ASCB | EMBO
2017 meeting

Dec. 2-6, 2017 | Philadelphia, PA

Tuesday
December 5, 2017

Daily Schedule—Tuesday, December 5

7:30 am-6:00 pm	Registration Open	Registration Area
7:30 am–4:00 pm	Career Center Open	Hall D, Learning Center
8:00-9:30 am	Symposium 5: DNA/RNA Biology	Terrace Ballroom 3
8:15-9:15 am	Exhibitor Tech Talk Leica Microsystems Inc.: Multimodal imaging: the next evolution in advanced live cell research	Theater 1, Learning Center
8:15-8:30 am	Exhibitor Tech Talk Ananda Devices: The future of cell culture models: how microfluidic platforms can increase reproducibility and efficiency of cellular assays	Theater 2, Learning Center
8:30-8:45 am	Exhibitor Tech Talk AS ONE International, Inc.: AS ONE International, Inc.	Theater 2, Learning Center
8:45-9:00 am	Exhibitor Tech Talk Aurox Ltd.: Aurox Clarity LFC: your personal laser free confocal	Theater 2, Learning Center
9:00 am-4:00 pm	Career Coaching	Career Center, Learning Center
9:00-9:45 am	How to Deliver an Effective Chalk Talk	Theater 3, Learning Center
9:15-9:30 am	Exhibitor Tech Talk Nanolive SA: A marker-free technology to analyze living cell's internal structure and organelles In 3d, at high temporal and spatial resolution	Theater 2, Learning Center
9:30-10:30 am	Exhibitor Tech Talk TESCAN USA, INC.: QPI as a tool for a label-free viability assay with cell death classification	Theater 2, Learning Center
9:30-11:00 am	Morning Refreshment Break	Learning Center
9:45-10:45 am	Louis-Jeantet Prize Lectures: Silvia Arber and Caetano Reis e Sousa	Terrace Ballroom 3
10:00 am-12:00 pm	Lab Leadership – Teamwork and Conflict in the lab	Room 117
10:00-10:45 am	Successful Commercialization of University Inventions and Discoveries	Theater 3, Learning Center
10:30 am-12:00 pm	Politicians Don't Bite	Room 124
10:45-11:45 am	Exhibitor Tech Talk Semrock (a Division of Idex Health & Science): Striving to meet the new challenges in fluorescence microscopy	Theater 2, Learning Center
10:45 am-12:00 pm	WICB Awards and Mentoring Theater: Harvey Lodish, Karen Oegema, and Julie Canman	Room 122B
11:00 am-12:10 pm	Microsymposium 13: Tissue Structure and Cell-Cell Interactions	Microsymposia Room 1, Learning Center, Hall C
11:00 am-12:10 pm	Microsymposium 14: Cell Metabolism	Microsymposia Room 2, Learning Center, Hall C
11:00 am-12:00 pm	Preparing Grant Budgets	Room 123
11:00 am-12:00 pm	Researcher and Institutional Roles in Ensuring Reliable Research	Room 122A
11:00 am-12:00 pm	Resources to Address Challenges for International Graduate Students and Postdocs	Room 126A
11:00 am-12:00 pm	Science Discussion Tables	Roundtable Central Section 3, Learning Center
11:00 am-12:00 pm	What's New in Peer Review (of Grant Applications)?	Room 126B
12:00-1:30 pm	Odd-Numbered Poster Presentations	Learning Center
12:00-1:00 pm	Showing of HHMI Films	ASCB Booth 525, Learning Center

12:00-12:45 pm	Exhibitor Tech Talk MilliporeSigma: Quantifying cell biology through high-speed single-cell imaging and analysis	Theater 1, Learning Center
12:00-12:45 pm	Exhibitor Tech Talk ACEA Biosciences, Inc.: Development of diverse cancer immunotherapeutics using real-time impedance-based potency assays	Theater 2, Learning Center
12:00-12:45 pm	Starting Your Lab at a Primarily Undergraduate Institution	Theater 3, Learning Center
12:25-1:35 pm	Microsymposium 15: Chromosome Structure, Centromeres, and Kinetochores	Microsymposia Room 1, Learning Center, Hall C
12:25-1:35 pm	Microsymposium 16: Novel Approaches in Studying the Cytoskeleton	Microsymposia Room 2, Learning Center, Hall C
1:00-1:45 pm	Celldance Video Premiere and Elevator Speech Awards	Theater 3, Learning Center
1:00-1:45 pm	Exhibitor Tech Talk Thermo Fisher Scientific Inc.: New tools for CRISPR gene-editing in cell models and primary blood cells	Theater 1, Learning Center
1:00-1:45 pm	Exhibitor Tech Talk Bruker Corporation: Bruker LUXENDO light-sheet microscopes: pure live imaging across scales	Theater 2, Learning Center
1:15-1:45 pm	Meet the ASCB Committees	ASCB Booth 525, Learning Center
1:30-3:00 pm	Even-Numbered Poster Presentations	Learning Center
1:30-3:30 pm	Afternoon Refreshment Break	Learning Center
1:40-2:10 pm	In-Booth Presentation ALVEOLE: Controlling the chemistry and topography of the cellular microenvironment with quantitative protein photopatterning – demo	Booth 539, Learning Center
1:50 pm-3:00 pm	Microsymposium 17: Membrane Dynamics and Trafficking	Microsymposia Room 1, Learning Center, Hall C
1:50 pm-3:00 pm	Microsymposium 18: Bioengineering and Signaling	Microsymposia Room 2, Learning Center, Hall C
2:00-2:45 pm	Exhibitor Tech Talk BD Biosciences: New generation dyes as powerful tools to visualize cell biology in vivo	Theater 2, Learning Center
2:00-2:45 pm	Careers in Science Policy	Theater 3, Learning Center
3:00-4:00 pm	ASCB MAC Visiting Professors Meeting (by invitation only)	Room 105A
3:00-4:00 pm	Exhibitor Tech Talk Bio-Rad Laboratories: Decoding quantitative western blotting	Theater 2, Learning Center
3:15-4:30 pm	E.B. Wilson Medal Presentation and Address: F. Ulrich Hartl and Arthur L. Horwich	Terrace Ballroom 3
4:40-7:15 pm	Workshop: Probing Spatiotemporal Limits	Room 121B
4:40-7:15 pm	Minisymposium 14: Autophagy Minisymposium 15: Axonal and Synaptic Cell Biology Minisymposium 16: Mechanical Coupling from Nucleus to Extracellular Matrix Minisymposium 17: Mechanics of Cell Division and Cytokinesis Minisymposium 18: Molecular Mechanisms of Cell-Cell Signaling Minisymposium 19: Organelle Morphogenesis, Targeting, and Distribution Minisymposium 20: RNA Biology	Room 118B Room 114 Room 113B Room 108A Room 115B Room 120B Room 119B
7:30-9:30 pm	Satellite Event: Panel Discussion on Neurodegenerative Diseases	Courtyard Philadelphia Downtown

Notes

Symposium 5: DNA/RNA Biology

8:00-9:30 am **Terrace Ballroom 3**

Chair: **Thoru Pederson**, University of Massachusetts Medical School

8:00 am	S11	Folding, unfolding and refolding of genomes. **J. Dekker**[1]; [1]Program in Systems Biology, HHMI; University of Massachusetts Medical School, Worcester, MA
8:30 am	S12	Cell autonomous and cell non-autonomous effects of aneuploidy. **A. Amon**[1], **S. Santaguida**[1], **L. Zasadil**[1], **B. Chris**[1], **M. Trakala**[1]; [1]Department of Biology, MIT/HHMI, Cambridge, MA
9:00 am	S13	Division of Labor Among the Subunits of a Highly Coordinated Ring ATPase. **C. Bustamante**[1]; [1]Physics, Molecular Cell Biology and Chemistry, University of California, Berkeley, Berkeley, CA

Exhibitor Tech Talk

8:15-9:15 am **Theater 1, Learning Center**

Leica Microsystems Inc.
Multimodal imaging: the next evolution in advanced live cell research
Presenter: Oliver Schlicker, PhD
Level: Intermediate

Learn how the DMi8 S advanced imaging system from Leica Microsystems enables in-depth analysis of complex dynamic intracellular interactions. Utilizing enhanced hardware and software modules helps drive discoveries into the missing links in your research. Learn how to combine modalities like TIRF, super-resolution, FRAP, photo activation, photo switching, ablation and optogenics into one experiment to gain insight into dynamic processes. This new live cell imaging platform gives you the toolbox to stay on the cutting edge of research by allowing you to see more, see faster and see the hidden.

Exhibitor Tech Talk

8:15-8:30 am **Theater 2, Learning Center**

Ananda Devices
The future of cell culture models: how microfluidic platforms can increase reproducibility and efficiency of cellular assays
Presenter: Dr. Margaret Magdesian
Level: Introductory

Drug development is slow, expensive and inefficient. Over 60% of biological research cannot be reproduced and scientists still use outdated cell culture models to test new drugs. Major scientific breakthroughs rely on robust cell cultures, reproducible experiments and reliable results. Ananda Devices (www.AnandaDevices.com) bring cell cultures to the 21st century. We offer unique microfluidic devices that enable scientists to reproduce the in vivo environment in vitro. Ananda Devices enable up to 50% faster and more reproducible data analysis in neuroscience, cancer, immunological and iPSC research. We help scientists achieve significant and high-quality results faster.

Exhibitor Tech Talk

8:30-8:45 am **Theater 2, Learning Center**

AS ONE International, Inc.
AS ONE International, Inc.
Presenter: Hiro Masumoto
Level: Advanced

Established in January 2017, AS ONE International, Inc. is committed to bringing innovative life science technologies from around the world into the hands of every researcher to accelerate discoveries in the areas of molecular and cell biology. With our strong networking in Japan and other markets, we offer unique research instruments and reagents, such as microgravity cell culture device Gravite®, specific proteins and antibodies for DNA 3R research, peptide microarrays for epitope mapping and disease studies, and other innovative research tools for studying cancer, metabolism, neuroscience, stem cell biology, immunology, and signal transduction. AS ONE International is actively seeking potential collaborations to accelerate the growth of the company and its partners.

Exhibitor Tech Talk

8:45-9:00 am **Theater 2, Learning Center**

Aurox Ltd.
Aurox Clarity LFC: your personal laser free confocal
Presenter: Phillipa Timmins
Level: Intermediate

Based in Oxfordshire, UK, Aurox Ltd. was established to commercialize and build upon pioneering work from the Scanning Optical Microscopy Group at the University of Oxford. The Clarity LFC Laser Free Confocal unit from Aurox is based on a unique design of spinning disc with a grid-like structured illumination pattern. The system provides laser free confocal imaging, setting a new benchmark in price/performance ratio in the field of confocal microscopy. Come along to learn more about the technology and to see how it might complement your research.

Career Coaching

9:00 am-4:00 pm **Career Center, Learning Center**

Stop by the career center for the opportunity to meet with a professional career coach. During these one-on-one sessions participants will receive individualized advice including but not limited to strategies for choosing a career and individualized review of application materials.

Coaches:

David Taylor, Assistant Director, Office of Postdoctoral Affairs, The Children's Hospital of Philadelphia

Paulette McRae, Academic Programs Officer, The Children's Hospital of Philadelphia

Joseph Barber, Associate Director, UPENN Career Services

Mary Beth Davis, Pre-Health Advisor, Drexel University Steinbright Career Development Center

Laura Craig, Associate Director of Career Development, Temple University

Diane Hull, Associate Director, UPENN Career Services

David Prisco, Career Counselor and Employer Relations Associate, La Salle University

Kristy Lamb, Associate Director of Preprofessional Advising, New York University

Sheryl Smith, Associate Professor, Arcadia University

Megan Wright, Associate Professor, Arcadia University

Patricia Phelps, Director, Professional Development and Career Office, Johns Hopkins University School of Medicine

Catherine Hueston, STEM Education Postdoctoral Fellow, Professional Development and Career Office, Johns Hopkins University School of Medicine

Outcomes:

1. Obtain professional one-on-one mentorship catered toward pursuing a career in science
2. Gain insight into the career options available in the life sciences
3. Learn individualized strategies to search and apply for job opportunities in your career of choice
4. Gain critical advice for editing resumes, CV's, and application materials

Target audience: graduate students and postdocs

How to Deliver an Effective Chalk Talk

9:00-9:45 am **Theater 3, Learning Center**

Supported by HHMI

Mary Mullins, Vice Chair, Cell and Developmental Biology Department, University of Pennsylvania

Are you interested in a career in academia but unfamiliar with the standards of chalk talks often giving during interviews? While trainees have plenty of opportunities to practice and present their data, tips and strategies on delivering a chalk talk are often sparse. This session provides trainees with fundamental strategies and tips for delivering an effective chalk talk.

