Program Steering Committee.

COURSE	CREDITS	SEMESTER	TITLE
STBB 7631	1.5	FALL	Molecular Structure A (NMR)
STBB 7632	1.5	FALL	Molecular Structure B (X-ray crystallography)
IDPT 7200	2	SPRING	Scientific Writing for Biomedical Ph.D. Students
IDPT 7646	3	FALL	Tissue Biology and Disease Mechanisms
MICB 7701	3	SPRING	Molecular Virology and Pathogenesis
MICB 7703	2	SPRING	Molecular Mechanisms of Bacterial Disease
NRSC 7600	3	FALL	Cellular and Molecular Neurobiology
NRSC 7615	3	SPRING	Developmental Neurobiology
PHCL 7606	3	SPRING	Receptors and Cell Signaling
PHCL 7611/CPBS 7711	4	SPRING	Bioinformatics I
PHSC 7530	2	SPRING	Cancer: Experimental and Medical Aspects

Doctoral Thesis Credits

Year 3 and beyond			
COURSE	CREDITS	SEMESTER	TITLE
IMMU 8990 (0V1)	5	FALL/SPRING	Doctoral thesis
IMMU 8990	1	SUMMER	Doctoral thesis

All students must be continually registered for 5 thesis credits upon completion of the Comprehensive exam except during the summer semester when students should register for 1 credit hour of IMMU 8990. Continuous registration is considered to be Fall and Spring semesters each academic year, beginning with the Summer semester. Non-registration for two consecutive semesters is not allowed.

****Students transferring to Immunology from the Biomedical Sciences (BSP) or Medical Scientist Training (MSTP) programs may have different credit/course requirements. Applications for transfer will be evaluated based on thesis lab availability, transcripts, and performance on the preliminary exam and in rotation labs. It is important to understand that transfer from either program into the Immunology program depends on an Immunology faculty member agreeing to accept the student into her/his lab for their thesis work.**

****Students may request to transfer credit of previous graduate work into the Program, upon satisfactory completion of at least one semester in Graduate School at the University of Colorado Anschutz Medical Campus as a regular degree student. Grades in the courses requested for transfer must be no lower than B. Please contact the Program Administrator for additional requirements/policies. The Graduate Program Committee will not consider transfer of credit for the required Core Immunology sequence.**

Laboratory Rotations

Students must complete three rotations in different Immunology faculty laboratories within the first year (Fall through Summer). Each rotation is typically 11-weeks long and 1 credit hour. Your work in this rotation is evaluated and graded. To arrange a rotation, each student should discuss potential projects first with the prospective advisor(s) and the student and advisor should come to a mutual decision.

Students must inform Michele Parsons (Program Administrator) of the lab in which rotations will be conducted at the beginning of each semester as part of the registration process.

Because these rotations are the primary means for each student to become acquainted with the range of techniques, scientific interests, administrative styles, and personalities of each lab, the selection of a rotation lab each semester should be a systematic process. Another major goal of the rotation is to enable a student to select their thesis lab. Therefore, a student may only perform rotations with faculty who have appointments in the Graduate School[†]. Rotations with faculty who are not members of the Immunology Graduate Program must be approved by the program director. **Students must seek the advice of the Program Director (Laurel Lenz) or Associate Director (Lee Reinhardt) when considering potential laboratory rotations.**

The other purpose of the rotation is so that faculty can assess and gauge the student's ability, engagement and enthusiasm for research. Thus, these rotations provide information to the faculty and enabling them to determine whether they would accept the student into their laboratory for thesis work. NOTE: IT IS THE STUDENT'S RESPONSIBILITY TO PERFORM WELL DURING THESE ROTATIONS SO THAT THEY CAN NOT ONLY IDENTIFY LABORATORIES THAT THEY ARE INTERESTED IN, BUT ALSO IMPRESS FACULTY SUFFICIENTLY SO THAT THE FACULTY MEMBER IS WILLING TO

SERVE AS THEIR MENTOR. **ENTRANCE INTO A THESIS LAB IS NOT GUARANTEED. IT IS THE STUDENT'S RESPONSIBILITY TO FIND A THESIS LAB AND FACULTY ADVISOR.** At the completion of each rotation, each student is expected to present a short talk in their respective lab meeting, summarizing the experimental problem addressed, the techniques used to approach it, and data obtained during the rotation. The rotation advisor must complete an online evaluation of the student's performance after the rotation and should discuss the evaluation with the student. The evaluation will be saved online as part of the student's academic record.

† For a current list of faculty with Graduate School appointments please visit:

<http://www.ucdenver.edu/academics/colleges/Graduate-School/current/Pages/faculty-list.aspx>

Preliminary Exams

At the end of the first year of coursework, students take a preliminary exam that has two components that cover the material in the IDPT Core course and Immunology (IMMU 7662) course.

Core Preliminary Exam

The Immunology Program Steering Committee administers the Core course prelim exam as well as the immunology prelim exam. The core course prelim will be a one day take home exam, provided at 9 AM and required back by 4 PM on the day of examination. The content and format of the exam is subject to change year to year, but will focus on examining the student on the concepts and information learned during the first semester of the interdepartmental core course.

Immunology Preliminary Exam

An immunology preliminary exam is also taken at the end of the first year in the program. The purpose of this exam is to test a broad understanding of immunology and immunological concepts derived primarily from the graduate immunology course, IMMU 7662. It is important that prior to planning any time away at the end of the first year you are aware of the current year date for the Preliminary Exam.

1. Students must complete all of the required first year courses prior to taking the preliminary exam.
2. The Immunology preliminary exam will be given early-mid June and will consist of approximately 40 short-answer (~2-3 sentence) questions on topics in basic immunology covered by the Immunology graduate course. A 4-hour exam is anticipated, but the time limit will be left to the discretion of the preliminary exam committee.
3. Late exams will be granted only in cases of dire emergency! Students will be informed of the test date approximately two months in advance, to minimize conflicts.
4. The questions will be selected by members of the Graduate Program Steering Committee. The test questions will be written by Immunology faculty members and each question writer will be asked to provide the answers to his/her own questions. Tests will be graded by members of the Graduate Program Steering committee and grading will be blinded with respect to the test taker.

5. The exam will be given in a classroom, and will be overseen by a test administrator, who will remain in the room while the students complete their exams.
6. The exam will be closed-book and closed-notes.
7. The test administrator will distribute the completed exams, collate them when graded, and calculate overall scores. Exam results should be available within about 2 weeks following the exam.
8. Students failing the preliminary exam are subject to dismissal but will typically be asked to take a second special exam, by the end of August.
9. Students are expected to prepare for the exam by reviewing course notes, textbooks, and course-assigned reading. No reading lists or outlines will be prepared as studying guidelines. In general, all areas of basic immunology could be included, even if some of these were covered only cursorily in the graduate immunology course.

Comprehensive Exams

General Information

Purpose

- A formal exam of the student by the program to ensure that there are no concerns that would preclude the student from formal admission to candidacy for a Ph.D. at the University of Colorado. After successful completion of the comprehensive exam, the student focuses on the laboratory component of their thesis research.
- A "teaching exercise" that exposes the student to the process of writing an "NIH-style" proposal.

Other Information

As this is a formal exam and the student must be registered for the semester in which they take the exam.

The student must complete necessary paperwork through the Graduate School a MINIMUM of 2 WEEKS before the exam.

<http://www.ucdenver.edu/academics/colleges/Graduate-School/current/Pages/resources.aspx>

The exam committee for each student will be established by the Associate Director (Lee Reinhardt) of the Immunology Graduate Program. The composition of each committee will be assembled by the Associate Graduate Program Director for Immunology (Lee Reinhardt, Ph.D.) and approved by the program steering committee. This committee will include a chair (Lee Reinhardt, Ph.D.) and four additional Immunology Graduate Program faculty that hold current appointments in the UC AMC Graduate School. The composition of the committees will be derived from a limited pool of participants such that any given exam committee will share at least 3 members with at least 4 other exam committees. In addition, at least one member of the student's thesis advisory committee will be a member of their examining committee and with the intent that this faculty can relay the outcome, strengths and weaknesses of the student to the thesis advisory committee. Furthermore, all examinations will be given in the same 2 week period in mid-May of the student's second year. The composition of the committees and the unified time frame for examination are implemented in order to provide continuity and equity for the students throughout the examination process. The

thesis advisor cannot serve as a member of the exam committee although is strongly encouraged and expected to attend the exam as a strict observer.

Timeline for Completion

1. The subject of the comprehensive exam will be a grant proposal (R21 format <http://grants.nih.gov/grants/guide/pa-files/PA-10-069.html>) written by the student on the topic of their thesis.
2. By the first week of January of the student's second year, a comprehensive exam committee chair will be assigned for each student. The student is to restrict their communication about the writing of their proposal to their committee chair and are not to engage the assistance or input of their advisor or lab members in the writing of the proposal.
3. By February, the student will be assigned the remaining members of their exam committee.
4. The student should meet as soon as possible with the Comprehensive exam chairperson to decide upon a timetable for submission of the first draft (and subsequent drafts) to the chairperson. This should be done in a timely fashion so that the chair has adequate time to provide feedback on the multiple drafts such that the completed proposal can be submitted on time.
5. The completed proposals must be submitted 2 weeks before the first scheduled exam date. This will usually be by the 1st of May. Failure to submit the proposal in a timely fashion may result in a fail.
6. The formal defense of the proposal will occur before the end of May.
7. Students must email the finished exam to the Graduate Program Director and the Graduate Program Administrator before 5 PM on the day of the submission deadline.

