



Commencement 2009

MOLECULAR & CELL BIOLOGY

FRIDAY, MAY 22, 2009

FACULTY & GRADUATES PROCESSIONAL

(Audience is requested to stand)

OPENING REMARKS AND WELCOME

G. STEVEN MARTIN, PH.D.

Co-Chair, Department of Molecular and Cell Biology
Professor of Cell and Developmental Biology
Affiliate of Biochemistry and Molecular Biology

COMMENCEMENT ADDRESS

ROBERT TJIAN, PH.D.

Will Molecular Biology Training Cut it in the Real World?

President, Howard Hughes Medical Institute
Professor of Biochemistry and Molecular Biology
University of California, Berkeley

GRADUATE STUDENT ADDRESS

LEONID TEYTELMAN

6 Years in 6 Minutes: a Recap of the Graduate Experience

PRESENTATION OF:

Alan Bearden Award
Nicholas Cozzarelli Prize

HOODING OF THE PH.D. & M.A. CANDIDATES

FACULTY & GRADUATES RECESSIONAL

(Audience is requested to remain seated)

*Please join us after the ceremony at Alumni House
for a champagne reception
(across from Zellerbach Playhouse)*

DEPARTMENT OF MOLECULAR AND CELL BIOLOGY
Doctor of Philosophy Degree

Jason N. Aoto
Lu Chen

The Molecular Mechanisms Underlying Activity-Dependent Homeostatic Plasticity

Katherine Stewart Brown
Sharon Amacher

The Function of Signaling Gradients in Zebrafish Somitogenesis

Raymond Eric Chen
Jeremy Thorner

Function and Regulation of Mitogen-Activated Protein Kinases in the Yeast *Saccharomyces cerevisiae*

Shannon DeMaria
John Ngai

The Role of Family C Odorant Receptors in Zebrafish Olfaction

Zain Yusuf Dossani
Karsten Weis

mRNP Remodeling at the Nuclear Pore Complex: Studies in *Saccharomyces cerevisiae*

Elizabeth Megan Flynn
Thomas Alber

Structural and Functional Characterization of *Mycobacterium tuberculosis* Virulence Factor PtpB

Benjamin Freedman
Rebecca Heald

Linker Histone Structure, Function, and Regulation in *Xenopus*

Sarah A. Gilmore
Carolyn Bertozzi

The Roles of Sulfated Metabolites in the Pathogenesis of *Mycobacterium tuberculosis*

Jodi Gureasko
John Kuriyan

Role of the Membrane Surface in the Activation of the Ras-Specific Nucleotide Exchange Factor Son of Sevenless

Giao Bich Hang
Yang Dan

Interactions of Synaptic Inputs From Multiple Cortical Pathways in the Visual Cortex

Shirley Hsiao-Lin Huang
Michael Marletta

Biochemical Characterization of Oxygen Regulated Soluble Guanylate Cyclases: Ligand Binding and Enzymatic Activity

Kathleen D. Kolstad
John Flannery

Development and Assessment of Gene Therapies for Inherited Blinding Diseases

Crystal Nicole Marconett
Gary Firestone

Indole Control of Estrogen Receptor Signaling in Human Breast Cancer

Nicole Perrault Meyer-Morse
Daniel Portnoy

Suppression of Cell-Mediated Immunity by
Avirulent *Listeria monocytogenes*

Bosun Min
Kathleen Collins

Identification and Characterization of Telomerase
Holoenzyme Proteins and Anchor Site Subunit in
Tetrahymena thermophila

Melissa Lynn Mott
James Berger

Mechanistic Studies of Bacterial DNA Replication
Initiation

Sarah Elizabeth Munchel
Karsten Weis

The Regulation of mRNA Turnover *in vivo*

Christine Inyoung Nam
Lu Chen

Extracellular Interaction Defines AMPA Receptor
Trafficking Checkpoint Regulated by Stargazin

Stephanie L. Osborn
Astar Winoto

The Non-Apoptotic Roles of the Fas-Associated
Death Domain (FADD) Protein in the Immune
Response

Lisa M. Prach
Thomas Alber

Biosynthesis, Structure and Function of Diterpenes
in *Mycobacterium tuberculosis*

Stacia Rodenbusch
Abby Dernburg

The Regulation of Synaptonemal Complex
Assembly During Meiosis in *C. elegans*

Thomas L. Russell
Frank Werblin

Neuronal Circuitry of the Local Edge Detector
Retinal Ganglion Cell

Alejandro Sabogal
Donald Rio

Structural and Biochemical Studies of the P-element
Transposase

Allyn Schoeffler
James Berger

Structure-Function Relationships in Bacterial Type
IIA topoisomerases

Ryan K. Shultzaberger
Michael Eisen & Jack Kirsch

Functional Variability in Transcriptional Initiation
Complexes

Mansi Srivastava
Daniel Rokhsar

Early Animal Evolution: Insights from the Genomes
and Embryos of Cnidarians, Placozoans, and
Sponges

Brian Martin Sullivan
Laurent Coscoy

Immune Modulation by Human Roseoloviruses

Leonid Teytelman

Michael Eisen & Jasper Rine

Surprises in the Evolution of Silencers and Silenced DNA in Budding Yeasts

Mario A. Vargas-Vila

Nipam Patel

Single-Cell Laser Ablations and Dorsoventral Patterning in the Amphipod *Parhyale hawaiiensis*