Mary Mullins received her BS from the University of Wisconsin, Madison, and her PhD from the University of California, Berkeley—both degrees in biochemistry. She spent her postdoctoral years at the Max Planck Institute in Tübingen, Germany, under the advisory of 1995 Nobel Prize awardee Christiane Nüsslein-Volhard. Mullins began her career at the University of Pennsylvania as an assistant professor in 1995 in the department of Cell and Developmental Biology, where she is currently Professor and Vice Chair of Cell Biology. Mullins' research involves using the zebrafish to study fundamental processes of development and cell biology. Her lab is currently studying the molecular mechanism of signal transduction of a BMP (bone morphogenetic protein) pathway functioning in establishing the vertebrate body plan. Her group uses quantitative approaches to study the formation, function, and temporal regulation of a BMP morphogen gradient. She has also expanded her studies to include maternal regulation of embryonic development, where she has discovered key regulators of egg and oocyte polarity, cell cleavage, and early embryonic patterning.

Outcomes:

1. Learn the appropriate decorum for giving a chalk talk
2. Learn how to convey you are an independent thinker
3. Become a more effective communicator
4. Learn what qualities interviewers are looking for and how to portray that during a chalk talk

Target audience: graduate students, postdocs

Exhibitor Tech Talk

9:15-9:30 am **Theater 2, Learning Center**

Nanolive SA

A marker-free technology to analyze living cell's internal structure and organelles In 3d, at high temporal and spatial resolution

Presenter: Nanolive SA

Level: Intermediate

Holographic-tomographic microscopy is an emerging and powerful new imaging approach that will revolutionize 3D live cell imaging. It allows researchers to characterize cells, organelles and cell dynamics by refractive index variations, with truly no phototoxicity. The 3D Cell Explorer offers a versatile platform for in vitro live cell imaging. It acquires every second a complete 3D image of cells (bacteria, yeast, protozoa, mammalian) and tissues, combined with cellular environment control and fluorescence imaging. Long-term (for weeks) time-lapse imaging enables users to perform continuous quantification of single cells. New hardware and software features offer a complete solution from cellular environment control, over non-invasive 3D image acquisition to post-processing analysis and will be announced in world première!

Exhibitor Tech Talk

9:30-10:30 am **Theater 2, Learning Center**

TESCAN USA, INC.
QPI as a tool for a label-free viability assay with cell death classification
Presenter: Jan Balvan
Level: Intermediate

According to NCCD, a dead cell can be considered a cell which underwent a permanent loss of the barrier function of the plasma membrane or the breakdown into discrete fragments. Quantitative phase imaging is an emerging field of microscopy aimed at studying weakly scattering and absorbing specimens. Integrated phase shift through a cell is proportional to its dry mass, which enables studying cell mass growth or cell mass loss associated with the cell death. Here we are introducing a novel QPI-based method to detect the changes of cell mass in time. This method allows the measurement of viability of cell populations on the basis of the cellular manipulation with its dry mass.

Morning Refreshment Break

9:30-11:00 am **Learning Center**

Join us for complimentary coffee and tea while visiting exhibitors and viewing posters.

Louis-Jeantet Prize Lectures

9:45-10:45 am **Terrace Ballroom 3**

Silvia Arber
Biozentrum, University of Basel and Friedrich Miescher Institute for Biomedical Research

Caetano Reis e Sousa
The Francis Crick Institute

A5 Circuits for Movement. **S. Arber**[1,2]; [1]Biozentrum, University of Basel, Basel, Switzerland, [2]Friedrich Miescher Institute for Biomedical Research, Basel, Switzerland

A6 Sensing infection and tissue damage. **C. Reis e Sousa**[1]; [1]Immunobiology, The Francis Crick, London, United Kingdom

Lab Leadership – Teamwork and Conflict in the lab

10:00 am-12:00 pm **Room 117**

Supported by Thermo Fisher Scientific, Inc.

Samuel Caddick, PhD, Project Coordinator for EMBO Lab Management at the Gesellschaft zur Förderung der Lebenswissenschaften Heidelberg GmbH

How much time does your team spend on research and how much time do the members spend on disagreements, discussions about who does or owns what, and even in conflict? We will explore the different aspects of how teams work well together and what you as the leader can do to help your team achieve high levels of performance. Conflicts arise even in high performance teams, so we look at how you can identify conflict, what you can do to resolve it, and how you can redirect the energy it generates to drive your research forward.

We encourage participants to attend all three sessions in this series (the other two are on Sunday and Monday) because they are interrelated and build on each other.

Outcomes

1. Learn about the Team Clock and its application to team development and performance
2. Learn about conflict and conflict management

Target audiences**:** group leaders (PIs), senior postdocs with responsibility for lab supervision or who are about to set up their own laboratory

Successful Commercialization of University Inventions and Discoveries

10:00-10:45 am **Theater 3, Learning Center**

Supported by HHMI

Benjamin Dibling, Executive Director of Licensing, Penn Center for Innovation

You've made a critical research discovery that has the potential to be developed into a new product or service, but how do you explore commercialization options? Who can help you advance your idea? How do you protect your invention? Can your technology be advanced in the academic setting or should it be developed by an existing company or a start-up? How do you position the opportunity so it's attractive to a commercial partner or an investor? The goal of this session is to address these fundamental questions and to provide a broad overview of the key steps involved with translating university inventions and discoveries into new products and services that have global impact and benefit to the public.

Benjamin Dibling heads the licensing and corporate contracts groups at the Penn Center for Innovation at the University of Pennsylvania. He leads a team responsible for working with faculty, staff, and students to evaluate, protect, and commercialize Penn inventions and discoveries, and to support engagement with industry. Dibling holds a PhD in clinical medicine from the University of Leeds and a BMedSc in Molecular and Cellular Biology from the University of Birmingham. Dibling is a registered patent agent and is licensed to practice before the United States Patents and Trademarks Office. Dibling has previously held leadership positions at both UChicagoTech, the technology transfer office of the University of Chicago, and the Office of Intellectual Property and Industry Sponsored Research at UCLA.

Outcomes:

1. Gain a better understanding of intellectual property and when and how to commercialize research ideas
2. Learn strategies for forming collaborations and taking an idea to a company
3. Learn how to identify resources at your home institutions to aid in taking an idea to a company

Target audience: undergraduates, graduate students, postdocs, faculty members

Politicians Don't Bite

10:30 am-12:00 pm **Room 124**

Connie M. Lee, University of Chicago
Denise Montell, University of California, Santa Barbara
Dyche Mullins, University of California, San Francisco
Tom Pollard, Yale University (Moderator)

Hear Public Policy Committee member Tom Pollard lead a discussion on how easy it is to engage elected officials about the importance of federally funded biology research and how you too can become a science advocate. We will also discuss various advocacy opportunities. The panel discussion will be followed by a Q&A session that includes tips and information on how you can become involved in science policy advocacy.

Outcomes:

1. Gain an understanding of the various advocacy opportunities available
2. Understand that participation in various advocacy opportunities is not as intimidating as sometimes assumed

Target audience: all attendees

Exhibitor Tech Talk

10:45-11:45 am **Theater 2, Learning Center**

Semrock (a Division of Idex Health & Science)
Striving to meet the new challenges in fluorescence microscopy
Presenters: Peter Brunt* and Prashant Prabhat
Level: Advanced

This talk reviews the latest developments in fluorescence filters and fluorescence microscopy techniques. With the implementation of super-resolution and multi-photon techniques becoming increasingly commonplace, it is important for filter technologies, which remain at the core of these techniques, to expand and adapt. Both in terms of spectral response and in their physical properties, filters must now account for far more than in original epi-fluorescence techniques and we aim to explore these changes. We will also explore tools that allow users to identify solutions and optimize their experiments. These include SearchLight, an online spectral plotting and analysis tool and MyLight, a powerful means of viewing spectral design responses. *AVR Optics, - Semrock's distributor for educational institutions and government research labs in US & Canada.

WICB Awards and Mentoring Theater

10:45 am-12:00 pm **Room 122B**

Sandra K. Masur Senior Leadership Award: **Harvey Lodish**, Massachusetts Institute of Technology
WICB Mid-Career Award for Excellence in Research: **Karen Oegema**, Ludwig Institute for Cancer Research
WICB Junior Award for Excellence in Research: **Julie Canman**, Columbia University

The first part of the session will be formal presentations of the annual Women in Cell Biology (WICB) awards for excellence in research. The junior and mid-level awards honor women who have made exceptional contributions to cell biology and who have shown high levels of scientific endeavor and leadership. The Sandra K. Masur senior leadership award honors a woman or man at a later career stage whose outstanding achievements are coupled with a record of excellence and leadership in mentoring young scientists. That will be followed by a series of thought- and discussion-provoking skits, aligned with the Resilience in Science: A Panel and Networking Reception (held on Monday), to spark discussion of this issue of relevance to the development and advancement of careers of women and all underrepresented groups. After each skit, the actors serve as panelists to facilitate an open-ended discussion with the audience.

Outcomes:

1. Honoring and heightening awareness in the cell biology community of the exceptional contributions of scientists
2. Increased sensitivity and appreciation of the value of differing language and style approaches in lab, workplace, and academe
3. Increased awareness that style stereotypes actually cut across gender and other group boundaries; concerns and solutions from students to retirees
4. Learn successful approaches to workplace challenges from seasoned cell biologists attempting to mitigate bias: gender, race, age, etc.

Target audience: all attendees

Microsymposium 13: Tissue Structure and Cell-Cell Interactions

11:00 am-12:10 pm **Microsymposia Room 1, Learning Center, Hall C**

Moderators: **Margherita Perillo**, Boston College; and **Valerie Tutwiler**, University of Pennsylvania School of Medicine

11:00 am	E85	Characterization of the mechanically-induced shape change of erythrocytes into polyhedrocytes. **V. Tutwiler**[1], **A.R. Mukhitov**[2], **A.D. Peshkova**[2], **G. Le Minh**[2], **J. Vicksman**[1], **C. Nagaswami**[1], **R.I. Litvinov**[1], **J.W. Weisel**[1]; [1]University of Pennsylvania , Philadelphia, PA, [2]Kazan Federal Research University , Kazan, Russia
11:10 am	E86	A role for desmosomal cadherins in creating complex tissues. **J.A. Broussard**[1], **O. Nekrasova**[1], **J.L. Koetsier**[2], **K.J. Green**[1]; [1]Pathology and Dermatology, Northwestern University, Chicago, IL, [2]Pathology, Northwestern University, Chicago, IL
11:20 am	E87	Flares of active Rho and F-actin locally reinforce the tight junction barrier in response to mechanical stress. **R.E. Stephenson**[1], **T. Higashi**[1,2], **I. Erofeev**[3], **B. Coy**[1], **T.R. Arnold**[1], **A. Goryachev**[3], **A.L. Miller**[1]; [1]Molecular, Cellular, and Developmental Biology, University of Michigan, Ann Arbor, MI, [2]Fukushima Medical University, Fukushima, Japan, [3]Centre for Systems Biology, School of Biological Sciences, University of Edinburgh, Edinburgh, United Kingdom
11:30 am	E88	A non-canonical Notch signaling complex regulates adherens junctions and endothelial barrier function. **M.L. Kutys**[1,2], **W.J. Polacheck**[1,2], **J. Yang**[1], **J. Eyckmans**[1,2], **Y. Wu**[3], **K.K. Hirschi**[3], **C.S. Chen**[1,2]; [1]Biomedical Engineering, Boston University, Boston, MA, [2]Wyss Institute for Biologically Inspired Engineering, Harvard University, Boston, MA, [3]Cardiovascular Research Center, Yale University, New Haven, CT
11:40 am	E89	Cell-cell adhesion and myosin activity controls the curvature-dependent cortical actin assembly in mammary gland epithelium. **W. Jung**[1], **K. Elawad**[1], **S.H. Kang**[1], **Y. Chen**[1]; [1]Mechanical Engineering, Johns Hopkins University, Baltimore, MD
11:50 am	E90	Desmosomal regulation of gap junctions via Ras: implications for cardiocutaneous disease. **C.Y. Kam**[1], **A.D. Dubash**[2], **F. Sheikh**[3], **P.D. Lampe**[4], **S. Polo**[5], **K.J. Green**[1,6]; [1]Department of Pathology, Northwestern University, Chicago, IL, [2]Department of Biology, Furman University, Greenville, SC, [3]Department of Medicine, University of California-San Diego, La Jolla, CA, [4] Translational Research Program, Fred Hutchinson Cancer Research Center, Seattle, WA, [5]FIRC Institute of Molecular Oncology, Milan, Italy, [6]Department of Dermatology, Northwestern University, Chicago, IL
12:00 pm	E91	A contractile hoop stress aids in balancing sudden hydrostatic pressure perturbation in a tubular epithelium. **D. Maity**[1], **S.X. Sun**[1,2], **Y. Chen**[2]; [1]Chemical and Biomolecular Engineering, Johns Hopkins University, Baltimore, MD, [2]Mechanical Engineering, Johns Hopkins University, Baltimore, MD