Proposals

Comprehensive Exam Topic

The comprehensive oral examination will be centered on the student's thesis research and it is anticipated that this will facilitate using the comprehensive exam as a basis for applying for external funding. One of the potential complications of this format is that any student's thesis work is a complex compilation of the student's mentor's, and even thesis committee's ideas and hypotheses. These factors complicate the evaluation of the originality of the proposal and to what degree the proposed research plan is the result of the student's ideas or those of their advisor/committee. The steering committee has acknowledged this as a hazard of the chosen format and, while no strict policing of this will be performed, all students are encouraged to work as independently as possible on both the formulation and the writing of the thesis (comps) proposal.

Preparation of the Proposal

1. The student will work with their chairperson in preparing the written portion of the comprehensive exam. The chairperson will offer suggestions about the structure of the

proposal, the material covered in the Background and Significance, the feasibility and design of experiments, etc. The chair may also offer input as to the grammar and sentence construction should they feel so inclined.

2. The general format is that prescribed for an NIH R21 application. Students may read proposals from previous students however they should be aware that they must follow the format prescribed by the program for the current year.
3. Students may get advice on techniques from others, but besides the chairperson no one should read the proposal without the recommendation and approval of the chairperson.
4. Any issues that arise should be discussed and resolved with the chairperson.

Format and Structure

1. The particular format and page guidelines may change from year to year. As of 2016, the format mandates that the written document is a MAXIMUM 7 pages (single spaced, 11 pt, Arial font, 0.5 inch margins), one page for Specific Aims and 6 for the remainder. The reference list is excluded from this page calculation.
2. The written document should include a one page Specific Aims page followed by 6 pages of “**Research Strategy**” that include the following 3 sections: 1. Significance, 2. Innovation, 3. Approach. More detailed information about the expected content of each of these sections can be found in the “PHS 398” instructions for grant applications to the National Institutes of Health. A pdf of these instructions can be found at the NIH website (<http://grants.nih.gov/grants/funding/phs398/phs398.html>).
3. Appearance and legibility are very important. Incorporation of figures is also very useful.
4. The **Specific Aims** section should include a testable hypothesis, based on experimental evidence. The specific aims are the approaches that you will adopt to address the general hypothesis. An Aim is not necessarily a single experiment, but is often a series of experiments designed to accomplish one goal. Similar to R21 applications, comprehensive exam proposals typically present experiments in 2 specific aims that can be accomplished in 2 years.
5. In the **Significance** section you should answer the question of why this research is important. This is a very important component of the proposal as you are trying to convince the reader that they would want to know the answer to your experiments (for example they would actually want to read the paper(s) when this work is published). The PHS 398 instructions include:
 - Explain the importance of the problem or critical barrier to progress in the field that the proposed project addresses.
 - Explain how the proposed project will improve scientific knowledge, technical capability, and/or clinical practice in one or more broad fields.
 - Describe how the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field will be changed if the proposed aims are achieved.

6. The **Innovation** section should describe why specifically your proposed experiments are important for the question being addressed. The PHS 398 instructions include:
- Explain how the application challenges and seeks to shift current research or clinical practice paradigms.
 - Describe any novel theoretical concepts, approaches or methodologies, instrumentation or intervention(s) to be developed or used, and any advantage over existing methodologies, instrumentation or intervention(s).
 - Explain any refinements, improvements, or new applications of theoretical.
7. **Approach.** It is recommended that you write out the experiments you propose for each specific aim one-by-one, and for each aim, include a section that covers the following:

Rationale. Why is this a logical experiment to do? Why is the approach that you have selected the best way of approaching the experiment? This may also include a discussion of your interpretations of conflicting data in the literature, or could include very specific data not given in the background section.

Experimental Design - define exactly what experiments you would do. You may include methods here or list them after. The experimental details should be very clear: for example how many mice will you inject and at what age? Male and female? If not, why? What will you inject? When will you sacrifice the mice and analyze them? What will you assay for? Describing methods with which most investigators in the field would be expected to be familiar with is not necessary or desirable, but the specifics should be addressed. For instance, if you're doing a Southern blot, what is your probe? What restriction enzymes will you use? How will you interpret your results? Or, if you're doing flow cytometry, what antibodies will you use? How will they be labeled?, etc. If appropriate you should define what statistical analysis you would perform on the data?

It is extremely important that the proposed experiments be realistic and feasible. Many experimental ideas are great in theory, but once the experimental details are described potential limitations become evident.

Interpretations and Limitations. What will the data look like if your hypothesis is correct? How would interpret alternate outcomes? How would you interpret partial phenotypes (e.g. results that are 50% of wildtype levels). What things might be expected to go wrong? Have you made any assumptions that could turn out to be pitfalls? What will you do if this happens? Can any of this be avoided? Note - in the past, some students have designed specific aims that were mutually dependent, e.g. Aim 2 could not be undertaken if Aim 1 did not turn out as expected. This should not be! Mutually dependent experiments within an aim are okay, but you must point out that this is the case, and discuss alternatives if the outcome is not what you expect it to be.

Examination

1. The Associate Program Director will schedule the date, time and the room for the exam, and inform the student. It is the student's responsibility to complete the paperwork with the graduate school, and to arrange any audio-visual equipment (ie. Laptop).
2. All members of the committee must be present for the examination. One member, but not the chairperson or the student, may participate by interactive video. Although the mentor is not required to be present, the program encourages the mentor to attend so that they may gain insight into the "strengths and weaknesses" of their student. Only the exam committee, the student and the mentor(s) are allowed to attend any part of this exam. Any exception to this must be approved by ALL members of the committee.
3. The chairperson will bring the student's file to the exam. The format of the exam is the following:
 - The student and the mentor (if present) are asked to leave the room and the chairperson will present to the committee a synopsis of the student's credentials (i.e., their undergraduate record, interviews, rotation evaluations, performance in the core class and the Immunology courses, preliminary exams etc.). If any member of the committee has any concerns about the student's academic performance they should be raised at this time. Similarly, the committee may discuss issues with the written document at this time. This discussion is typically brief (5 minutes or less). If the committee considers it appropriate, the mentor may be invited back into the room without the student for further discussion and/or consultation.
 - After such issues are discussed, the student is invited back to the room and gives a brief presentation outlining the thesis proposal. THIS SHOULD BE A MAXIMUM OF 12 MINUTES. Suggestions for this presentation could include: 1-2 slides of background, 1 slide of significance followed by (perhaps) 4 slides for each experimental Aim that outlines the rationale for the Aim, experimental approach, possible data obtained (e.g., in a Table with + or - for expected results) and limitations of the approach.
 - Each member of the committee will then ask the student questions about the presented material. The questions should primarily focus on the proposal (rationale, significance, experimental design and interpretation of data), however the student should also be prepared to answer questions relating to background material.
 - After each member of the committee has asked any questions that they may have (together with the student's presentation, the whole exam typically lasts 2–2.5 hours), the student and the mentor are asked to leave the room and to remain outside the exam room while the committee discusses the student's performance. If the committee considers it useful they may ask the mentor to return to offer additional insight about the student.
 - After the committee reaches its decision about the outcome of the exam (Pass, Fail or Pass with conditions) the student and mentor are invited back into the room and advised of this decision. The examination form is signed by the committee and returned to the Graduate School Office. If a student passes the examination with conditions, those conditions must be stated on the examination form and satisfied within two months (60 days). The committee chair is responsible for monitoring the conditions and reporting their outcome to the Graduate School. Failure to satisfy these conditions will result in failure of the examination.

4. A failed examination is discussed by the Immunology Program Steering Committee and is based on the oral defense of the student's proposal and a written summary of the exam by the chair. Thus, the outcome of this meeting will be determined on a case-by-case basis. A student who fails the examination is subject to immediate dismissal from the Graduate School upon the recommendation of the program and concurrence of the Dean. However, at the discretion of the Immunology Program Steering Committee and the recommendation of the comprehensive exam committee, a student who fails the examination may retake it once. The retake will be in the form designated by the Immunology Program Steering Committee and must be completed within three months. The original examination form noting the failure is signed by the committee and returned to the Graduate School office. New examination forms will be generated when the examination is rescheduled. Students will be required to meet registration requirements and be registered during the term in which the repeated exam is taken.
5. The committee is encouraged to provide written feedback to the student regarding the written proposal, the presentation and their performance in answering questions. This can be done by email communications coordinated by the chairperson. If this is done, a copy should be sent to the program administrator for inclusion into the student's file.

Application to Candidacy

Completing the required courses for the program does not automatically admit a student to candidacy for the degree. Each student must complete the *Application for Admission to Candidacy* form (available to download from the Graduate School website under Student Resources). This application for candidacy must be completed, reviewed and signed by the Program Director (Laurel Lenz) and approved by the Graduate School. This application requires a clear listing of the courses completed and that fulfill the requirement for 30 graded credit hours (see below).