Rebecca Waitz

James Allison

Enhancement of T Cell Responses Through CTLA-4 Blockade Combination Therapy in a Mouse Model of Prostate Cancer

Joyce I-chu Wei

James Allison

The Role of B7x in Maintaining Peripheral Tolerance

Andrea Elizabeth Wills

Richard Harland

Functions and Mechanisms of Bmp Signaling in *Xenopus laevis* and *Xenopus tropicalis* Gastrulation

Jason Zemansky

Daniel Portnoy

Development of a *Mariner* Based Transposon and Identification of *Listeria monocytogenes* Determinants, Including the Peptidyl-prolyl Isomerase PrsA2, That Contribute to its Hemolytic Phenotype

GRADUATE GROUP IN BIOPHYSICS
Doctor of Philosophy Degree

Joseph D. Batchelor <i>David Wemmer</i>	Structure and Regulatory Mechanism of ζ^{54} Activator Proteins
Robert Kurata Bradley <i>Ian Holmes</i>	Annotation, Alignment and Reconstruction of Non- Coding RNAs
Arnab Bula Chowdry <i>Tracy Handel</i>	Protein Design: From <i>in silico</i> to <i>in vivo</i>
Derek Lorin Greenfield <i>Jan Liphardt</i>	Prokaryotes, Proteorhodopsin, and PALM, Oh My!
Melinda S. Hanes <i>Tracy Handel</i>	Structural, Biochemical, and Computational Analysis of β -lactamase/BLIP Interactions
Hamilton Courtney Hodges <i>Carlos Bustamante</i>	Single-Molecule Studies of Gene Expression
Philip Johnson <i>Montgomery Slatkin</i>	Unbiased Population Genetic Inference From High- Throughput Sequencing Data
Boryana Nikolaeva Manz <i>Jay Groves</i>	Spatial Organization in the Immune Synapse
Kathleen Ratcliff <i>Susan Marqusee</i>	Thermodynamic Characterization and Folding of a Moderately Thermophilic RNase H: Identification of Factors That Lead to Thermal Stability in Proteins
Stephanie A. Szobota <i>Ehud Isacoff</i>	Optical Control of Excitatory Neurotransmitter Receptors

GRADUATE GROUP IN COMPARATIVE BIOCHEMISTRY
Doctor of Philosophy Degree

Sebastian Deindl <i>John Kuriyan</i>	Regulation of Catalytic Activity of the Protein Tyrosine Kinase ZAP-70
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GRADUATE GROUP IN ENDOCRINOLOGY
Master of Arts Degree

Brian Pho Bui

Paola Timiras & Gary Firestone

Effects of High Pressure Freezing on Rat Pancreatic
Tissue Viability and Structural Integrity

GRADUATE GROUP IN MOLECULAR TOXICOLOGY
Doctor of Philosophy Degree

Ida Aronchik

Gary Firestone

Mechanism of Antiproliferative Signaling by
Indole-3-Carbinol in Human Breast and Skin
Cancer Cells

GRADUATE GROUP IN NEUROSCIENCE
Doctor of Philosophy Degree

Ryan T. Canolty

Robert Knight

Using Neuronal Oscillations to Investigate Large-
Scale Brain Networks

Sundari Chetty

Daniela Kaufer

Molecular Mechanisms of the Stress Response and
Adult Neurogenesis

Hui Lu

Mu-Ming Poo

Synaptic Mechanism of Cocaine Addiction

Brian Pasley

Ralph Freeman

Neurovascular Coupling in Brain Imaging and
Brain stimulation

Lei Shi

Thomas Griffiths

Neural Implementation of Bayesian Inference:
Hierarchical Exemplar Models and its Dynamics

The Department of Molecular and Cell Biology is grateful to the organizers and members of its Graduate Student Organization. These students have contributed their time, talents, and energy to produce important programs and activities that have greatly enhanced the educational experience of all MCB students.

MCB-GRADUATE STUDENT ORGANIZATION

President

Richard Lusk

Vice President

Veronica Anania

Secretary

Angela Brooks

Divisional Representatives

Padma Gunda – Biochemistry
and Molecular Biology

Bryan Schmidt – Biochemistry
and Molecular Biology

Teresa Lee – Cell and
Developmental Biology

Laura Lombardi – Genetics,
Genomics and Development

Nicholas Arpaia – Immunology and
Pathogenesis

Ryan Klimczak – Neurobiology

Brock Roberts – First Year

Graduate Affairs Committee

James Fraser

Albert Lang

Graduate Assembly

Daniel (Avery) Little (rep)

Kieren Patel (rep)

Megan Flynn (rep)

J. Tony D'Alessio (rep)

Patty Garcia (alternate)

Admissions Committee

Elizabeth Znameroski – Biochemistry and
Molecular Biology

Evgenia (Jane) Klimenko – Biochemistry
and Molecular Biology

Meredith Carpenter – Cell and
Developmental Biology

Angela Brooks – Genetics, Genomics and
Development

Patty Garcia – Immunology and
Pathogenesis

Ryan Klimczak - Neurobiology

Seemay Chou & Brock Roberts –
Recruitment Reps

Marian E. Koshland Lecture

Emily Crane

Jessica Lyons

Evgenia (Jane) Klimenko

Lars Plate

Rebecca Pferdehirt

Galo Garcia

Veronica Anania

Sarah Ewald

Careers for Life Sciences Ph.D.'s

Adam Freund

Hector Huang

THERPs

Richard Lusk

Jody Westbrook

Data Club Organizer

Kathryn (Kate) Monroe