Microsymposium 14: Cell Metabolism

11:00 am-12:10 pm **Microsymposia Room 2, Learning Center, Hall C**

Moderators: **Gaia Cantelli**, Duke University; and **Peter Yu**, Ohio State University

11:00 am	E92	The tumor suppressor Lkb1 controls cell fate through pyruvate-alanine transamination. **A.G. Radu**[1,2], **S. Torch**[1,2], **F. Fauvelle**[3], **P. Hainaut**[1], **L. Larue**[4], **C. Thibert**[1,5], **M. Billaud**[5,6]; [1]Tumor molecular pathology and biomarkers, Institute for Advanced Biosciences, INSERM/UJF U1209 , Grenoble, France, [2]cofirst authors, Grenoble, France, [3]MRI Facility IRMage, Grenoble Neurosciences Institut, INSERM/CEA U817, Grenoble, France, [4]Normal and Pathological Development of Melanocytes, Institut Curie, CNRS UMR3347; INSERM U1021, Orsay, France, [5]co-senior and co-corresponding authors, Grenoble, Lyon, France, [6]Centre de Recherche en Cancerologie, Université Claude Bernard Lyon I, INSERM 1052, CNRS 5286, Lyon, France
11:10 am	E93	Mechanical modulation of glycolysis through phosphofructokinase and its activators in a KRAS-dependent manner. **J. Park**[1], **T. Isogai**[1], **C.J. Burckhardt**[1], **B. Gao**[1], **R. Bachoo**[1], **G. Danuser**[1]; [1]The Lyda Hill Department of Bioinformatics, University of Texas Southwestern Medical Center, Dallas, TX
11:20 am	E94	Cell signaling involved in acute glycolytic response to immune cell activation. **Y. Kam**[1], **P.M. Swain**[1], **B.P. Dranka**[1]; [1]Cell Analysis, Agilent Technologies, Lexington, MA
11:30 am	E95	Posttranslational arginylation enzyme Ate1 controls mitochondrial functions and cellular Warburg effects. **C. Jiang**[1], **D.M. Patel**[1], **A. Kumar**[1], **B.T. Moorthy**[1], **M. Birnbaum**[1], **B. Alfonso**[2], **J. Huang**[2], **A. Barrientos**[3,4], **T. Lampidis**[5,6], **F. Fontanesi**[4], **F. Zhang**[1,6]; [1]Molecular & Cellular Pharmacology, University of Miami, Miami, FL, [2]Human Genetics, University of Miami, Miami, FL, [3]Department of Neurology, University of Miami, Miami, FL, [4]Biochemistry & Molecular Biology, University of

TUESDAY

		Miami, Miami, FL, [5]Cell Biology, University of Miami, Miami, FL, [6]Sylvester Comprehensive Cancer Center, University of Miami, Miami, FL
11:40 am	E96	Environmental availability of cystine drives usage of glutamine as a TCA cycle substrate and causes glutamine addiction. **A. Muir**[1], **L.V. Danai**[1], **D.Y. Gui**[1], **C.Y. Waingarten**[1], **C.A. Lewis**[2], **M.G. Vander Heiden**[1,3]; [1]Koch Institute for Integrative Cancer Research and Department of Biology, Massachusetts Institute of Technology, Cambridge, MA, [2]Whitehead Institute for Biomedical Research and Department of Biology, Massachusetts Institute of Technology, Cambridge, MA, [3]Dana-Farber Cancer Institute, Boston, MA
11:50 am	E97	A cleavage product of Polycystin-1 is a mitochondrial matrix protein that regulates mitochondria morphology and function. **C. Lin**[1], **M. Kurashige**[1], **Y. Liu**[2], **T. Wang**[1], **V. Choudhary**[1], **R. Hobbs**[1], **L. Liu**[1], **P. Lee**[3], **P. Outeda**[4], **F. Zhou**[1], **N.P. Restifo**[3], **T.J. Watnick**[4], **W. Prinz**[1], **X. Hong**[2], **L.F. Menezes**[1], **G.G. Germino**[1]; [1]Kidney Disease Branch; National Institute of Diabetes and Digestive and Kidney Disease, National Institutes of Health (NIH), Bethesda, MD, [2]Laboratory of Molecular Genetics; National Heart, Lung and Blood Institute, National Institutes of Health (NIH), Bethesda, MD, [3]Center for Cell-Based Therapy; National Cancer Institute, National Institutes of Health (NIH), Bethesda, MD, [4]Department of Medicine; Division of Nephrology, University of Maryland School of Medicine, Baltimore, MD
12:00 pm	E98	AMPK regulates peroxisomal cargo proteins import via PEX5 phosphorylation. **J. Jing**[1], **D. Tripathi**[1], **R. Dere**[1], **C. Walker**[1,2]; [1]CPEH, Baylor College of Medicine, Houston, TX, [2]CTCR, Texas AM University, Houston, TX

Preparing Grant Budgets

11:00 am-12:00 pm **Room 123**

Andrew Campbell, Professor of Medical Science, Dean of the Graduate School, Brown University

Thoru Pederson, Professor of Biochemistry and Molecular Pharmacology, Associate Vice Provost for Research, University of Massachusetts Medical School

This professional development session will consist of an interactive discussion led by the session speakers. Speakers will discuss how to prepare a budget for a competitive grant application with emphasis on: 1) The specific budget requirements for different organizations – including federal agencies such as NSF and NIH, as well as private foundation grants – and different funding mechanisms (e.g. research project grants, research education grants); 2) Strategies for identifying the relevant project cost categories and creating accurate cost estimates for these categories (special attention will be given to the calculation of personnel costs, including percent effort allocated to the project); 3) Strategies for crafting convincing budget justification statements. At the end of the discussion, participants will generate a draft budget for a research project grant.

Outcomes:

1. Develop better awareness of the budget structure and limits for different granting agencies and funding mechanisms
2. Identify strategies for creating accurate cost estimates
3. Identify strategies for crafting clear and concise budget justification statements

Target audience: graduate students, postdocs, junior faculty

Researcher and Institutional Roles in Ensuring Reliable Research

11:00 am-12:00 pm **Room 122A**

Co-organizers: **Michele Garfinkel**, European Molecular Biology Organization; **Kevin Wilson**, American Society for Cell Biology

Speaker: **Leonard Freedman**, PhD, President, Global Biological Standards Institute, Washington, DC

Concerns about reproducibility and particularly reliability in research are being widely discussed in both scientific research and policy communities. There is no doubt a difference between “science is hard” and “science is not reproducible,” but we do not entirely understand where that line is or how thin it is. Scientists want to do the right thing but imploring researchers to ensure data are reproducible and research is reliable without providing context, tools, and support will not lead to a general improvement in the reliability of scientific findings. In this session, we will present an overview of current and potential roles of researchers and of institutes in ensuring reliability, and we will engage the audience members in an extended discussion about their views.

Outcomes:

1. Improved understanding of the roles of individual researchers and institutions in ensuring reproducible research
2. Enhanced understanding of why the discussions around reproducible research and especially reliable research have become so urgent
3. Institutional officials will gain a better sense of what they might need to do to directly support researchers in the pursuit of reliable research.

Target audience: active researchers, individuals with institutional responsibilities

Resources to Address Challenges for International Graduate Students and Postdocs

11:00 am-12:00 pm **Room 126A**

Adriana Bankston, Future of Research
Gary McDowell, Manylabs

International researchers in or interested in coming to the United States sometimes experience difficulties in getting clear information about certain types of visas and fellowships that may support their research activities. In this interactive session, we will point researchers toward resources that can help them find out more about on their rights and responsibilities while doing research in the U.S. We will also engage international graduate students and postdocs in discussions about the problems and challenges they perceive or have dealt with in the current system of science.

The information in this session is not meant to be legal advice, but rather a resource-sharing and data-gathering exercise for and about the international graduate student and postdoctoral workforce in the United States.

Outcomes:

1. Obtain a list of useful resources about visas and fellowships
2. Expand your network of personal connections
3. Understand your rights and responsibilities in terms of advocating for science in a public arena

Target audience: international graduate students and postdocs currently or considering performing research in the United States. We also hope that this session is useful for U.S. citizens, to enable them to better understand the barriers their international peers face and devise ways to advocate for and with them.

Science Discussion Tables

11:00 am-12:00 pm **Roundtable Central Section 3, Learning Center**

Take advantage of this special networking opportunity! Select your interest area and bring your questions to the ASCB Learning Center.

Table	Presenter	Topic
1	**Matthew J. Tyska**	Actin Cytoskeleton and Cell Surface Protrusions
2	**Sascha Martens**	Autophagy
3	**Marek Basler**	Bacterial Cell-Cell Interactions, Secretion Systems
4	**Lukas Kapitein**	Cell Biology of Neurons
5	**Russell DeBose-Boyd**	Cellular Metabolism
6	**Ken Campellone**	Cytoskeleton and Disease

7	**Andrew Carter**	How Do Dynein and Dynactin Transport Cargos?
8	**Gillian Griffiths**	Immunology and Cell Biology
9	**Philipp Niethammer**	Intravital Imaging of Leukocyte Responses to Injury and Infection in Zebrafish Larvae
10	**Shawn M. Ferguson**	Lysosome Function, Dysfunction and Human Disease
11	**Simon Alberti**	Membrane-less Organelles and Proteostasis
12	**Kandice Tanner**	Microenvironment and Metastasis
13	**Samara Reck-Peterson**	Microtubule-Based Molecular Motors
14	**Jodi Nunnari**	Mitochondria and Interorganellar Contacts
15	**Silke Hauf**	Mitosis/Establishing and Maintaining Scientific Collaborations
16	**Kang Shen**	Neuronal Cell Biology
17	**Carlos Bustamante**	The Path to a Career in Science
18	**Tom Rapoport**	Protein Translocation and Shaping of Organelles
19	**Brenda A. Schulman**	Regulation by Ubiquitin and Ubiquitin-Like Protein Pathways
20	**Sandra Wolin**	RNA Biology

What's New in Peer Review (of Grant Applications)?

11:00 am-12:00 pm **Room 126B**

Richard K. Nakamura, Director of the Center for Scientific Review, National Institutes of Health, Department of Health and Human Services

The CSR Director will describe changes such as policies on rigor and reproducibility, results of surveys, and efforts to understand possible biases in review.

Outcomes:

1. Learn about potential changes in the peer review process
2. Learn about experiments and surveys that are currently ongoing at CSR

Target audience: all attendees

Odd-Numbered Poster Presentations

12:00-1:30 pm **Learning Center**

Showing of HHMI Films

12:00-1:00 pm **ASCB Booth 525, Learning Center**

Selections from the *I Contain Multitudes* Series and a not yet released short film

The *I Contain Multitudes* series is based on the book of the same name. The series premiered online in Fall 2017 with weekly episodes. Some are visits to a scientist's lab with Ed Yong as the guide. Others show intriguing animal behavior as Yong explains the hidden microbial backstory. In others, Yong answers viewers' questions while tackling the biggest misconceptions about the microbial world.

HHMI BioInteractive short films are compelling stories, in fields ranging from evolutionary biology and genetics to earth science, which provide concrete examples of how science works, how evidence is weighed and tested, and how conclusions are reached. Each film runs for 10 to 30 minutes and is accompanied by a collection of supporting materials, including film guides, quizzes, hands-on activities, and lesson plans, for educators to use to increase the impact of the films in their instruction.