Once the Graduate School approves candidacy, the student will be sent notification by mail at the address the student lists on the *Application*. To apply for candidacy, students must have completed, or be currently registered to complete, 30 semester hours of course work. For Immunology Program students, this means that an application to candidacy can only be submitted *after* registering for the Spring semester Special Topics courses (IMMU 7603, 7604). Again, **a student should have completed (or have registered for) all required courses prior to admission to candidacy.**

The Application to Candidacy form can be found here:

<http://www.ucdenver.edu/academics/colleges/Graduate-School/current/Pages/resources.aspx>

Thesis

Students must register for **thesis** credits in the semester following successful completion of the Comprehensive Exam. The student must continue to register for IMMU 8990 (from 1-5 credits) in Fall and Spring semesters each year. For the Summer term, register for 1 credit hour unless you are defending in the Summer semester and then should register for 5 credits regardless of the number of qualifying thesis credits you have accumulated. In addition, failure to comply with the registration requirement could result in having to retake the comprehensive exam.

Advisors

Students should select a thesis advisor by the end of the Spring semester of the first year. Thesis advisors are selected by mutual consent of the student and the faculty member. In general, no laboratory should admit more than one thesis student in a given academic year. Exceptions may be granted by the Graduate Program Director. A student's placement in a thesis lab must be approved by the Program Director.

Committees

After successful completion of the Core and Immunology Preliminary examinations, the student should choose a thesis advisory committee, in consultation with his/her advisor. This committee composition requires approval of the Immunology Program Steering committee.

1. The thesis advisory committee is composed minimally of a committee chair and four other faculty members, all holding current appointments as faculty in the Graduate School. Furthermore, the majority of this committee (i.e., at least 3) must be comprised of Immunology Program faculty. If the committee has 6 members, then 4 must be Immunology Program faculty.
2. All Committee members must have Graduate Faculty status. If a faculty member does not have Graduate Faculty status, please ask him/her to contact the Program Director for approval. It takes several months for the Graduate School to approve a faculty member for Graduate Faculty status. Should a member not be approved at the time of your defense, your defense could be voided.
3. The student's thesis advisor may not be a voting member of the thesis committee.
4. A list of Immunology Graduate Program training faculty and their primary academic appointments is available for reference on the Graduate School website: <http://www.ucdenver.edu/academics/colleges/Graduate-School/current/Pages/faculty-list.aspx>
5. The student must provide the Program Administrator with the names of his/her Thesis Committee members and have their first committee meeting at least one month prior to scheduled Comprehensive exam in May (see above). **The minimum time between your first committee meeting and your defense is two years.**

THESIS ADVISORY COMMITTEE FORMAT AND RESPONSIBILITIES OF THESIS ADVISOR, COMMITTEE CHAIR, COMMITTEE MEMBERS AND STUDENT

Evaluation of Student Progress

Student's progress in the program will be determined by evaluation of:

1. Research productivity
2. Development of ability to independently conceptualize, design, carry out, analyze and present his/her experiments
3. Ability to discuss his/her research area and answer questions about the research and its context

4. Knowledge of the relevant literature
5. The quality of Research – in –Progress (RIP) presentation
6. Progress towards creating his/her paper(s)
7. Progress towards a complete body of work that will constitute his/her thesis

If the student's progress is considered unsatisfactory, the committee should issue a warning to the student in which the deficiencies are clearly identified and a time period should be set within which it is expected that the student will correct the deficiencies. A copy of the warning is filed in the student's official program file by the program administrator. At the end of the warning period, the committee and student will meet to assess progress. If on re-evaluation, progress is found to remain unsatisfactory, the committee will draft a recommendation to be reviewed by the steering committee. The Immunology Program Director will inform the student and committee members of the steering committee's decision in writing.

Thesis Advisory Committee Meeting Format

The thesis committee meeting is meant to provide the student, advisor and the Immunology graduate program with an evaluation of student progress and to provide support and recommendations to the student and advisor on the thesis project. This should be carried out in a scientifically critical and rigorous but collaborative manner. Meetings are not intended to be examinations. Ideally, meetings should be a scientific discourse between the student and the thesis advisory committee. The thesis advisor is not expected to participate unless invited or to clarify or to redirect discussion.

During the thesis committee meeting the student is expected to provide experimental findings obtained since the last committee meeting as well as future direction of the project with experiments expected to be accomplished by the next committee meeting. Depending on the student's need and direction the data presented may be preliminary or from other sources (i.e., not from the student, per se). This venue is also meant to provide students an opportunity to hone their scientific communication skills in describing their experiments and interpreting their findings to other scientists.

1. Prior to the **first committee meeting** the student should provide each committee member with a Specific Aims page that provides a specific hypothesis and question that is being addressed with specific aims. Prior to **subsequent committee meetings** the student should provide the thesis committee chair and committee members with a brief summary that includes the following components:
 - a. Overall thesis research goals and hypotheses that incorporate any changes to those goals resulting from previous committee meetings.
 - b. Previous concerns/recommendations of previous thesis committee meeting.
 - c. Accomplishments since last meeting discussing how you have addressed previous recommendations and, if you did not, then why not (i.e., not enough time, took different direction, etc.). Include any new methods/techniques you may have learned, any literature sources or collaborators that were significant.
 - d. How did your results affected your original hypothesis or goals? (confirm, deny, modify).
 - e. Based on the data/results described in (c), state briefly your next steps in elucidating the hypotheses.

2. Each committee meeting should begin with a short discussion with the student in the absence of the mentor, and with the mentor in the absence of the student. In these discussions both advisor and student are encouraged to provide a candid assessment of the mentorship and how the dissertation project is progressing and whether any issues have surfaced that the committee needs to be aware of.
3. The thesis committee meeting should begin with a slide prepared by the student that discusses career goals and list of activities accomplished in the previous year that relate to these goals. This also serves as an official Individual Development Plan (IDP) discussion for the student and advisor.
4. The student should then present his/her recent research findings to the committee, discuss how these findings impact the thesis work and the future experiments to be performed before the next committee meeting
 - a. It is important the student understands that they should ultimately control these meetings (increasingly so after each meeting). This is best accomplished by having, and presenting, a clear understanding of where he/she is in their thesis project, where the committee (and specific committee members) can be of particular help (direction, technique, approach, etc.) and what are the next goals.
 - b. The student should be aware that any data or experiments that are presented can very easily generate discussion by the committee members that ultimately can take up considerable time. Thus, the presentation of background information and experiments that are not going to be pursued or are not relevant to the thesis direction should be carefully considered.
 - c. The thesis committee chair is responsible for ensuring that the discussions stay pertinent to the thesis topic and that respect is maintained towards both student and faculty.
5. Each committee meeting should end with a discussion amongst committee members (in the absence of student and advisor) on the student's project and progress. The goal of this discussion is to reach a consensus sentiment by the committee on these topics that should be included in the Thesis Committee Report.
6. The Committee chair should then relay the consensus sentiment to both student and thesis advisor immediately following the meeting.
7. *Finally, the student (and faculty committee members) should be cognizant of the dual nature of the responsibilities of faculty committee members: to nurture and promote scientific progress and development during regular committee meetings and, ultimately, the same faculty members are required to rigorously examine the student on their thesis topic and general immunology concepts during the thesis defense.*

Thesis Advisory Committee Chair responsibility

The Thesis Committee Chair has responsibilities above and beyond that of committee members. Thus, ***before agreeing to accept the chair, faculty should ensure they have adequate time to give to the student and their thesis project.*** Thesis Committee Chair must be a core-training faculty from the Immunology Graduate Program with a Regular appointment in the UC Graduate School faculty.

These responsibilities include:

1. Presides over the meeting of the Thesis Committee, student and advisor. This includes ensuring the discussion stays on topic and that there is mutual professional respect between adult students and faculty.
2. Attends the student's Comprehensive exam (or get a good understanding of how the student did in the exam) to get an understanding of the strengths and weaknesses of the student and project.
3. Complete the online Thesis Committee Report (<http://predocprogress.ucdenver.edu/>) after each committee meeting, summarizing the discussion and the recommendations of the committee. This report must indicate if progress is satisfactory or unsatisfactory and should be determined after the meeting and as agreed upon by committee members in the absence of the student and advisor. The online report should then be submitted "in collaboration mode" for input from the other committee members, followed by formal submission when this is achieved.
4. Attends the student's RIP and complete the online evaluation of the presentation (<http://predocprogress.ucdenver.edu/>.) Note, it is recommended for the RIP evaluation that the committee chair bring paper evaluations to the RIP and distribute them to attending committee members and collect them after the RIP. The comments from all committee members should then be summarized and entered online without the use of "collaboration mode".
5. Be accessible to the student to discuss issues arising related to the thesis project.
6. Meets at least every 6 months individually with student (in the absence of advisor) to assess lab environment, mentoring, progress (excluding data and actual experiments).
7. Serves as a liaison between the student and thesis advisor and thesis committee should matters of disagreement surface.
8. Preside over the Thesis Defense.

Thesis Advisory Committee Member responsibility

A student's thesis committee serves several important functions in the student's thesis work and is deserving of appropriate effort and energy by each member. Thus, it is recommended that faculty limit thesis committee membership to 12 committees. Thesis committee members must hold Regular or Special Faculty appointments in the Graduate School. By assuming committee membership, you must agree to:

1. Attend an approximate 2-hour thesis committee meeting every six months throughout the student's thesis work.
2. Provide the student with guidance concerning the research and help redirect the research into productive avenues.
3. Evaluate the student's progress and ensure that the project is of interest, novel, focused and feasible. The outcome of this work must lead not only to his/her thesis but also to a peer-reviewed publication and the committee must keep this in mind.
4. Attend the student's mandated Research-in-Progress (RIP) presentations and relay evaluation to the Thesis Committee Chair.
5. Promote the student's development into a rigorous independent investigator.
6. Provide the student and the mentor with an opportunity to express privately any concerns about the research environment or the progress of the research (see below).
7. Attend student's thesis defense as a faculty examiner.