Exhibitor Tech Talk

12:00-12:45 pm **Theater 1, Learning Center**

MilliporeSigma
Quantifying cell biology through high-speed single-cell imaging and analysis
Presenter: Dr. Darin Fogg
Level: Introductory

This seminar will focus on theory and applications of Amnis imaging cytometry, a unique technology capable of capturing multiple images of single cells at rates of thousands of events per second. Combining the speed and objectivity of flow cytometry with the detailed imagery of microscopy, the ImageStream and FlowSight enable quantitative analysis of cell size and shape, and of fluorescence intensity, texture, location, and co-location. Specific cell biology applications described will be quantification of nuclear-cytoplasmic translocation of molecules, phagocytosis and internalization, autophagy, cell-cell interactions, and characterization of extracellular vesicles.

Exhibitor Tech Talk

12:00-12:45 pm **Theater 2, Learning Center**

ACEA Biosciences, Inc.
Development of diverse cancer immunotherapeutics using real-time impedance-based potency assays
Presenters: Dr. Adam Snook & Dr. Mike Overstreet
Level: Intermediate

The novel CAR-T cell platform approaches include 1) CAR-T cells with Decreased Cytokines, 2) Novel CAR co-activation domains, 3) CD47 and humanized CD47-CAR-T cells. Initially, we developed CD19-FLAG-CAR-T cells that significantly blocked Raji tumor burden, as detected by IVIS imaging, and extended mouse survival. CD19-FLAG-CAR-T cells also blocked solid-cancer Hela-CD19 tumor growth. In addition, CD19-FLAG-CAR-T cells secreted significantly less cytokines: IFN-gamma, IL-2 and IL-6. Secondly, we engineered CAR-T cells with novel co-activation domains (GITR and mutant CD28-domain) with the same RTCA (Real-Time-Cell-Analysis) cytotoxic-activity and less cytokine secretion. The third approach includes generation of novel CD47 and humanized CD47-CAR-T cells against different types of cancer. CD47-CAR-T significantly blocked pancreatic cancer tumor growth using in-vitro and in-vivo models. These novel approaches can be used for future therapies of hematological and solid-cancers.

Starting Your Lab at a Primarily Undergraduate Institution

12:00-12:45 pm **Theater 3, Learning Center**

Supported by HHMI

Lou Charkoudian, Assistant Professor, Haverford College
Rebecca Lyczak, Associate Professor, Ursinus College
Matthew Nelson, Assistant Professor, Saint Joseph's University

Many trainees opt to teach and start their labs at a primarily undergraduate institution (PUI). Trainees obtain their graduate degrees and postdoctoral experience at R1 institutes, so they often do not know the ins and outs of starting a lab at a PUI. How does this very particular lab setting differ from labs at R1 institutes? What are the strategies of building a successful research program with a lab fully composed of undergraduates? This session will be very interactive as it is fully based on questions from the audience.

Lou Charkoudian received her BS from Haverford College and PhD in chemistry at Duke University under the mentorship of Professor Kathy Franz. During graduate school, she enjoyed developing her skillset as a bioinorganic chemist while also learning to mentor and teach undergraduates. She then joined Professor Chaitan Khosla's lab at Stanford where she expanded her skillset to include the concepts and techniques of bioorganic chemistry and chemical engineering. Charkoudian began her faculty position at Haverford in 2013. Her research and teaching interests lie at the intersection of organic chemistry and biology. She is enthralled with the *Streptomyces* bacteria that she works with and spends her time in lab collaborating with undergraduate researchers to understand how *Streptomyces* biosynthesize structurally complex and therapeutically relevant molecules. Charkoudian is also

passionate about integrating original research opportunities for undergraduates into the classroom, encouraging women in science, and developing symbiotic outreach activities with her local community. When not at work, Charkoudian enjoys chasing after her two young kids, the outdoors, and spending time with family and friends.

Rebecca Lyczak is a Professor of Biology at Ursinus College. She received her PhD at the Weill Graduate School of Medical Sciences of Cornell University, where she worked with Lee Niswander on limb and feather development. Her postdoctoral work with Bruce Bowerman, at the University of Oregon, moved her into the study of cell polarity in the *C. elegans* embryo. In her own lab, she has been studying the PAM-1 aminopeptidase and its role in regulating the microfilament and microtubule cytoskeleton to establish of polarity in the one-cell embryo. At a small liberal arts college, her work integrates the training of undergraduates in research. Her work has been funded by the NSF and the NIH.

Matthew Nelson earned his PhD in biology from New York University working in the lab of David Fitch, where he studied developmental genetics. He conducted his postdoctoral work in the lab of David Raizen at the University of Pennsylvania, studying behavioral genetics. Currently, he is an Assistant Professor of Biology at Saint Joseph's University in Philadelphia. His lab is interested in understanding how behavior, sleep in particular, is regulated at the cellular and molecular level. To accomplish this, his lab studies the model organism *Caenorhabditis elegans*, an ideal system for merging teaching and research.

Outcomes:

1. Have a better understanding of the day-to-day job as a faculty member at a PUI
2. Learn strategies for engaging undergraduates in academic research
3. Gain insight into skills you should cultivate to succeed as a faculty member at a PUI
4. Have a broader sense of career paths available to PhDs

Target audience: graduate students, postdocs

Microsymposium 15: Chromosome Structure, Centromeres, and Kinetochores

12:25-1:35 pm **Microsymposia Room 1, Learning Center, Hall C**

Moderator: **Roberta Sala**, Stanford University

12:25 pm	E99	Channel nucleoporins recruit the polo-like kinase PLK-1 to the nuclear pore complexes in prophase to direct nuclear envelope breakdown in *C. elegans* embryos. **L. Martino**[1], **S. Morchoisne-Bolhy**[2], **D.K. Cheerambathur**[3], **L. Van Hove**[1], **J. Dumont**[4], **N. Joly**[1], **A.B. Desai**[3], **V. Doye**[2], **L. Pintard**[1]; [1]UMR7592 CNRS - Université Paris Diderot, Sorbonne Paris Cité, Team Cell Cycle and Development, Institut Jacques Monod, Paris, France, [2]UMR7592 CNRS - Université Paris Diderot, Sorbonne Paris Cité, Team Non-conventional Functions of Nuclear Pore, Institut Jacques Monod, Paris, France, [3]Department of Cellular and Molecular Medicine, University of California, Ludwig Institute for Cancer Research, San Diego, La Jolla, CA, [4]UMR7592 CNRS - Université Paris Diderot, Sorbonne Paris Cité, Team Cell Division and Reproduction, Institut Jacques Monod, Paris, France
12:35 pm	E100	Chromosome dynamics simulations reveal the role of condensin and cohesin in building the bottle-brush chromosome architecture. **J.G. Lawrimore**[1,2], **A.B. Doshi**[2], **B.S. Friedman**[2], **A. Fulp**[2], **E.Y. Yeh**[2], **K.S. Bloom**[2]; [1]Curriculum in Genetics and Molecular Biology, University of North Carolina at Chapel Hill, Chapel Hill, NC, [2]Biology Department, University of North Carolina at Chapel Hill, Chapel Hill, NC
12:45 pm	E101	The molecular requirements for epigenetic establishment of centromeres depend on the type of underlying DNA. **G.A. Logsdon**[1], **C.W. Gambogi**[1], **E.J. Barrey**[2], **P. Heun**[2], **B.E. Black**[1]; [1]Biochemistry and Biophysics, University of Pennsylvania, Philadelphia, PA, [2]Wellcome Trust Centre for Cell Biology, University of Edinburgh, Edinburgh, United Kingdom
12:55 pm	E102	Assess the mechanisms that lead to de novo deposition of centromere identity in real time. **D. Fachinetti**[1]; [1]Department of Cell Biology, Institut Curie, Paris, France
1:05 pm	E103	Dynamically switching protein interaction networks during M-phase progression in vertebrate kinetochores. **M. Hara**[1], **T. Hori**[1], **T. Fukagawa**[1]; [1]Frontier Biosciences, Osaka University, Osaka, Japan

1:15 pm	E104	Ndc80 complex auto-inhibition is opposed by MIND to increase microtubule binding. **E.A. Scarborough**[1], **C.L. Asbury**[2], **T.N. Davis**[1]; [1]Biochemistry, University of Washington, Seattle, WA, [2]Physiology and Biophysics, University of Washington, Seattle, WA
1:25 pm	E105	Force-dependent changes in the 3D architecture of a kinetochore. **E. Roscioli**[1], **C. Smith**[1], **N.J. Burroughs**[1,2], **A. McAinsh**[1]; [1]Centre for Mechanochemical Cell Biology, Division of Biomedical Sciences, Warwick Medical School, University of Warwick, Coventry, United Kingdom, [2]Mathematics Institute, University of Warwick, Coventry, United Kingdom

Microsymposium 16: Novel Approaches in Studying the Cytoskeleton

12:25-1:35 pm **Microsymposia Room 2, Learning Center, Hall C**

Moderators: **Matthew Akamatsu**, University of California, Berkeley; and **Courtney Schroeder**, Fred Hutchinson Cancer Research Center

12:25 pm	E106	Developing tunable bioink for versatile 3D bioprinting. **K. Elawad**[1], **W. Jung**[2], **S.H. Kang**[2], **Y. Chen**[2]; [1]Materials Science and Engineering, Johns Hopkins University, Baltimore, MD, [2]Mechanical Engineering, Johns Hopkins University, Baltimore, MD
12:35 pm	E107	A new method for large-volume high-resolution intravital imaging using multiphoton microscopy identifies microenvironment-driven tumor cell phenotypes leading to metastasis. **D. Entenberg**[1,2,3], **Y. Wang**[1,2,3], **J. Pastoriza**[4], **M.H. Oktay**[1,2,3,4], **J.S. Condeelis**[1,2,3]; [1]Department of Anatomy and Structural Biology, Einstein College of Medicine/Montefiore Medical Center, Bronx, NY, [2]Gruss-Lipper Biophotonics Center, Einstein College of Medicine/Montefiore Medical Center, Bronx, NY, [3]Integrated Imaging Program, Einstein College of Medicine/Montefiore Medical Center, Bronx, NY, [4]Department of Surgery, Einstein College of Medicine/Montefiore Medical Center, Bronx, NY
12:45 pm	E108	Examining mechanisms regulating microtubule organization in dividing cells using lattice light sheet microscopy. **M.C. Pamula**[1], **S. Forth**[2], **S. Suresh**[1], **W.R. Legant**[3], **E. Betzig**[3], **T.M. Kapoor**[1]; [1]Laboratory of Chemistry and Cell Biology, The Rockefeller University, New York , NY, [2]Department of Biological Sciences, Rensselaer Polytechnic Institute, Troy, NY, [3]Howard Hughes Medical Institute, Janelia Research Campus, Ashburn, VA
12:55 pm	E109	Stereotyped morphological structure detection from high-resolution, live-cell, 3D images. **M.K. Driscoll**[1,2], **E.S. Welf**[1,2], **K.M. Dean**[1,2], **R. Fiolka**[2], **G. Danuser**[1,2]; [1]Bioinformatics, UT Southwestern Medical Center, Dallas, TX, [2]Cell Biology, UT Southwestern Medical Center, Dallas, TX
1:05 pm	E110	Nanofiber curvature enables quantitating single protrusions. **A. Mukherjee**[1], **B. Koons**[1], **P. Sharma**[2], **Z. Ye**[1], **B. Behkam**[1], **A.S. Nain**[1]; [1]Mechanical Engineering, Virginia Polytechnic Institute and State University, Blacksburg, VA, [2]Department of Biomedical Engineering and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, VA
1:15 pm	E111	Development and implementation of a Förster Resonance Energy Transfer based biosensor for measuring intracellular tension and force. **R.G. Hart[1], D. Kota[2], L. Brunmaier[2], J. Liu[2], I. Chandrasekar[1];** [1]Sanford Childrens Health Research Center, Sanford Research, Sioux Falls, SD, [2]Department of Nanoscience and Nanoengineering, South Dakota School of Mines and Technology, Rapid City, SD
1:25 pm	E112	Improved and tunable molecular tension sensors reveal extension-based control of vinculin loading. **A.S. LaCroix**[1], **A.D. Lynch**[1], **M.E. Berginski**[1], **B.D. Hoffman**[1]; [1]Biomedical Engineering, Duke University, Durham, NC

TUESDAY

Celldance Video Premiere and Elevator Speech Awards

1:00-1:45 pm **Theater 3, Learning Center**

Supported by PLOS (Public Library of Science)

Join us for the premiere of the 2017 Celldance videos and recognition of the authoring labs. In addition, the winners of the 2017 Elevator Speech will be announced and awards will be given.

Outcomes

1. Get introduced to the value of science outreach to non-scientists
2. See examples of good scientific outreach communication
3. Be exposed to research of peer labs, providing opportunities for networking and collaboration

Target audience: all attendees

Exhibitor Tech Talk

1:00-1:45 pm **Theater 1, Learning Center**

Thermo Fisher Scientific Inc.
New tools for CRISPR gene-editing in cell models and primary blood cells
Presenter: James Kehler, VMD, PhD
Level: Intermediate

The development of the CRISPR/Cas9 gene-editing platform enables the rapid generation of new genetically modified cell models, as well as providing new potential therapeutic treatments. Optimized electroporation and chemical transfection workflows will be presented for efficient co-delivery of Cas9 Ribonucleoprotein complexes made from a next generation TrueCut™ Cas9 Protein v2 with synthetic TrueGuide™ sgRNAs, along with ssDNA templates to perform Homology Directed Repair. Data demonstrating efficient gene-editing in multiple loci across a wide range of cell lines, including traditionally, difficult to manipulate cells such as human iPSC and primary T-cells will be presented. Scientists interested in gene-editing to create primary, pluripotent and cancer cell models for basic research, drug discovery and translational medicine will discover how these new tools can accelerate their research programs.

Exhibitor Tech Talk

1:00-1:45 pm **Theater 2, Learning Center**

Bruker Corporation
Bruker LUXENDO light-sheet microscopes: pure live imaging across scales
Presenter: Malte Wachsmuth
Level: Intermediate

Light-sheet fluorescence microscopy has become a state-of-the-art imaging method to address a wide variety of biological questions. Featuring extremely low phototoxicity, high-speed image acquisition, and large penetration depth, it allows long-term 3D imaging of large and delicate samples. Fast subcellular processes and interactions can be observed in the comprehensive organ, organoid or organism context. Different samples require different conditions. The LUXENDO product line reflects this fact: the MuVi-SPIM is a horizontal setup designed to image large volumes very fast using two-sided illumination and detection without the need for rotation. The InVi-SPIM is the first inverted light-sheet microscope and is optimized for long-term 3D imaging of delicate samples with full environmental control. The QuVi-SPIM is an upright setup for quantitative systems cell and neurobiology.

Meet the ASCB Committees

1:15-1:45 pm **ASCB Booth 525, Learning Center**

Members from the Education, Women in Cell Biology, and COMPASS Committees will be on hand to answer any questions you have.

Even-Numbered Poster Presentations

1:30-3:00 pm **Learning Center**

Afternoon Refreshment Break

1:30-3:30 pm **Learning Center**

Join us for iced tea and snacks while visiting exhibitors and viewing posters.

In-Booth Presentation

1:40-2:10 pm **Booth 539, Learning Center**

ALVEOLE
Controlling the chemistry and topography of the cellular microenvironment with quantitative protein photopatterning – demo
Presenters: Matthieu Opitz, Hélène Delobel

We will show how PRIMO new photopatterning technology allows researchers to generate with high flexibility any shape of micropattern with multiple proteins, controlled density and precise alignment on all standard cell culture substrates (soft or stiff, flat or microstructured) and to fabricate microstructured substrates, in order to control the cellular microenvironment.

Microsymposium 17: Membrane Dynamics and Trafficking

1:50 pm-3:00 pm **Microsymposia Room 1, Learning Center, Hall C**

Moderators: **Matthew Akamatsu**, University of California, Berkeley; and **Brooke Gardner**, University of California, Berkeley

1:50 pm E113 Compartmentalization of plasma membrane by a self-similar cortical actin fractal. **S. Sadegh**[1,2], **J.L. Higgins**[3], **P.C. Mannion**[3], **M.M. Tamkun**[4,5], **D. Krapf**[1,3]; [1]Electrical and Computer Engineering, Colorado State University, Fort Collis, CO, [2]Department of Neurosciences, University of California, San Diego, San Diego, CA, [3]School of Biomedical Engineering, Colorado State University, Fort Collins, CO, [4]Department of Biomedical Sciences, Colorado State University, Fort Collins, CO, [5]Department of Biochemistry and Molecular Biology, Colorado State University, Fort Collins, CO

2:00 pm E114 Signalling via membrane receptors generate functional nanodomains at the plasma membrane of living cells. **J. Kalappurakkal**[1], **A.A. Anilkumar**[1,2], **T.S. van Zanten**[1], **M.P. Sheetz**[3], **S. Mayor**[1,4]; [1]National Centre for Biological Sciences, Tata Institute of Fundamental Research, Bangalore, India, [2]St. Johns Research Institute, Bangalore, India, [3]Mechanobiology Institute, National University of Singapore, Singapore, Singapore, [4]Institute for Stem Cell Biology and Regenerative Medicine, Bangalore, India

2:10 pm E115 The structural basis of an ESCRT-III membrane assembly. **H.C. Nguyen**[1], **N. Talledge**[1,2], **J. McCullough**[2], **D.M. Wenzel**[2], **J.J. Skalicky**[2], **W.I. Sundquist**[2], **A. Frost**[1,2,3]; [1]Department of Biochemistry and Biophysics, University of California, San Francisco, San Francisco, CA, [2]Department of Biochemistry, University of Utah, Salt Lake City, UT, [3]Chan Zuckerberg Biohub, San Francisco, CA

2:20 pm E116 Architecture of the PI4KIIIα lipid kinase complex. **J.A. Lees**[1], **Y. Zhang**[2], **M. Oh**[1,3,4], **C.M. Schauder**[1], **X. Yu**[5], **J. Baskin**[1,3,4], **K. Dobbs**[6], **L.D. Notarangelo**[6], **P. De Camilli**[1,3,4,7,8], **T. Walz**[2], **K.M. Reinisch**[1]; [1]Department of Cell Biology, Yale University School of Medicine, New Haven, CT, [2]Laboratory of Molecular Electron Microscopy, The Rockefeller University, New York, NY, [3]Howard Hughes Medical Institute, Yale University School of Medicine, New Haven, CT, [4]Program in Cellular Neuroscience, Neurodegeneration and Repair, Yale University School of Medicine, New Haven, CT, [5]Department of Cell Biology, Harvard Medical School, Boston, MA, [6]Immune Deficiency Genetics Section, Laboratory of Clinical Immunology and Microbiology, National Institute of Allergy and Infectious Diseases, Bethesda, MD, [7]Department of Neuroscience, Yale University School of Medicine, New Haven, CT, [8]Kavli Institute for Neuroscience, Yale University School of Medicine, New Haven, CT

2:30 pm E117 A kinesin-3 motor transports newly synthesized basement membrane proteins specifically to a basal subregion of the lateral plasma membrane in epithelial cells. **A.L. Zajac**[1], **A.J. Isabella**[1,2], **K.E. Sy**[1], **S. Horne-Badovinac**[1]; [1]Molecular Genetics and Cell Biology, University of Chicago, Chicago, IL, [2]Division of Basic Sciences, Fred Hutchinson Cancer Research Center, Seattle, WA

2:40 pm	E118	Dynamics of exocyst subunit assembly and vesicle fusion, using CRISPR-edited GFP tagging of endogenous loci. **H. Nishida-Fukuda**[1], **I.G. Macara**[1], **S.M. Ahmed**[1]; [1]Cell and Developmental Biology, Vanderbilt University, Nashville, TN
2:50 pm	E119	The role of membrane curvature in topography-induced cellular signaling. **B. Cui**[1], **W. Zhao**[1], **H. Lou**[1], **F. Santoro**[1]; [1]Department of Chemistry, Stanford University, Stanford, CA

Microsymposium 18: Bioengineering and Signaling

1:50 pm-3:00 pm **Microsymposia Room 2, Learning Center, Hall C**

Moderator: **Amanda Haage**, University of British Columbia

1:50 pm	E120	Mechanisms connecting the conserved protein kinases Kin1, Pom1, and Ssp1 in fission yeast cell polarity and division. **M. Lee**[1], **S.F. Rusin**[1], **N. Jenkins**[1,2], **A.N. Kettenbach**[1,2], **J.B. Moseley**[1]; [1]Department of Biochemistry and Cell Biology, The Geisel School of Medicine at Dartmouth, Hanover, NH, [2]Norris Cotton Cancer Center, The Geisel School of Medicine at Dartmouth, Lebanon, NH
2:00 pm	E121	Phosphorylation of the HPV E6 oncoprotein by DNA damage response kinases links the E6 interaction with 14-3-3 proteins and p53. **J.V. Thatte**[1], **P. Massimi**[1], **L. Banks**[1]; [1]Tumour Virology , International Centre for Genetic Engineering and Biotechnology (ICGEB), Trieste, Italy
2:10 pm	E122	Mad1 promotes tumor progression through destabilization of p53. **J. Wan**[1], **B.A. Weaver**[1]; [1]Cell and Regenerative Biology, University of Wisconsin-Madison, Madison, WI
2:20 pm	E123	A novel window for high resolution imaging of the lung reveals mechanisms of metastatic breast cancer progression. **L. Borriello**[1,2], **S. Voiculescu**[3], **Y. Wang**[1,2,4], **M.H. Oktay**[1,4,5], **J.S. Condeelis**[1,2,4], **D. Entenberg**[1,2,4]; [1]Department of Anatomy and Structural Biology, Albert Einstein College of Medicine, Bronx, NY, [2]Gruss-Lipper Biophotonics Center, Albert Einstein College of Medicine, Bronx, NY, [3]Department of Surgery, Albert Einstein College of Medicine, Bronx, NY, [4]Integrated Imaging Program, Albert Einstein College of Medicine, Bronx, NY, [5]Department of Pathology, Albert Einstein College of Medicine, Bronx, NY
2:30 pm	E124	Eyes in the cell: Visualizing active kinases using genetically encodable fluorescent biosensors. **A. Mukherjee**[1,2], **R. Singh**[1], **S. DilipKumar**[1], **P. Pothula**[1], **S. Udayan**[1], **R. Das**[3], **B. Rao**[4], **A. Gulyani**[1]; [1]Technology for the Advancement of Science, Institute for Stem Cell Biology and Regenerative Medicine, Bangalore, India, [2]School of Chemical and Biotechnology, SASTRA University, Thanjavur, India, [3]National Centre for Biological Sciences, Bangalore, India, [4]Department of Chemical and Biomolecular Engineering, North Carolina State University, Raleigh, NC
2:40 pm	E125	Investigating the conformational landscape in a protein-signaling complex with optical tweezers. **J.P. England**[1], **Y. Hao**[1], **S.S. Taylor**[2], **R.A. Maillard**[1]; [1]Chemistry, Georgetown University, Washington, DC, [2]Chemistry, University of California San Diego, San Diego, CA
2:50 pm	E126	Three-dimensional modeling of metastatic breast cancer dormancy using tunable PEG-based hydrogels. **S. Pradhan**[1], **J.H. Slater**[1]; [1]Department of Biomedical Engineering, University of Delaware, Newark, DE

Exhibitor Tech Talk

2:00-2:45 pm **Theater 2, Learning Center**

BD Biosciences
New generation dyes as powerful tools to visualize cell biology in vivo
Presenter: Robert Balderas
Level: Advanced

The advent of brighter and more stable dyes has catalyzed a major breakthrough in our understanding in cell biology. Caveats that usually precluded the visualization of cells in their in vivo habitat have been superseded by the availability of new dyes and polymers, and their enhanced and stable brightness allows the identification of rare cell populations in living organisms. In this talk, we will discuss the rationale and techniques behind the utilization of fluorescence-conjugated antibodies and polymers to perform confocal intravital microscopy of different organs. This allows the visualization in high definition of both tissue architecture and cell populations during health and disease, allowing not only a three-dimensional appreciation of cell-cell interaction, but also dynamic investigation using movie acquisition for long periods. For research use only.

Careers in Science Policy

2:00-2:45 pm **Theater 3, Learning Center**

Supported by HHMI

Nicole Boschi, Regulatory Science and Policy Analyst, American Association for Cancer Research

Shaughnessy Naughton, Founder, 314 Action

Yvette Seger, Director of Science Policy, Federation of American Societies for Experimental Biology

Are you interested in science policy but unsure what career options are available in this field? A diverse set of panelists will share their experiences in a panel discussion on this topic. This session will be very interactive as it is fully based on questions from the audience.