Online **Thesis committee report** form and **RIP evaluation** form to be completed by thesis committee chair: <http://predocprogress.ucdenver.edu>

Thesis Advisor responsibility

Agreeing to supervise and direct a graduate student and their thesis project carries considerable responsibility that comes with obligations to the student, Immunology graduate program and Graduate School. Thesis advisors must hold a Regular faculty appointment in the Graduate School. The thesis advisor responsibilities include:

1. Provide guidance in the selection of an appropriate thesis research project that addresses an important biological (immunological) question. Furthermore, you are responsible for directing the student in this research by nurturing independent and critical research and with the clear goal of publishing a manuscript(s) that advances the field.
2. You agree to meet with your student regularly to discuss experimental results, interpretation and direction.
3. Attend the student's Comprehensive exam in May of the first year in the lab. The thesis advisor's attendance is not mandatory but is strongly encouraged to identify the strengths and weaknesses of the student.
4. Together with the student compose the student's thesis advisory thesis committee and identify an appropriate thesis chair.
5. Ensure the student schedules a thesis committee meeting at least every 6 months as required by the Immunology Graduate Program and attend each of these meetings.
6. Attend each of your student's Research-In-Progress presentations.
7. Strongly encouraging your student to attend all departmental and graduate program seminars, RIPs and journal clubs.
8. Reading and approving the student's thesis prior to distributing to the committee members.
9. Provide financial support for the student's stipend and research throughout the thesis work.
10. Coach and encourage your student through the writing and publication process.

Graduate Student responsibility

1. Student is responsible for arranging and scheduling the meeting with the thesis advisory committee **every 6 months** unless both advisor and thesis committee chair have agreed otherwise. This includes arranging a meeting place, contacting committee members.
2. Student is responsible for informing the Program Administrator of the date and time of the scheduled meeting.
3. Prior to the first committee meeting a Specific Aims page should be provided to all committee members. For all subsequent committee meetings, the student should submit a formal write-up of the previous committee meeting to all committee members and as outlined below*; it is the chair's responsibility to read this prior to the meeting.
4. After each committee meeting the student should provide the thesis committee chair with a copy of his/her presentation.
5. Student is expected to notify the thesis committee members sufficiently in advance of scheduled RIP presentations so that they can schedule attendance.
6. Student is responsible for meeting with their thesis chair every 6 months (in the absence of advisor) to discuss lab environment, mentoring, progress, etc. Discussion of data and experiments, while fine, is not the goal of this meeting.

7. **Students must be current with thesis committee meetings and reports to register for classes. Any financial consequence of not registering (including tuition payment) will be the student's responsibility.** (Any exceptions to this, or any other program policy, require approval by the Graduate Program Steering Committee.)

***Student thesis committee write-up to be completed prior to committee meetings**

1. State your overall thesis research goals and hypotheses. Incorporate any changes to those goals resulting from previous committee meetings.
2. What were previous concerns/recommendations of previous thesis committee meeting?
3. What have you accomplished since then? Discuss how you have addressed previous recommendations, if you did not then why not (ie, not time, took different direction, etc). Include any new methods/techniques you may have learned, any literature sources or collaborators that were significant.
4. How did your results affected your original hypothesis or goals? (confirm, deny, modify).
5. Based on the data/results described in (3), state briefly your next steps in elucidating the hypotheses.

Writing and Defending

The Graduate School requires a specific format to be followed when writing the dissertation and that is provided in a style and policy manual for writing theses and dissertations. In addition, the Graduate School conducts semi-annual seminars on thesis preparation; you are strongly encouraged to attend one of these sessions.

Your thesis must be approved by your (thesis advisor and) Committee Chair *before* you schedule a defense date. The manuscript must be publication-quality, i.e., in final form except for printing on quality paper; words must be spelled correctly, figures and tables must be labeled correctly, the manuscript must be readable, Graduate School format must be followed, the Table of Contents must be completed, Bibliography included and appropriately annotated, etc. Examples of what is unacceptable include cut and pasted graphs, more than 10 typos, and incomplete references.

As in the Comprehensive Exam Guidelines, the student is responsible for coordinating and scheduling the defense, including preparation and posting of seminar notices. (The office staff can assist you by printing a standard notice, but you must supply the details.)

Arrangements for the thesis defense must be made in the Graduate School Office at least two weeks prior to the scheduled defense. The defense must be given no later than three weeks prior to the date on which the degree is to be conferred. You must be registered for 5 credits of IMMU 8990 at the time of the defense.

Graduation

30 semester hours of graded course work including 8 credit hours of rotations.

30 semester hours of thesis credits.

A "pass" grade for the preliminary and comprehensive examinations.

Completed and approved thesis.

GRADUATE STUDENT ACTIVITIES

Journal Club

Journal club is a weekly seminar on current literature presented by students. Three times per year a faculty member hosts a “Pillars in Immunology” journal club that centers on a classic immunology paper. First year students will be asked to sign up to present an article sometime following the first semester. The Immunology Graduate Student Board (IGSB) seminar coordinator will contact students about presenting. Journal clubs are an important aspect of graduate training and all students (entering through senior) are strongly encouraged and expected to attend each week.

Seminars

Numerous scientific seminars are conducted throughout the year. All students are expected to attend the Department of Immunology & Microbiology seminars, held at the CU Anschutz Medical Campus on Fridays at 12:00-1:00 pm in the Hensel Phelps East auditorium. A schedule is available on the Department website.

In addition, there are a number of regular weekly forums that are available for students to attend including other departmental and graduate program seminars at AMC and NJH as well as a weekly Lung Cell Biology Research Forum and Pulmonary Research in Progress that students are welcome to attend.

Research-in-Progress

A major component of our Immunology training program is the weekly Research-in-Progress (RIP) presentations in which graduate students and postdoctoral fellows give a 30 minute presentation of their current work. Currently this RIP forum is held every Wednesday (September-June) with two individuals speaking for 30 minutes. These RIP presentations are presented for half the year at the Anschutz and half the year at NJH. The Immunology Program considers this an extremely important venue for our students and thus all program students 2nd year and beyond are expected to attend.

GENERAL INFORMATION

Checking Account

It is important to establish a checking account as soon as possible. The University issues all pay checks, including student stipends, as automatic direct deposits. Students should log into their portal and navigate to the resources tab to locate their W4 and Direct Deposit forms. Note: Direct deposit is mandatory and students have until August 16th to complete these two forms.

Computers (Software & Equipment)

The Department of Immunology and Microbiology has invested in computers for students and other research personnel. Individual laboratories all have computers that are accessible to students. Most departmental equipment has common use computers for special purposes. Because these are common use computers, everyone is asked to keep their own data on the lab server (micro-Ls2 Labserver) which is backed up nightly and not on the hard drives. It is especially important to prevent virus problems and to maintain free space on the hard drive that no extra programs may be installed on these common use computers.

The Department Administrator can help students set up remote access accounts for their home computers. In addition, The University of Colorado has site licenses for several programs such as Microsoft Office, and virus protection programs that can be downloaded onto student computers without charge. This will allow compatibility between computers at work and at home. All computers connected to the network are required to run approved, up-to-date virus protection software.

Department of Immunology and Microbiology point of contact for all department level computers, printers and server support:

Mike Elmore, LAN Administrator/IT Consultant

Michael.elmore@ucdnever.edu

Cell 303-981-5172

Please submit all support requests using a ticket at: <http://Micro-LS1.ucdenver.pvt/support/>

CU Alerts!

CU Alerts! Emergency messaging includes email, text, computer pop-up messages, and social media postings. Please visit the Emergency Management *CU Alerts!* Page www.ucdenver.edu/alerts and follow the instructions to register your cell phone number. Be sure to enter your cell phone number in the Employee Profile section of the portal as a “CELLULAR” device (or it will not be imported into the *CU Alerts!* System).

E-mail Access and IT Services

Graduate students will have an account in the electronic mail/internet access system. Note that these are university accounts and cannot be used for political lobbying, downloading music files, etc. University IT Services is also available to assist you with your IT/Helpdesk needs. Please refer to the following website for more information regarding their services and protocol- <http://www.ucdenver.edu/about/departments/ITS/Pages/OIT%20Home.aspx>

Most communications from the Graduate Program in Immunology will be via e-mail and all Immunology Graduate Program students are expected to have e-mail access, to monitor this account regularly, and to respond to emails from the Program Administrator, Program Director, and other Program Faculty.

Finances

All incoming Graduate Students are offered a financial aid package from the Graduate School that includes an *annual stipend* of \$31,000 (approved for Academic Year 2019-2020), *tuition costs*, and payment of *individual student health insurance* and *activity fees*. Please note that this support covers the period July 1, through June 30, and is dependent upon satisfactory academic progress as defined in the Graduate School and Program policies.