Nicole M. Boschi received a BS in neuroscience and a PhD in pharmacology from the University of Rochester in Rochester, NY. After completing a science policy fellowship at the Coalition for the Life Sciences in Bethesda, MD, she now serves as the Senior Science Policy Analyst for the American Association for Cancer Research (AACR) in Washington, DC. In this role, she works with the AACR's Tobacco & Cancer and Health Policy subcommittees to advance the AACR's mission to prevent and cure cancer through research, education, communication, and collaboration. Additionally, she assists with the AACR's advocacy efforts on Capitol Hill. Boschi's professional interests focus on understanding the science of health disparities.

Shaughnessy Naughton is an entrepreneur and chemist with a passion for understanding science in our daily lives. With a background in research and drug discovery, Naughton got involved in politics out of concern for the future of science in the United States. In 2014, after over a decade in business, she ran for congress in Pennsylvania's 8th District. Naughton founded 314 Action to energize the scientific community to do more than just advocate for science, and engage in the political process. That means run for office, organize, and call on representatives to stand with science. Science is and should be above politics, but many politicians take anti-science positions. 314 Action is resisting by ensuring like-minded, problem-solving engineers and scientists have a seat at the table.

Yvette Seger is the Director of Science Policy for the Federation of American Societies for Experimental Biology (FASEB). She oversees FASEB's Science Policy Committee and the work of its seven subcommittees. Seger launched her policy career at the National Academies as a Christine Mirzayan Science & Technology Policy Fellow where she worked on a report examining processes for identifying and appointing scientists to federal advisory positions. After leaving the Academies, Seger held senior policy analyst positions at the research advocacy group *FasterCures,* the National Institutes of Health, and Thomson Reuters before joining FASEB in 2013. Seger holds a PhD in Genetics from Stony Brook University, and received a BA in Zoology (Genetics Concentration) and Politics & Government from Ohio Wesleyan University.

Outcomes:

1. Learn about a range of careers in science policy
2. Have an opportunity to network with leaders in science policy
3. Identify skills needed to pursue a career in science policy

Target audience: undergraduates, graduate students, postdocs

ASCB MAC Visiting Professors Meeting (by invitation only)

3:00-4:00 pm **Room 105A**

Supported by an IPERT grant from NIGMS, NIH

The ASCB MAC Visiting Professors Program targets junior or mid-level faculty members who are seeking to begin and/or sustain collaborative professional development experiences with a more established senior and accomplished cell biologist who is also an ASCB member. This session provides an opportunity for Visiting Professors in the 2017-2018 cohort to interact with each other and with the ASCB MAC IPERT Program leadership to discuss their projects/activities, the outcomes, and future plans.

Exhibitor Tech Talk

3:00-4:00 pm **Theater 2, Learning Center**

Bio-Rad Laboratories
Decoding quantitative western blotting
Presenters: Dr. Poulomi Acharya and Dr. Thomas Berkelman
Level: Intermediate

In the last 40 years, western blotting has become an essential and ubiquitous method for protein and molecular biology research. In the last several years, there have been growing concerns from the scientific community about lack of reproducibility of published data mainly attributed to inconsistent antibody performance. Due to this reproducibility crisis, there is an increasing need for better-qualified, validated reagents and imaging technologies to improve data quality. In this talk we will discuss method optimization, data analysis best practices, and new advancements in technology and reagents that can make western blot data more reproducible and quantitative.

E.B. Wilson Medal Presentation and Address

3:15-4:30 pm **Terrace Ballroom 3**

F.-Ulrich Hartl
Max Planck Institute of Biochemistry, Martinsreid, Germany

Arthur L. Horwich
Yale School of Medicine/HHMI

A7 Protein Folding in the Cell: The Role of Molecular Chaperones. **U. Hartl**[1]; [1]Department of Cellular Biochemistry, Max Planck Institute of Biochemistry, Martinsried, Germany

A8 Chaperonin-mediated protein folding. **A.L. Horwich**[1,2];[1]Genetics, Yale University School of Medicine, New Haven, CT, [2]Howard Hughes Medical Institute, New Haven, CT

Past E.B. Wilson Medalists:

2016 – Mina Bissell
2015 – Elaine V. Fuchs
2014 – William. R. Brinkley, John E. Heuser, and Peter Satir
2013 – John R. Pringle
2012 – Susan L. Lindquist
2011 – Gary G. Borisy, J. Richard McIntosh, and James A. Spudich
2010 – Stuart Kornfeld, James Rothman, and Randy Schekman
2009 – Peter Walter
2008 – Martin Chalfie and Roger Tsien
2007 – Richard O. Hynes and Zena Werb
2006 – Joel Rosenbaum
2005 – Joan Steitz
2004 – Thomas Pollard
2003 – Marc Kirschner
2002 – Avram Hershko and Alexander Varshavsky
2001 – Elizabeth Blackburn
2000 – Walter Neupert and Gottfried Schatz
1999 – Edwin Taylor
1998 – James Darnell and Sheldon Penman
1997 – John C. Gerhart
1996 – Donald D. Brown
1995 – Bruce Nicklas
1994 – Barbara Gibbons and Ian Gibbons
1993 – Hans Ris
1992 – Shinya Inoue
1991 – S. Jonathan Singer
1990 – Morris Karnovsky
1989 – Christian de Duve
1988 – Elizabeth Hay
1987 – Marilyn Farquhar
1986 – Gunter Blobel and D. Sabatini
1985 – H. Swift
1984 – H. Eagle and T. Puck
1983 – Joseph Gall and H. Huxley
1982 – C. Leblond and A. Novikoff
1981 – Daniel Mazia, George Palade, and Keith Porter

Workshop: Probing Spatiotemporal Limits

4:40-7:15 pm **Room 121B**

Probing the Spatiotemporal Limits: New Imaging Methods and Molecular Tools and Their Applications in Cell Biology

Co-Organizers: Joerg Bewersdorf, Yale University School of Medicine; and **Chandra Tucker,** University of Colorado Denver

Recent advances in microscopy and imaging methods have greatly enhanced our ability to probe cellular processes with unparalleled resolution and speed. Likewise, a growing suite of protein-based molecular sensors and probes allow visualization of dynamic molecular changes within cells. In concert, genetically encoded optogenetic tools allow use of light for control of molecular events with fine spatiotemporal resolution. This workshop will cover a range of new imaging technologies and approaches that push the spatiotemporal limits, improving our abilities to visualize and perturb cell biology.

Schedule (each speaker will have 5 minutes for Q&A):

4:00 pm	Introduction
4:45 pm	Imaging methods ready for prime time in cell biological research. **Jeorg Bewersdorf**, Yale University School of Medicine
5:05 pm	Live-cell STED microscopy reveals dynamic ER structures at the nanoscale. **Shirin Bahmanyar**, Yale University
5:25 pm	Millisecond time resolution correlative light and electron microscopy for dynamic cellular processes . **Gaia Pigino,** Max Planck Institute of Cell Biology and Genetics
5:45 pm	Optogenetic tools to manipulate cellular function. **Chandra Tucker**, University of Colorado Denver
6:15 pm	Building proteins to peek and poke at GTPase circuits in vivo. **Klaus Hahn**, University of North Carolina at Chapel Hill
6:45 pm	Fast temporal resolution in electron microscopy. **Erik Jorgensen**, University of Utah/HHMI

Minisymposium 14: Autophagy

4:40-7:15 pm **Room 118B**

Co-Chairs: **Li Yu**, Tsinghua University, Beijing, China; and **Sascha Martens**, Max F. Perutz Laboratories, Austria

4:40 pm		Introduction
4:45 pm	M139	Interplay between ubiquitin and cargo receptors in selective autophagy. **S. Martens**[1]; [1]Max F Perutz Laboratories, University of Vienna, Vienna, Austria
5:00 pm	M140	The regulation of energy deprivaiton induced autophagy. **L. Yu**[1], **Y. Wang**[1]; [1]School of Life Sciences, Tsinghua University, Beijing, China
5:15 pm	M141	Autophagosomal closure is mediated by the ESCRT machinery. **K. Morita**[1], **I. Koyama-Honda**[1], **Y. Yamashita**[2], **T. Ueno**[2], **E. Morita**[3], **H. Mano**[2], **N. Mizushima**[1]; [1]Dept. of Mol. Biol, Grad. Sch. of Med, Univ. of Tokyo, Tokyo, Japan, [2]Dept. of Cell. Signal., Grad. Sch. of Med, Univ. of Tokyo, Tokyo, Japan, [3]Dept. of Biochem. and Mol. Biol., Fac. of Agric. and Life Sci., Hirosaki Univ., Hirosaki, Japan
5:30 pm	M142	The Autophagy Conjugation Machinery Specifies the Loading of RNA-Binding Proteins into Extracellular Microvesicles. **A.M. Leidal**[1], **H.H. Huang**[2], **T. Solvik**[1], **J. Ye**[1], **T. Marsh**[1], **F. Kai**[3], **J. oldsmith**[1], **J.Y. Liu**[1], **A.P. Wiita**[2], **J. Debnath**[1]; [1]Pathology, University of California, San Francisco, San Francisco, CA, [2]Laboratory Medicine, University of California, San Francisco, San Francisco, CA, [3]Surgery, University of California, San Francisco, San Francisco, CA
5:45 pm	M143	Yeast *FIT2* homologs mediate the crosstalk between lipid droplet biogenesis, the unfolded protein response and cytoplasmic proteostasis. **P.T. Shyu**[1], **W. Gien**[1], **G. Thibault**[1,2]; [1]School of Biological Sciences, Nanyang Technological University, Singapore, Singapore, [2]Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore, Singapore
6:00 pm	M144	Compartment-specific regulation of neuronal autophagy during homeostasis and stress. **A. Dong**[1], **A. Kulkarni**[1], **V. Kulkarni**[1], **J. Chen**[1], **S. Maday**[1]; [1]Neuroscience, Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA
6:15 pm	M145	The RNA binding protein Zfp106 protects against neurotoxicity caused by *C9orf72* GGGGCC repeats. **B. Celona**[1], **J. Von Dollen**[2], **S.C. Vatsavayai** [3], **R. Kashima**[1], **J. Johnson**[2], **A.A. Tang**[4], **A. Hata**[1], **B.L. Miller**[3], **E.J. Huang**[4], **N. Krogan**[2], **W.W. Seeley**[3,4], **B.L. Black**[1,5]; [1]Cardiovascular Research

TUESDAY

Institute, University of California, San Francisco, San Francisco, CA, [2]Cellular and Molecular Pharmacology, University of California, San Francisco, San Francisco, CA, [3]Neurology, University of California, San Francisco, San Francisco, CA, [4]Pathology, University of California, San Francisco, San Francisco, CA, [5]Biochemistry and Biophysics, University of California, San Francisco, San Francisco, CA

6:30 pm	M146	Ribosome profiling reveals that autophagy impacts DNA damage repair, cell cycle progression and centrosome maintenance through protein translation regulation. **J. Goldsmith**[1], **S. Asthana**[2], **T. Marsh**[1], **D. Suresh**[1], **A. Olshen**[2], **J. Debnath**[1]; [1]Pathology, University of California, San Francisco, San Francisco, CA, [2]Department of Epidemiology and Biostatistics, University of California, San Francisco, San Francisco, CA
6:45 pm	M147	Post-transcriptional regulation of autophagy. **E. Delorme-Axford**[1], **D.J. Klionsky**[1]; [1]Life Sciences Institute, University of Michigan, Ann Arbor, MI
7:00 pm	M148	Microvillar sensation of shear stress induces autophagic flux in the intestinal epithelium. **S. Kim**[1,2], **J. Ehrman**[3], **M. Ahn**[4], **J. Kondo**[5], **S.W. Crawley**[6], **Y. Oh**[7], **A. Lopez**[8], **J.R. Goldenring**[9,10], **M.J. Tyska**[1,2], **E. Rericha**[3], **K. Lau**[1,2]; [1]Department of Cell and Developmental Biology, Vanderbilt University, Nashville, TN, [2]Epithelial Biology Center, Vanderbilt University, Nashville, TN, [3]Department of Physics and Astronomy, Vanderbilt University, Nashville, TN, [4]Department of Food Science and Nutrition, Dong-A University, Busan, Korea, South, [5]Department of Biochemistry, Osaka International Cancer Institute, Osaka, Japan, [6]Department of Biological Sciences, University of Toledo, Toledo, OH, [7]Department of Chemical and Biomolecular Engineering, Vanderbilt University, Nashville, TN, [8]Biochemistry and Cellular and Molecular Biology, University of Tennessee, Knoxville, TN, [9]Department of Surgery, Vanderbilt University, Nashville, TN, [10]Nashville VA Medical Center, Nashville, TN

● Minisymposium 15: Axonal and Synaptic Cell Biology

4:40-7:15 pm **Room 114**

Co-Chairs: **Cagla Eroglu**, Duke University Medical Center; and **Marc Hammarlund**, Yale University School of Medicine

4:40 pm		Introduction
4:45 pm	M149	The cell biology of astrocyte-synapse interactions. **C. Eroglu**[1]; [1]Cell Biology, Duke University Medical Center, Durham, NC
5:00 pm	M150	Multicluster Pcdh diversity is required for mouse olfactory neural circuit assembly. **G. Mountoufaris**[1], **W. Chen**[1], **Y. Hirabayashi**[1], **S. O'Keeffe**[1], **M. Chevee**[1], **C. Nwakeze**[1], **F. Polleux**[1], **T. Maniatis**[1]; [1]Biochemistry, Columbia University, New York, NY
5:15 pm	M151	Super-resolution imaging of perineuronal net and synaptic maturation of parvalbumin interneurons during postnatal development in visual cortex. **Y. Sigal**[1,2], **H. Bae**[3], **L.J. Bogart**[3], **T. Hensch**[3,4], **X. Zhuang**[1,2,5]; [1]Howard Hughes Medical Institute, Cambridge, MA, [2]Chemistry and Chemical Biology, Harvard University, Cambridge, MA, [3]Molecular and Cellular Biology, Harvard University, Cambridge, MA, [4]Neurology, Boston Children's Hospital, Harvard Medical School, Boston, MA, [5]Physics, Harvard University, Cambridge, MA
5:30 pm	M152	A pro-synaptogenic function of the Frizzled receptor, working in conjunction with Neurexin, is inhibited by WNT binding. **P. Kurshan**[1], **K. Shen**[1]; [1]Biology, Stanford University, Stanford, CA
5:45 pm	M153	Cell biology of functional axon regeneration. **C. Ding**[1,2], **M. Hammarlund**[1,2]; [1]Genetics, Yale School of Medicine, New Haven, CT, [2]Neuroscience, Yale School of Medicine, New Haven, CT
6:00 pm	M154	Distinct effects of tubulin isotype mutations on microtubule stability and neurite growth in *Caenorhabditis elegans*. **C. Zheng**[1], **M. Diaz-Cuadros**[1], **S.L. Jao**[1], **E.G. Atlas**[1], **K.C. Nguyen**[2], **D.H. Hall** [2], **M. Chalfie**[1]; [1]Biological Science, Columbia University, New York, NY, [2]Neuroscience, Albert Einstein College of Medicine, Bronx, NY
6:15 pm	M155	Axon initial segment assembly requires phosphorylation of 480 kDa ankyrin-G. **R. Yang**[1], **K. Walder**[1], **V. Bennett**[1]; [1]HHMI/Department of Biochemistry, Duke University Medical Center, Durham, NC
6:30 pm	M156	Slow axonal transport of clathrin. **S. Roy**[1], **A. Ganguly**[2], **C. Leterrier**[3]; [1]Pathology, University of Wisconsin-Madison, Madison, WI, [2]Pathology, UCSD, San Diego, CA, [3]Cell Biology, Aix Marseille

		University, Marseille, France
6:45 pm	M157	Determining the molecular basis of ultrafast endocytosis. **Y. Imoto**[1], **Q. Gan**[1], **L. Mamer**[2], **S. Markert**[3], **I. Milosevic**[4], **P. De Camilli**[5], **C. Rosenmund**[2], **E. Jorgensen**[6], **S. Watanabe**[1]; [1]Department of Cell Biology, John Hopkins University School of Medicine, Baltimore, MD, [2]Institute of Neurophysiology, Charité Universitätsmedizin Berlin, Berlin, Germany, [3]Division of Electron Microscopy, University of Würzburg, Würzburg, Germany, [4]European Neuroscience Institute, Goettingen, Germany, [5]Departments of Neuroscience and Cell Biology, Program in Cellular Neuroscience, Neurodegeneration and Repair, Kavli Institute for Neuroscience, Howard Hughes Medical Institute, Yale University School of Medicine, New Haven, CT, [6]Department of Biology, University of Utah, Salt Lake City, UT
7:00 pm	M158	Synaptic vesicle clusters in nerve terminals: an example of liquid-liquid phase separation. **D. Milovanovic**[1], **P. De Camilli**[1]; [1]Departments of Neuroscience and Cell Biology , Yale University School of Medicine, New Haven, CT

● Minisymposium 16: Mechanical Coupling from Nucleus to Extracellular Matrix

4:40-7:15 pm **Room 113B**

Co-Chairs: **Gijsberta Koenderink**, NWO Institute AMOLF; and **Kandice Tanner**, National Cancer Institute, NIH

4:40 pm		Introduction
5:00 pm	M160	YAP-independent mechanotransduction drives breast cancer invasion. **J.Y. Lee**[1], **J. Chang**[2], **S. Nam**[1], **H. Lee**[1], **A. Dominguez**[3,4,5], **S. Varma**[6], **L.S. Qi**[3,4,5], **R. West**[6], **O. Chaudhuri**[1]; [1]Mechanical Engineering, Stanford University, Stanford, CA, [2]Genetics, Stanford University, Stanford, CA, [3]Bioengineering, Stanford University, Stanford, CA, [4]Chemical and Systems Biology, Stanford University, Stanford, CA, [5]ChEM-H, Stanford University, Stanford, CA, [6]Pathology, Stanford University, Stanford, CA
5:15 pm	M161	Force-activated vinculin dynamics regulate sub-cellular processes critical in directed cell migration. **K.E. Rothenberg**[1], **D.W. Scott**[2], **B.D. Hoffman**[1]; [1]Biomedical Engineering, Duke University, Durham, NC, [2]Lineberger Comprehensive Cancer Center, University of North Carolina, Chapel Hill, Chapel Hill, NC
5:30 pm	M162	Human brain organoids on a chip to model normal development and disease. **O. Reiner**[1], **E. Karzbrun**[1], **S. Cohen**[1]; [1]Molecular Genetics, Weizmann Institute of Science, Rehovot, Israel
5:45 pm	M163	Cellular force propagation through monolayers investigated by tracking sub-nuclear sensors. **T.J. Armiger**[1], **M. Lampi**[2], **C. Reinhart-King**[3], **K.N. Dahl**[1]; [1]Chemical Engineering, Carnegie Mellon University, Pittsburgh, PA, [2]Biomedical Engineering, Cornell University, Ithaca, NY, [3]Biomedical Engineering, Vanderbilt University, Nashville, TN
6:00 pm	M164	Force triggers YAP nuclear entry by mechanically regulating transport across nuclear pores. **A. Elosegui-Artola**[1], **I. Andreu**[2,3], **A. Beedle**[4], **A. Lezamiz**[4], **M. Uroz**[1], **A. Kosmalska**[1,5], **R. Oria**[1,5], **J.Z. Kechagia**[1], **P. Rico-Lastres**[4,6], **A. Le Roux**[1], **C.M. Shanahan**[4], **X. Trepat**[1,5,7], **D. Navajas**[1,5], **S. Garcia-Manyes**[4,6], **P. Roca-Cusachs**[1,5]; [1]Institute for Bioengineering of Catalonia, Barcelona , Spain, [2]Mondragon University, Arrasate, Spain, [3]CEIT and TECNUN (University of Navarra), San Sebastian, Spain, [4]Randall Division of Cell and Molecular Biophysics, King's College London, London, United Kingdom, [5]University of Barcelona, Barcelona, Spain, [6]King's College London, King's College London, London, United Kingdom, [7]Institució Catalana de Recerca i Estudis Avançats (ICREA), Barcelona , Spain
6:15 pm	M165	Forces and dynamics in three-dimensional epithelia of controlled size and shape. **E. Latorre**[1,2], **L. Casares**[1], **S. Kale**[2], **M. Gomez-Gonzalez**[1], **M. Uroz**[1], **L. Valon**[1], **M. Arroyo**[1,2], **X. Trepat**[1,3,4,5]; [1]Institute for Bioengineering of Catalonia, Barcelona, Spain, [2]Universitat Politècnica de Catalunya-BarcelonaTech, Barcelona, Spain, [3]University of Barcelona, Barcelona, Spain, [4]Institució Catalana de Recerca i Estudis Avançats (ICREA), Barcelona, Spain, [5]Centro de Investigación Biomédica en Red en Bioingeniería, Biomat. y Nanomed., Madrid, Spain
6:30 pm	M166	Tissue explant imaging reveals spatially coordinated migration patterns in the tumor core. **R. Staneva**[1], **F. El Marjou**[1], **A.G. Clark**[1], **D. Matic Vignjevic**[1]; [1]Institut Curie, Paris, France
6:45 pm	M167	Conservation of organo-tropic metastasis of human tumor cells in a zebrafish xenograft model. **K. Tanner**[1], **C.D. Paul**[1]; [1]LCB, NCI/NIH, Bethesda, MD
7:00 pm	M168	Cell-free reconstitution of cytoskeletal dynamics, mechanics and motility. **G.H. Koenderink**[1]; [1]Systems Biophysics, AMOLF, Amsterdam, Netherlands

Minisymposium 17: Mechanics of Cell Division and Cytokinesis

4:40-7:15 pm **Room 108A**

Co-Chairs: **Julie Canman***, Columbia University; and **Clemens Cabernard**, University of Washington

4:40 pm		Introduction
4:45 pm	M169	A myosin-10-wee1 interaction links spindle dynamics to mitotic exit in vertebrate epithelial cells. **J.C. Sandquist**[1], **M.E. Larson**[2,3], **S.E. Woolner**[4], **Z. Ding**[1], **W.M. Bement**[2,3,5]; [1]Biology, Grinnell College, Grinnell, IA, [2]Cellular and Molecular Biology, University of Wisconsin, Madison, WI, [3]Laboratory of Cell and Molecular Biology, University of Wisconsin, Madison, WI, [4]Division of Developmental Biology and Medicine, University of Manchester, Manchester, United Kingdom, [5]Zoology, University of Wisconsin, Madison, WI
5:00 pm	M170	The role of mitotic cell-substrate adhesion remodelling in animal cell division. **C.L. Dix**[1], **H.K. Matthews**[1], **S. McLaren**[1], **L. Wolf**[2], **P. Almada**[1], **R. Henriques**[1], **M. Boutros**[2], **B. Baum**[1]; [1]Medical Research Council Laboratory for Molecular Cell Biology, University College London, London, United Kingdom, [2]Division of Signaling and Functional Genomics, German Cancer Research Center (DKFZ), and Department for Cell and Molecular Biology, Medical Faculty Mannheim, Heidelberg University, Heidelberg, Germany
5:15 pm	M171	Spindle morphology tailoring through time: Interplay between spindle architecture and morphogenesis of the mammalian brain. **D.C. Vargas-Hurtado**[1], **V. Marthiens**[1], **C. Pennetier**[1], **R. Basto**[1]; [1]UMR144, Subcellular structure and cellular dynamics, Institut Curie, Paris, France
5:30 pm	M172	Stem Cell Cytokinesis Is Disrupted with Age Due to Diminished Jak/STAT Activity. **K. Lenhart**[1], **B. Capozzoli**[1], **S. DiNardo**[1]; [1]Department of Cell and Developmental Biology, University of Pennsylvania, Philadelphia, PA
5:45 pm	M173	The Aurora kinase A activator TPXL-1 mediates aster-based clearing of contractile ring proteins from the cell poles during cytokinesis. **S. Mangal**[1], **T. Kim**[2], **K. Oegema**[2], **E. Zanin**[1]; [1]Department Biology II, Ludwig-Maximilians University, Planegg-Martinsried, Germany, [2]Department of Cellular and Molecular Medicine, Ludwig Institute for Cancer Research, La Jolla, CA
6:00 pm	M174	Polo-like kinase-1 and Aurora B act in redundant signaling pathways that drive cytokinesis initiation. **I.E. Adriaans**[1], **A. Basant**[2], **B. Ponsioen**[1], **M. Glotzer**[2], **S.M. Lens**[1]; [1]Center for Molecular Medicine, Molecular Cancer Research, University Medical Center Utrecht, Utrecht, Netherlands, [2]Department of Molecular Genetics and Cell Biology, University of Chicago, Chicago, IL
6:15 pm	M175	Structure and constriction mechanism of the actomyosin ring. **L.T. Nguyen**[1,2], **G.J. Jensen**[1,2]; [1]Biology and Bioengineering, California Institute of Technology, Pasadena, CA, [2]Howard Hughes Medical Institute, Chevy Chase, MD
6:30 pm	M176	Modeling contractile ring dynamics in the *Caenorhabditis elegans* zygote. **D.B. Cortes**[1], **S. Ryan**[1], **F. Nedelec**[2], **A.S. Maddox**[1]; [1]Biology, University of North Carolina Chapel Hill, Chapel Hill, NC, [2]Cell Biology and Biophysics, EMBL Heidelberg, Heidelberg, Germany
6:45 pm	M177	The mechanome of asymmetric cell division. **T.T. Pham**[1,2], **J. Helenius**[3], **N. Lee**[2], **E. Lund**[2], **D. Mueller**[3], **C. Cabernard**[2]; [1]Biozentrum, University of Basel, Basel , Switzerland, [2]Department of Biology, University of Washington, Seattle, WA, [3]D-BSSE, ETH Zürich, Basel, Switzerland
*7:00 pm	M178	Cell-intrinsic and extrinsic control of cytokinetic diversity in the *C. elegans* embryo. **T. Davies**[1], **N. Romano Spica**[1], **B. Lesea-Pringle**[1], **J. Dumont**[2], **M.M. Shirasu-Hiza**[3], **J.C. Canman**[1]; [1]Pathology and Cell Biology, Columbia University Medical Centre, New York, NY, [2]Institut Jacques Monod, Paris, France, [3]Genetics, Columbia University Medical Centre, New York, NY *Julie Canman is the 2017 WICB Junior Awardee for Excellence in Science Research. Her lab's work will be presented by Tim Davis, a postdoc in her lab.