Students are funded from a variety of sources of funds awarded to each institution: NIH Training Grants, NIH Research Funds, and industrial fellowships, to name just a few. Each source (Federal or Non-Federal, Institutional or Individual) has its own set of guidelines when awarding funds to an institution and, each institution has administrative policies to which it must adhere for the dissemination of those funds. The source of funds and the awarded institution dictate the policies for payment. It is advised that students become familiar with the sources of their support and the guidelines that apply. The Program will make every effort to ensure that students are supported throughout their program. However, students are encouraged to apply for the many alternative sources of individual funding.

Health Insurance

Student health insurance is part of the financial package offered to incoming Graduate Students. The health insurance invoice is paid in conjunction with your tuition invoice. All degree and specific approved, certificate-seeking students enrolled in five or more credit hours must take the School of Medicine's Student Health Insurance Plan. Students covered by another source of insurance through a spouse/partner may request a waiver and must do so by 9/13/19. Students wishing to cover dependents may enroll them at their own expense.

The University of Colorado provides varied student needs in the area of health. The Student Health Insurance (SHI) Plan is designed to provide students with health care coverage offering a PPO accident and sickness health plan.

The Student Insurance Office is available to all students at the School of Medicine to assist with selecting or waiving the Student Insurance Plan. If you are having problems understanding a bill, or you think an error has been made, don't hesitate to contact the Student Insurance Office. One of the functions of the Student Insurance Office is to help you resolve billing issues.

All students are required to have an initial health screening. It is best to sign up for this as soon as possible at the Student Health Services. Further information will be provided at the Graduate School Orientation or speak with Jill Collins (303-724-7674.)

Location:

Office of Health Promotion | University of Colorado Anschutz Medical Campus

Mail Stop A035, Education II, North Room #3208

Aurora, CO 80045

<http://www.ucdenver.edu/life/services/student-health>

Phone: 303-724-7674 Email: CUAnschutzStudentInsurance@ucdenver.edu

Hours: 8 am – 5 pm (Appointments recommended)

ID/Access Badge: Identification Card and After Hours Access

Everyone on campus must carry a UCD picture ID at all times. This ID serves many purposes including enabling students to access the library, parking, gain access to the laboratory sections of the Department, after-hours entry into RC-1, after-hours access to the elevators, and to attend special University functions. Please notify the Department Administrator immediately if your UCD ID is lost so it can be canceled and replaced.

Keys

The Department Administrator will issue keys for office doors. Entrance to animal and BSL-3 facilities requires modification of your ID card. There is a substantial charge for lost keys.

Lab Equipment Use

The Department of Immunology and Microbiology has made a sizeable investment in state-of-the-art equipment to support its research programs. Expert users for each piece of equipment are designated to teach new users how to get the most benefit from the equipment and how to properly use it. All users must observe equipment guidelines and sign up in the logbooks. This keeps the equipment available for everyone. Access to equipment will be restricted for anyone who abuses the equipment.

The Department of Immunology and Microbiology point of contact for Equipment (repairs, service contracts, inventory, and ordering) is:

JC Haller, Laboratory Resource Coordinator

Jon.haller@ucdenver.edu

Anschutz Campus RC1N P18-9122

PH:303-724-4245 Cell:303-594-2838 Fax:303-724-4226

The preferred method to submit a service request for problems with equipment, computers, or facilities is through the online ticketing system. By using this system we can insure your request is tracked and properly completed.

<http://micro-ls1.ucdenver.pvt/support/>

Lab Training Classes

There are several university requirements to assure safety of all personnel who work in laboratories. The Environmental Health and Safety Division of UCD offers classes and certification in **radioisotopes, handling hazardous waste, and blood borne pathogens**. For working in microbiology laboratories, all of these classes are recommended. Each topic has an initial class with extensive handouts to read before and an annual refresher class in which you will hear about new regulations, recent problems, etc. The information on the scheduling of the classes is on the website:

<http://www.ucdenver.edu/research/EHS/Pages/EHS.aspx>

The Animal Care and Use Program provides information about requirements for using animals in research programs. Special training in surgery, anesthesia, etc. is offered from time to time:

<http://www.ucdenver.edu/research/OLAR/Pages/default.aspx>

Graduate students should take these classes at the beginning of their first rotation. Radioisotopes may be taken at a later date or a non-users version may be taken depending on the laboratories in which rotations will take place. Please notify the Graduate Program Administrator as soon as the necessary examinations have been passed so the information can be put into your folder. It is the student's responsibility to stay current with required annual refresher classes.

Students must complete the following Skillssoft classes prior to working in the lab:

- Lab Safety
- Blood Borne Pathogens
- Regulated Medical Waste Management

All new research associates, animal care workers or faculty, staff, fellows, students and affiliates who are part of an [IACUC](#) or [IBC](#) protocol that works with animals, animal waste, or animal tissues or enter the vivarium as well as those who work with the items detailed below are required to enroll in the Occupational Health Program (OHP).

- toxins/venoms
- infectious agents
- anesthetic gases
- anti-neoplastic drugs
- teratogens/carcinogens
- radioactive materials
- heavy metals
- lasers
- formaldehyde
- human blood, tissues, cells or cell lines

Enrollment consists of completing and submitting the [Initial Medical Surveillance Questionnaire](#), then scheduling an Initial Medical Surveillance appointment by calling the Occupational Health Clinic at (303) 724-9145. All prior written immunization records need to be submitted prior to the appointment or brought to the appointment. Your health information, immunization history and work-related duties will be reviewed by the OHP nurse to identify any potential hazards and review health recommendations and follow-up.

Depending on your risk category, the OHP may require you to undergo additional training, medical surveillance, or additional vaccinations and/or titers prior to initiating your duties. Upon completion of the Initial Medical Surveillance appointment, a certificate of OHP enrollment will be issued and your OHP enrollment status forwarded to either the IACUC or IBC.

All employees will need to submit an Annual Medical Surveillance Form each year to keep their enrollment current. The OHP will send out an annual reminder to each individual prior to the due date. If the Annual Medical Surveillance Form is not received by the OHP by the end of the anniversary month, steps can be taken to ensure compliance including notification of Principal Investigator (PI) or Supervisor and leading up to OHP disenrollment and/or vivarium badge access removal.

Library

The Health Sciences Library purchases many online journal subscriptions that can be easily accessed on campus via <http://hslibrary.ucdenver.edu>.

National Jewish Tucker Medical Library

The NJH library is located on the first floor of the Goodman building on the NJH campus.

Interlibrary loans are available for many journals/articles not subscribed to by the Library. Graduate students may petition the Graduate Program Director (Laurel Lenz) if they believe there is limited access to books or other library materials relevant to their studies.

Parking & Transportation

Many parking options are available to students at the Anschutz Medical Campus and your first stop will be the Parking Office in Building 500 if you are interested in any parking on campus. You can learn more about student parking on the [parking office's website](#), but for convenience, we've summarized some key options here as well.

You will be provided an [RTD Eco pass](#) each year. Your RTD Eco Pass is not just for commuting to and from campus. You have unlimited rides on regular fixed route service provided by RTD and all RTD contractor-operated fixed route service, including bus and Light Rail.

2019/2020 Student Parking Permit Rates

- Students: \$40/month
- Permit parking after hours and weekends only: **No Charge. Monday -Friday 6:00pm to 6:00am or all day on Saturday and Sunday** – Access in or out of the lot will be denied outside of this time frame. Those still in the lot after 6:00am will be required to pay the hourly parking rate upon exit.
- **Rock Lot Parking: \$14/month**, The Rock Lot is a low-cost parking option for students on the Anschutz Medical Campus that is in close proximity to the campus. It is located on the west side of Victor Street north of the UPI garage.
- Reserved Parking: \$95/month
- Carpool: \$42/month
- Short Term Weekly Parking (1 to 8 weeks): \$16/week
- [Manage Your Student Parking Permit Online](#) (Please note: You must have established parking at the Parking Office before you will be able to manage your parking account online.)

Research Core Facilities

<http://www.ucdenver.edu/academics/colleges/medicalschoo/departments/ImmunologyMicrobiology/resources/ResearchResources/Pages/Core%20Facilities.aspx>

- Advanced Light Microscopy Core
- Animal Model Core
- Biostatistics & Bioinformatics Core
- Biophysics Core
- DNA Sequencing & DNA Analysis Core
- Electron Microscopy Core
- Flow Cytometry Core
- Genomics & Microarray Core
- High-Throughput Sequencing Core (HTSC)
- Histopathology Core
- Mass Spectrometry Core
- Nuclear Magnetic Resonance (NMR) Core
- Peptide & Protein Chemistry Core

Residency Status

By the end of your first year of training, students from out-of-state must petition the Office of the Registrar for in-state resident status for the purpose of tuition classification. This is a **very important** priority for first year students. After the first full year, funding will be available (assuming satisfactory academic progress) only if the student qualifies as an in-state resident or is a foreign national. Required objective evidence of residency includes:

- Colorado Driver's license
- Colorado automobile registration & license plates
- Colorado voter registration

- Colorado state income tax records
- Ownership or Rental of residential property for at least 12 months

It is important to note that students are initially classified as “resident” or “non-resident” for tuition purposes during the Admissions process. The classification is based upon information furnished by the student and from other relevant sources. After the student's status is determined, it remains unchanged in the absence of satisfactory evidence to the contrary. Once the student has met the requirements for establishing residency (“domicile”) as defined by Colorado law, the student may submit a Petition for In-State Tuition/Residency Classification to the Office of the Registrar. (Please see section, “Petitions and Appeals”).

The requirements for establishing residency for tuition purposes are defined by Colorado law. (See **Colorado Revised Statutes 23-7-101 et. seq.** View online at <http://www.michie.com/colorado>. As tuition classification is governed by state law and by judicial decisions that apply to all public institutions of higher education in Colorado, the University of Colorado does not have discretion to make exceptions to the rules as established by state law.

The statutes require that a qualified individual must be domiciled in Colorado twelve (12) consecutive months immediately preceding the term for which resident status is claimed.

An individual is “qualified” to begin the process of establishing domicile and the one year domicile period by virtue of adulthood and emancipation at age 22, marriage, or enrollment in a post-baccalaureate graduate or professional degree program. An unemancipated minor is qualified through the residency of his or her parents or legal guardians. (See below “Emancipation and Residency.”)

Additional information can be found here:

<http://www.ucdenver.edu/anschutz/studentresources/Registrar/StudentServices/Residency/Pages/Residency.aspx>

Stipend Support, Health Insurance, and Tuition

Students in the Graduate Program in Microbiology receive an annual stipend (\$31,000 for 2019-2020 academic year), individual health and dental insurance, and tuition. The Program Administrator will arrange for payment of these funds, and handle any financial problems that may arise. Late registration fees are the responsibility of the student.

First-year non-resident students are expected to take all necessary steps to attain **Colorado Residency** by the end of their first year in the Program. This makes them eligible for in-state tuition rates, a very considerable savings. The Program is only responsible for the cost of the equivalent of the in-state tuition rate after the student’s first year.

After the thesis mentor has been selected, the student's stipend, insurance, tuition, research expenses and professional travel will be paid from grants to the mentor. While receiving support from an NIH grant, you cannot receive additional funds from outside employers per NIH guidelines.

Teaching Opportunities

Students who have an interest in teaching experience should make this interest known to the Director of the Graduate Program and to their advisory committee (Pre-Comps or Thesis). It is possible to gain teaching experience by participating in the teaching labs for medical students or by facilitating paper discussions for first year core students. Faculty will provide advice in preparation and feedback on

teaching performance in order to improve teaching skills. Other teaching opportunities may be available within UC Denver. For students interested in other teaching opportunities, it is the responsibility of the student to obtain approval of their advisor, to conform to relevant UC Denver Graduate School policies, and to inform both the Microbiology Graduate Program Director and their Thesis Committee.

Travel to Professional Meetings

Professional scientific meetings are excellent places to learn what is new in a particular field, interact with scientists from other institutions and countries, see new equipment, and present research data. A student's attendance at local, national, or international meetings is by mutual agreement between the student and mentor based on scientific or financial criteria. Reimbursement for meeting travel costs and expenses are provided from the mentor's research funding (at the mentor's discretion and only with prior approval of the mentor) or the student's individual graduate fellowship.

Students may also apply for a Hirs award for travel to national meetings from the Graduate School. Student travel awards are provided from an endowment entitled the "C. Werner and Kitty Hirs Graduate Student Enrichment Fund" made to the University of Colorado Foundation for the use by the Graduate School at the AMC of UC Denver. Awards will be for up to \$500 and are to be used to help defray the expenses incurred by a Ph.D. student who attends a national society's meeting and presents his/her work.

Eligibility:

1. The student must have successfully passed his/her comprehensive exam.
2. The student must be enrolled in a basic biomedical sciences Ph.D. program.
3. The student must have an abstract (first author) submitted and accepted for presentation at the meeting.
4. The student's laboratory mentor must commit to providing any additional support necessary for the student to attend the meeting.

Many national meetings also offer partial funding for selected graduate students to attend. It is the student's responsibility to investigate and apply for such external funding. Funding for attending a meeting is often coupled to having research data to present at the meeting as a poster or oral presentation with slides. Abstracts for meetings are due months in advance of the meeting. Information on various meetings and their abstract deadlines is available at the websites of the various scientific societies.

All travel funded by University funds must be pre-authorized by obtaining departmental approval. The Administrative Assistant **in your Mentor's department** will assist you in making all your travel plans (airfare, hotel, etc.). It is your responsibility to contact them as soon as you begin making plans for your travel and well before the meeting begins. Advance planning will avoid paying late registration fees and higher airfares.

By the end of their first year, students should apply for a University Travel Card:

<https://www.cu.edu/psc/travel>

You are required to complete the following on-line Skillssoft training before the card will be issued:

- Travel & Travel Card Training

- Fiscal Code of Ethics

For assistance with the card application, booking travel, and reconciling travel expenses for all labs in the Department of Immunology & Microbiology your point of contact is:

Gwen Fredrick, Department Administrative Assistant
303-724-4224 RC1N – 9th floor North end

Tuition

Tuition is paid by the Graduate School for first year students and by the student's thesis advisor in subsequent years. Tuition payment is subject to the following limitations:

- Payment for tuition, benefits and fees is processed by your Program Administrator
- **Tuition will be paid only at in-state tuition rates after the first year. Any additional tuition will be the responsibility of the student. Thus, it is imperative that out-of-state students establish in-state residency within the first year as to avoid paying the difference in out-of-state versus in-state tuition (See In-state Residency Status section).** This is not the case for foreign students who do not qualify for in-state residency. For such students, the thesis advisor will be responsible for tuition payments.
- Please make every effort to register before the Add/Drop published deadline. (The student is responsible for any late fees incurred.)
- Neither the Department nor the Program will pay tuition for retroactive registration

APPENDIX 1

Academic Calendar



Graduate School

UNIVERSITY OF COLORADO
ANSCHUTZ MEDICAL CAMPUS

Academic Calendar – Fall 2019

This calendar:

- applies to the Basic Sciences Programs and the Pharmaceutical Sciences and Toxicology Programs on the Anschutz Medical Campus.
- only includes deadlines pertaining to coursework or those managed through UCDAccess.

For deadlines pertaining to graduation, please see the Graduation Deadlines document on the Graduate School website.

For policies, procedures and deadlines related to the tuition waiver benefit, please visit the Employee Services website.

Month	Day	Deadline	Notes
June	3	First day to submit a new non-degree application or continuing non-degree course permission form.	Taking a class requires active non-degree student status. Continuing non-degree students must submit a signed course permission form to enroll every semester.
	17	First day to apply for Fall graduation in UCDAccess.	If you intend to graduate in Fall 2019, you must complete this online application. If you do not, you will not be eligible to receive your degree until Spring 2020.
July	1	Course enrollment for Fall begins in UCDAccess	
August	19	Last day to submit a new non-degree application or a continuing non-degree course permission form.	See June 3 for more info.
	26	First day of Fall full semester classes.	
		First day of Research Rotation #1	Applies to first year PhD students only.
September	2	Labor Day Holiday	No classes. Campus closed.
	6	Last day to add/drop courses in UCDAccess. * Courses dropped after this date will appear on your transcript with a grade of "W." * Students will be charged all tuition and fees for any course dropped after this date. * Students will be charged a \$60 late fee to add courses after this date.	After this date: • use the small Add/Drop Form to modify credits or add classes if already enrolled in at least one (1) credit. • students who have not registered in any classes must use the Registrar's Registration Form and get the Assistant Dean's signature. • use the Registrar's Course Withdrawal form to withdraw from (drop) a class.
		Last day to petition for resident (in-state) student/tuition status.	Funded PhD students who do not establish residency by second year may have to pay the tuition difference.
	9	Last day to apply for graduation in UCDAccess.	If you intend to graduate in Fall 2019, you must complete this online application. If you do not, you will not be eligible to receive your degree until Spring 2020.
November	15	Last day of Research Rotation #1	
	18	First day of Research Rotation #2	Applies to first year PhD students only. Holiday breaks: Nov. 28-29 & Dec. 16-Jan. 1, 2020
	28-29	Thanksgiving Holiday	No classes. Campus closed.
December	19-13	Final Examination Week	
	13	End of semester	Fall 2018 degrees will be awarded effective this date.
	18	Final grades due (noon)	

Spring 2020	January 21	Classes begin	
	February 17	Presidents' Day Holiday	No classes. Campus closed.
	March 10-21	Spring Break	No classes. Campus open.
	May 15	End of semester	
	May 22	Commencement & Convocation	
Summer 2020	June 1	Classes begin	
	July 4	Independence Day Holiday	No classes. Campus closed.
	August 14	End of semester	



Graduate School

UNIVERSITY OF COLORADO
ANSCHUTZ MEDICAL CAMPUS

Academic Calendar – Spring 2020

This calendar:

- applies to the Basic Sciences Programs and the Pharmaceutical Sciences and Toxicology Programs on the Anschutz Medical Campus
- only includes deadlines pertaining to coursework or those managed through UCDAccess.

For deadlines pertaining to graduation, please see the Graduation Deadlines document on the Graduate School website.

For policies, procedures and deadlines related to the tuition waiver benefit, please visit the Employee Services website.

Month	Day	Deadline	Notes
October	28	Course enrollment for Spring begins in UCDAccess.	
		First day to submit a new non-degree application or continuing non-degree course permission form.	Taking a class requires active non-degree student status. Continuing non-degree students must submit a signed course permission form to enroll every semester.
November	4	First day to apply for Spring 2020 graduation via UCDAccess.	If you intend to graduate in Spring 2020, you must complete this online application. If you do not, you will not be eligible to receive your degree until Summer 2020.
January	14	Last day to submit a new non-degree application or a continuing non-degree course permission form.	See October 28 for more info.
	21	First day of Spring full semester classes.	
	31	Last day to add/drop courses in UCDAccess. * Courses dropped after this date will appear on your transcript with a grade of "W." * Students will be charged all tuition and fees for any course dropped after this date. * Students will be charged a \$60 late fee to add courses after this date.	After this date: • use the small Add/Drop Form to modify credits or add classes if already enrolled in at least one (1) credit. • students who have not registered in any classes must use the Registrar's Registration Form and get the Assistant Dean's signature. • use the Registrar's Course Withdrawal form to withdraw from (drop) a class.
February	4	Last day to petition for resident (in-state) student/tuition status. Last day to apply for graduation in UCDAccess.	Funded PhD students who do not establish residency by second year may have to pay the tuition difference. If you intend to graduate in Spring 2020, you must complete this online application. If you do not, you will not be eligible to receive your degree until Summer 2019.
	17	Presidents' Day Holiday	No classes. Campus closed.
	21	Last day of Research Rotation #2	
	24	First day of Research Rotation #3	Applies to first year PhD students only. Spring Break: March 16-20, 2020
March	16-20	Spring Break	No classes. Campus open.
May	11-15	Final Examination Week	
	15	End of semester	
	20	Last day of Research Rotation #3 Final grades due (noon)	
	22	Commencement & Graduate School Convocation	Spring 2020 degrees will be awarded effective this date.

Summer 2020	June 1	Classes begin	
	July 4	Independence Day Holiday	No classes. Campus closed.
	August 14	Last day of semester	
Fall 2020	August 24	Classes begin	
	September 7	Labor Day Holiday	No classes. Campus closed.
	November 26-27	Thanksgiving Holiday	Campus closed.
	December 11	Last day of semester	



Graduate School

UNIVERSITY OF COLORADO
ANSCHUTZ MEDICAL CAMPUS

Academic Calendar – Summer 2020

This calendar:

- applies to the Basic Sciences Programs and the Pharmaceutical Sciences and Toxicology Programs on the Anschutz Medical Campus.
- only includes deadlines pertaining to coursework or those managed through UCDAccess.

For deadlines pertaining to graduation, please see the Graduation Deadlines document on the Graduate School website.

For policies, procedures and deadlines related to the tuition waiver benefit, please visit the Employee Services website.

Month	Day	Deadline	Notes
February	3	First day to apply for Summer 2020 graduation via UCDAccess.	If you intend to graduate in Summer 2020, you must complete this online application. If you do not, you will not be eligible to receive your degree until Fall 2020.
March	23	Course enrollment for Summer begins in UCDAccess. First day to submit a new non-degree application or continuing non-degree course permission form.	Taking a class requires active non-degree student status. Continuing non-degree students must submit a signed course permission form to enroll every semester.
May	26	Last day to submit a new non-degree application or continuing non-degree course permission form.	See March 23 for more info.
June	1	First day of Summer semester classes. * First day faculty/staff may register with a tuition waiver.	Note that faculty/staff must be matriculated in a degree-granting program or as non-degree seeking students in order to register. Non-degree status requires an application with separate, earlier deadlines. You may not be able to register at this time if you have not yet applied to the university for student status.
	5	Last day to add/drop courses via UCDAccess. * Courses dropped after this date will appear on your transcript with a grade of "W." * Students will be charged all tuition and fees for any course dropped after this date. * Students will be charged a \$60 late fee to add courses after this date. Last day to petition for resident student status. Must be completed by 3 pm.	After this date, students may use the small Add/Drop Form if they have already registered. After this date, students who have not yet registered for any classes must use the paper Registration Form. Graduate students who fail to petition for resident status after their first year may be responsible for the tuition difference.
	8	Last day to apply for graduation in UCDAccess. Last day for late course additions/modifications.	If you intend to graduate in Summer 2020, you must complete this online application. If you do not, you will not be eligible to receive your degree until Fall 2020. After this date, you may not be able to add courses.
July	4	Independence Day Holiday	No classes; campus closed.
August	10-14	Final Examination Week	
	14	End of semester Summer 2020 degree award date	Your degree will be awarded effective this date.
	19	Final grades due (noon)	

Fall 2020	Aug. 24	Classes begin	
	Sept. 7	Labor Day Holiday	No classes. Campus closed.
	Nov. 26-27	Thanksgiving Holiday	Campus closed.
	Dec. 11	Last day of semester	
Spring 2021	Jan. 21	Classes begin	
	Feb. 17	Presidents' Day Holiday	No classes. Campus closed.
	March 16-20	Spring Break	No classes. Campus open.
	May 15	Last day of semester	
	May 22	Commencement & Convocation	

APPENDIX 2

Vacation/Leave Policy

GRADUATE SCHOOL POLICY FOR VACATION AND LEAVE FOR PHD CANDIDATES

Graduate School is a privilege; working in the biomedical research/academic field, whether as a graduate student, a postdoctoral fellow, or an independent investigator, is a time-honored and challenging profession that requires a high level of commitment and responsibility. Students who receive full-support stipends from UCD Ph.D. programs are required to pursue their training on a full-time basis, devoting each day of the normal work week, plus any additional time required by their research projects and academic courses. Additionally, for a student to maintain full-time student status, the Graduate School has established the following guidelines for vacation and leave time. These represent the leave to which a graduate student is entitled; however, research demands and commitment to graduate studies often result in students using less than the allotted leave. Individual graduate programs might not have a formalized system for accounting for vacation and sick leave; if so, vacation and leave monitoring falls under the honor system and is the responsibility of the student.

Vacation and Holidays

Graduate students shall receive all University holidays and no more than 14 calendar days (counting all days Monday through Sunday) of vacation per annum, with no year-to-year accrual. Students shall continue to receive stipends during vacations and holidays. In the graduate school at UCD, the times between academic terms and the summers are considered active parts of the training period and are not necessarily free times. However, students taking courses are expected to attend all classes and take all exams as scheduled. They should not take vacations when classes or exams are scheduled. For advanced students, vacation time should be arranged with the dissertation advisor.

Sick Leave and Other Leave

Graduate students may continue to receive stipends for up to 15 calendar days (counting all days Monday through Sunday) of sick leave per annum, with no year-to-year accrual. Under exceptional circumstances, additional sick days may be granted following a written request and approval by the student's program director. Sick leave may be used for the *medical* conditions related to pregnancy and childbirth.

Parental Leave – Graduate students may also receive stipends for up to 30 calendar days (counting all days Monday through Sunday) of parental leave per annum for the adoption or the birth of a child. Either parent is eligible for parental leave. Parental leave must be approved by the student's program director. Sick leave may not be used to supplement parental leave, except as noted above.

Unpaid Leave – Individuals requiring more than 15 calendar days of sick leave or more than 30 calendar days of parental leave, must seek approval from their program for an unpaid leave of absence. Approval for a leave of absence must be requested in advance by the student and approved by the program. The leave period and conditions must be documented, both at the time of leave and at the time of re-entry into the program. A copy of this agreement must be submitted to the Graduate School.

Leave of Absence – Leaves of absence are arranged with and approved by Program Directors. The Graduate School should be informed by the student. A leave of absence may be approved for a maximum of one year. Students who fail to register or submit a Statement of Academic Intent after an absence of one academic year will be withdrawn and required to reapply for admission to the Graduate School through their program and be considered with all other applicants. A leave of absence does not automatically extend the time limit set forth for graduation. **Doctoral students who have passed their Comprehensive Examination are required to be registered continually for the Fall and Spring semesters. Failure to do so will result in the student being required to retake the Comprehensive Examination or reapply to the Graduate School.** An official leave of absence may modify this registration requirement during the leave period.

Termination – Upon graduation or termination a graduate student forfeits all unused annual and sick leave; payment may not be made from grant funds (training grants or research grants) for leave not taken.

APPENDIX 3

Resources for New Graduate Students

Animal Facility/Safety Training

<http://www.ucdenver.edu/academics/research/AboutUs/animal/Pages/Training.aspx>

Bookstore (303-724-2665)

Located in Education 2 South, first floor. Special bookstore charge accounts are attainable; students should request information at the front registers. The bookstore accepts VISA, MasterCard, American Express, and personal checks with appropriate identification. Bookstore hours are extended during the first week of each quarter.

<https://cuanschutz.bncollege.com/webapp/wcs/stores/servlet/BNCBHomePage?storeId=87741&catalogId=10001&langId=-1>

Bursar's Office (303-724-8032)

The Bursar is responsible for all financial activities related to student billing, tuition collection, institutionally managed loan programs and coordination with the state.

Located in Education 2 North, room 3120A

<http://www.ucdenver.edu/student-services/resources/CostsAndFinancing/billing/Pages/StudentBilling.aspx>

Campus Health Center at CU Anschutz (303-724-6242)

12348 East Montview Boulevard, Aurora, CO 80045

Services:

- Behavioral and Counseling Services
- Flu Shots
- Physical and General Services

<http://www.ucdenver.edu/academics/colleges/nursing/clinical-practice-community/PatientServices/CHC/Pages/default.aspx>

Campus Shuttle

<http://www.ucdenver.edu/about/departments/FacilitiesManagement/ParkingMaps/Pages/ShuttleService.aspx>

CARE Team (303-352-3579)

The Campus Assessment, Response & Evaluation (CARE) Team was created to address the health and safety needs of students as well as the campus community. The purpose of the team is to assess whether individuals pose a risk to themselves or others and to intervene when necessary, and more generally, to identify and provide assistance to those in need. The team takes a preventative approach to risk assessment by offering resources, referrals, and support to both the concerning individual and those impacted by their behavior.

<http://www.ucdenver.edu/life/services/care/Pages/default.aspx>

CeDAR (720-848-3000)

Center for Dependency, Addiction and Rehabilitation is the University of Colorado Hospital's premier addiction treatment center. Check the events schedule for on-campus recovery meetings.

<https://www.cedarcolorado.org/>

Disability Resources and Services (303-315-3510)

The University of Colorado Denver is an educational institution that welcomes and supports a diverse student body. The Disability Resources and Services Office is the designated office that maintains disability-related records, determines eligibility for academic accommodations, determines reasonable accommodations and develops plans for the provision of such accommodations for students attending the university.

<http://www.ucdenver.edu/student-services/resources/disability-resources-services/Pages/disability-resources-services.aspx>

Diversity and Inclusion, Office of (303-724-8003)

The Office of Diversity and Inclusion (ODI) provides leadership to enhance diversity university-wide and to foster a culture of inclusion

<http://www.ucdenver.edu/about/departments/odi/Pages/default.aspx>

Ethics Hotline (1-800-677-5590)

CU EthicsLine provides a way to anonymously report concerns involving fiscal misconduct, violations of state or federal law, serious or recurring violations of university policy, or gross waste of university funds or property. The reporting service is provided by EthicsPoint, an independent company that provides similar services for hundreds of companies and universities. Options for 24/7 reporting are via a toll-free phone number (1.800.677.5590) or online (www.Ethicspoint.com).

Environmental Health & Safety, Department of (303-724-0345)

N-95 Respirator Training/Fit-Testing (for those needing to go into the BSL-3)

Radiation Safety Training

<http://www.ucdenver.edu/research/EHS/Pages/EHS.aspx>

Equity, Office of (303-315-2567)

Staff can assist with reports of discrimination, harassment, or sexual misconduct. They can also take ADA accommodation requests, and/or reports of accessibility issues.

<http://equity.ucdenver.edu/>

Financial Aid (303-724-8039)

<http://www.ucdenver.edu/student-services/resources/CostsAndFinancing/Pages/CostsFinancing.aspx>

Family Educational Rights and Privacy Act (FERPA) guidelines

<http://www2.ed.gov/policy/gen/guid/fpco/faq.html>

Graduate School (303-724-2915)

<http://www.ucdenver.edu/academics/colleges/Graduate-School/Pages/default.aspx>

ID/Access Badging Office (303-724-0399)

<http://www.ucdenver.edu/anschutz/about/location/Police/ElectronicSecurity/SecurityBadgingOffice/Pages/SecurityBadgingOffice.aspx>

Information Technology, Office of, OIT (303-724-4357)

<https://www1.ucdenver.edu/offices/office-of-information-technology>

IT equipment, server, local software in Department of Immunology & Microbiology only

Please submit all support requests using a ticket at:

<http://Micro-LS1.ucdenver.pvt/support/>

LGBTQ Student Resource Center (303-556-6333)

LGBTQ Student Resource Center is a tri-institutional office on the Auraria Campus serving the students, faculty and staff of Metropolitan State College of Denver, Community College of Denver and University of Colorado at Denver and Health Sciences Center. We are available to students as a resource for exploring issues of sexual orientation and gender identity.

<http://www.ucdenver.edu/life/services/glbttss/services/Pages/default.aspx>

Ombuds Office (303-724-2950)

The Ombuds Office is a **safe**, confidential, and **nonbiased** resource that members of the University of Colorado-Denver can approach to discuss, voice, and clarify any university-related concerns. We are a neutral third-party resource that is available to hear individual complaints and help sort out and **identify options** for resolving those concerns.

The Ombuds Office is well-trained in listening, facilitating, recommending, mediating, and coaching. Each individual on our team is a member of the International Ombudsman Association and are **Certified Organizational Ombudsman Practitioners**.

We even offer [trainings and seminars](#) for groups and departments to help learn communication skills, conflict management, and effective team building.

<http://www.ucdenver.edu/about/departments/OmbudsOffice/Pages/OmbudsOffice.aspx>

Parking & Transportation (303-724-0049)

<http://www.ucdenver.edu/about/departments/FacilitiesManagement/ParkingMaps/Parking/Pages/Parking.aspx>

Police, Anschutz Medical Campus (303-724-4444) Emergencies 911

Registrar, Office of (303-315-2600)

<http://www.ucdenver.edu/anschutz/studentresources/Registrar/Pages/Registrar.aspx>

Registering for classes, downloading course books and ordering transcripts

Research Core Facilities

<http://www.ucdenver.edu/academics/colleges/medicalschooll/departments/ImmunologyMicrobiology/resources/ResearchResources/Pages/Core%20Facilities.aspx>

Advanced Light Microscopy Core
Animal Model Core
Biostatistics & Bioinformatics Core
Biophysics Core
DNA Sequencing & DNA Analysis Core
Electron Microscopy Core
Flow Cytometry Core

Genomics & Microarray Core
High-Throughput Sequencing Core (HTSC)
Histopathology Core
Mass Spectrometry Core
Nuclear Magnetic Resonance (NMR) Core
Peptide & Protein Chemistry Core

Student Health, Office of (303-724-7674)

The Student Health Insurance (SHI) Plan at the Anschutz Medical Campus is designed to provide students with health care coverage, offering a PPO accident and sickness health plan. Located in Education 2 North P28-3207

Student Services

- American Indian Student Services
- Asian American Student Services
- Black Student Services
- Counseling Services
- Office of Campus Student Services
- Student Conduct and Community Standards, Office of
- Veteran Student Services
- Writing Center

<http://www.ucdenver.edu/life/services/Pages/index.aspx>

Student Housing (303-352-3751)

<http://www.ucdenver.edu/life/services/housing/Pages/default.aspx>

Student Mental Health (303-724-4953) Afterhours emergencies (720-848-0000)

We provide comprehensive and confidential mental health services for all students enrolled in the schools located at the Anschutz Medical Campus (Medical, Dental, Nursing, Pharmacy, Public Health, Physician Assistant, Physical Therapy, graduate school, etc.). Initial appointments are scheduled relatively quickly, often within the same week. Options for ongoing care include receiving treatment from the AMC Student Mental Health clinicians, the UCH Outpatient Psychiatry Clinic, and a community network of providers, depending on insurance coverage.

<http://www.ucdenver.edu/academics/colleges/medicalschoo/departments/psychiatry/PatientCare/StudentMentalHealth/Pages/Student-Mental-Health-Service.aspx>

Student Portal

Where you'll update/access your contact information, grades, financial information, employment information- pay, W2's, W-4's, employee ID #, various payroll forms (direct deposit), etc. login is email username & password

<https://portal.prod.cu.edu/UCDAccessFedAuthLogin.html>

Student Senate (303-315-8254)

Located in Office Annex Building 1C35

<http://www.ucdenver.edu/anschutz/studentresources/student-assistance/organizations/senate/Pages/StudentSenate.aspx>

City/County/State

Arapahoe County Clerk and Recorder

CO car registration

<http://www.co.arapahoe.co.us/Departments/CR/index.asp>

Aurora, City of

<https://www.auroragov.org/>

Colorado Department of Transportation

Road conditions, travel warnings, etc.

<http://www.cotrip.org/home.htm>

Colorado Secretary of State

<http://www.sos.state.co.us/>

Denver County & City

<http://www.denvergov.org/>

Denver Convention & Visitor Bureau

<http://www.denver.org/>

Department of Revenue – DMV

Emissions testing is required for registering vehicle in Denver/Arapahoe counties

<https://www.colorado.gov/dmv>

RTD

www.rtd-denver.com

Voter registration

<https://www.sos.state.co.us/voter-classic/pages/pub/olvr/verifyNewVoter.xhtml>

Local Entertainment & Events

303 Magazine.com

<https://303magazine.com/>

5280

<https://www.5280.com/>

Westword magazine

Good source for live music and other events happening in the city

<http://www.westword.com/>



University of Colorado
Anschutz Medical Campus
School of Medicine

**Michele Parsons | Administrator
Graduate Program in Immunology**
Mail Stop 8333
Aurora, CO 80045
Office: 303-724-0107
michele.parsons@ucdenver.edu

August 12, 2019

TO: Immunology Graduate Program– 2019-20 incoming students

RE: Receipt of Student Handbook and Colorado Residency Requirements

This is to confirm that I have received the Immunology Program Student Handbook and have reviewed it with the Program Administrator.

The Colorado Residency Requirements have been explained to me and I have instigated the appropriate actions to comply. I understand that non-compliance on my part by July 1, 2020 obligates me to pay the difference between non-resident tuition and resident tuition.

I acknowledge that I have reviewed and understand the graduate student vacation/sick leave policy.

Name

Signature/Date