Minisymposium 18: Molecular Mechanisms of Cell-Cell Signaling

4:40-7:15 pm **Room 115B**

Co-Chairs: **Adrian Salic**, Harvard Medical School; and **Natalia Jura**, University of California, San Francisco

4:40 pm		Introduction
4:45 pm	M179	STK25 Activates the LATS Kinases to Inhibit YAP/TAZ. **S. Lim**[1], **N.J. Ganem**[1,2]; [1]Pharmacology and Experimental Therapeutics, Boston University School of Medicine, Boston, MA, [2]Medicine, Boston University School of Medicine, Boston, MA
5:00 pm	M180	Mechanism of T cell receptor signal transduction by phase transition. **X. Su**[1], **J.A. Ditlev**[2], **E.**

Hui[1], **S. Banjade**[2], **M.K. Rosen**[2], **R.D. Vale**[1]; [1]CMP, UCSF/HHMI, San Francisco, CA, [2]Biophysics, UT Southwestern/HHMI, Dallas, TX

5:15 pm M181 A conserved, transposable ubiquitination signal directs Ras for inhibitory ubiquitination by Rabex-5 and is mutated in tumors. **C. Washington**[1,2], **Y. Martino-Cortez**[1,3], **S. Shahar**[1], **H. Liu**[1,4], **R. Gokhale**[1], **C.M. Pfleger**[1]; [1]Oncological Sciences, Icahn School of Medicine at Mount Sinai, New York, NY, [2]University of Cincinnati College of Medicine, Cincinnati, OH, [3]Tufts University School of Medicine, Boston, MA, [4]Memorial Sloan Kettering Cancer Center, New York, NY

5:30 pm M182 APC regulates Wnt signaling by inhibiting a constitutive clathrin-mediated activation pathway. **K. Saito-Diaz**[1], **H. Benchabane**[2], **A. Tiwari**[1], **B. Li**[3], **A. Tian**[2], **L.M. Sawyer**[1], **A.S. Hyde**[1], **A.K. Kenworthy**[1], **D. Robbins**[3], **Y. Ahmed**[2], **E. Lee**[1]; [1]Department of Cell and Developmental Biology, Vanderbilt University, Nashville, TN, [2]Department of Molecular and Systems Biology, Dartmouth College, Hanover, NH, [3]Department of Surgery, University of Miami, Miami, FL

5:45 pm M183 Cholesterol-dependent regulation of the oncoprotein Smoothened during Hedgehog signaling. **P. Huang**[1], **A. Salic**[1]; [1]Cell Biology, Harvard Medical School, Boston, MA

6:00 pm M184 Defining the structure and stoichiometry of the Wnt-regulatory destruction complex during normal development and the mechanisms by which the complex is regulated by Wnt signaling. **K. Schaefer**[1], **S. Zhang**[2], **T.T. Bonello**[2], **C. Williams**[2], **D.J. Mckay**[1,2], **M. Peifer**[1,2,3]; [1]Curriculum in Genetics and Molecular Biology, University of North Carolina at Chapel Hill, Chapel Hill, NC, [2]Department of Biology, University of North Carolina at Chapel Hill, Chapel Hill, NC, [3]Lineberger Comprehensive Cancer Center, University of North Carolina at Chapel Hill, Chapel Hill, NC

6:15 pm M185 Activating RASopathy mutations lead to both gain and loss of function phenotypes in vivo. **G.A. Jindal**[1,2,3], **Y. Goyal**[2,3], **V.L. Patterson**[1], **J.L. Pelliccia**[1], **E. Yeung**[2,3], **G.M. Schupbach**[1], **S.Y. Shvartsman**[1,2,3], **R.D. Burdine**[1]; [1]Molecular Biology, Princeton University, Princeton, NJ, [2]Chemical and Biological Engineering, Princeton University, Princeton, NJ, [3]The Lewis-Sigler Institute for Integrative Genomics, Princeton University, Princeton, NJ

6:30 pm M186 The Semaphorin receptors, Neuropilins and Plexins, promote Hedgehog signaling through distinct cytoplasmic mechanisms. **J.M. Pinskey**[1], **N.E. Franks**[1], **R.J. Giger**[1], **B.L. Allen**[1]; [1]Cell and Developmental Biology, University of Michigan, Ann Arbor, MI

6:45 pm M187 Polymerization of the mitochondrial phosphatase PGAM5 underlies its biological activity. **K. Ruiz**[1], **T.M. Thaker**[1], **L. Miller-Vedam**[2], **C. Agnew**[1], **A. Frost**[2], **N. Jura**[1,3]; [1]Cardiovascular Research Institute, University of California San Francisco, San Francisco, CA, [2]Department of Biochemistry and Biophysics, University of California San Francisco, San Francisco, CA, [3]Department of Cellular and Molecular Pharmacology, University of California San Francisco, San Francisco, CA

7:00 pm M188 ER translocation of the entire MAPK pathway drives ERK reactivation and autophagy to promote therapy resistance in BRAF mutant cancers. **R. Ojha**[1], **N.M. Leli**[2], **A. Onorati**[1], **I. Verginadis**[2], **S. Piao**[1], **F. Tameire**[2], **V. Rebecca**[1], **C. Fennelly**[1], **C.I. Chude**[1], **C. Koumenis**[1], **R.K. Amaravadi**[1]; [1]Division of Hematology and Oncology, University of Pennsylvania, Philadelphia , PA, [2]Department of Radiation Oncology, Smilow Center for Translational Research, University of Pennsylvania, Philadelphia, PA

TUESDAY

● Minisymposium 19: Organelle Morphogenesis, Targeting, and Distribution

4:40-7:15 pm **Room 120B**

Co-Chairs: **Jeremy Carlton**, King's College London, UK; and **Benoit Kornmann**, ETH Zürich - Institute of Biochemistry, Switzerland

4:40 pm Introduction

4:45 pm M189 A new pathway for membrane protein insertion at the ER. **A. Guna**[1], **N. Volkmar**[2], **J.C. Christianson**[2], **R.S. Hegde**[1]; [1]MRC Laboratory of Molecular Biology, Cambridge, United Kingdom, [2]Ludwig Institute for Cancer Research, University of Oxford, Oxford, United Kingdom

5:00 pm M190 Single molecule and ensemble dynamics of the endoplasmic reticulum. **C.J. Obara**[1,2], **J. Nixon-Abell**[1,3], **C. Blackstone**[1,3], **J. Lippincott-Schwartz**[1,2]; [1]Janelia Research Campus, Howard Hughes Medical Institute, Ashburn, VA, [2]Cell Biology and Metabolism Program, National Institute of Child Health and Human Development, Bethesda, MD, [3]Cell Biology Section, National Institute of Neurological Disorder and Stroke, Bethesda, MD

5:15 pm M191 Importin α palmitoyolation drives cell surface area to volume dependent scaling during development. **C.W. Brownlee**[1], **R. Heald**[1]; [1]Cellular and Molecular Biology, University of

California, Berkeley, Berkeley, CA

5:30 pm M192 Spatial organization of ER– pm junctions revealed by super- and high-resolution imaging. **T. Hsieh**[1], **C. Chang**[1], **Y. Chen**[1], **W. Lee**[1], **J. Liou**[1]; [1]Department of Physiology, University of Texas Southwestern Medical Center, Dallas, TX

5:45 pm M193 ER- pm contacts confine exocytic sites for polarized morphogenesis. **D. Zhang**[1], **A. Ng**[1], **A. Ng**[1]; [1]Cell Biology, Temasek Life Sciences Laboratory, Singapore, Singapore

6:00 pm M194 Coupling curved membranes to cytoskeleton: I-BAR proteins and ezrin. **F. Tsai**[1,2], **C. Prévost**[1], **C. Stefani**[3], **E. Lemichez**[3], **E. Coudrier**[2], **P. Bassereau**[1]; [1]PhysicoChimie Curie, Institut Curie, Paris, France, [2]Subcellular Structure and Cellular Dynamics, Institut Curie, Paris, France, [3]Mediterranean Center of Molecular Medicine , University of Côte d'Azur, Nice, France

6:15 pm M195 Super-resolution imaging reveals differential clustering of microtubule motors on vesicle membranes. **G.A. Cordier**[1], **M. Lakadamyali**[1,2], **P.A. Gomez-Garcia**[1], **A. Sandoval**[1]; [1]Advanced Fluorescence Imaging & Biophysics Group, ICFO, Barcelona, Spain, [2]Physiology, Perelman School of Medicine (UPenn), Philadelphia, PA

6:30 pm M196 Diffusion as a ruler: Modeling kinesin diffusion as a length sensor for intraflagellar transport. **N.L. Hendel**[1], **M. Thomson**[2], **W.F. Marshall**[1]; [1]Biochemistry and Biophysics, University of California, San Francisco, San Francisco, CA, [2]Biology and Biological Engineering, California Institute of Technology, Pasadena, CA

6:45 pm M197 Mechanical force induces mitochondrial fission via the canonical fission machinery. **Q. Feng**[1], **S.C. Helle**[1], **B. Kornmann**[1]; [1]Institute of Biochemistry, ETH Zurich, Zurich, Switzerland

7:00 pm M198 DYRK3 kinase regulates dissolution and condensation of membrane-less organelles during mitosis. **A.K. Rai**[1], **J. Chen**[2], **M. Selbach**[2], **L. Pelkmans**[1]; [1]IMLS, University of Zurich, Zurich, Switzerland, [2]MDC, Max Delbruck Center, Berlin, Germany

● Minisymposium 20: RNA Biology

4:40-7:15 pm **Room 119B**

Co-Chairs: **Maria Barna**, Stanford University; and **Sandra Wolin**, National Cancer Institute, NIH

4:40 pm Introduction

4:45 pm M199 A new class of repeat-enriched non-coding RNAs regulating activity of RNA-binding proteins. **K. Yap**[1], **E.V. Makeyev**[1]; [1]Centre for Developmental Neurobiology, King's College London, London, United Kingdom

5:00 pm M200 RNA structure drives stress granule assembly in yeast extracts. **K. Begovich**[1], **J.E. Wilhelm**[1]; [1]Biological Sciences, University of California, San Diego, La Jolla, CA

5:15 pm M201 RNA sequence determines specificity and identity of polyQ-driven phase separations. **E.M. Langdon**[1], **A.S. Gladfelter**[1]; [1]Biology, University of North Carolina, Chapel Hill, NC

5:30 pm M202 Probing the search dynamics of RNA polymerase in live E. coli cells. **K.E. Bettridge**[1], **C.H. Bohrer**[1], **J. Xiao**[1]; [1]Biophysics and Biophysical Chemistry, Johns Hopkins School of Medicine, Baltimore, MD

5:45 pm M203 Ire1 RNase specificity separates transcriptional and post-transcriptional regulation of ER protein homeostasis. **W. Li**[1], **V. Okreglak**[1], **J. Peschek**[1], **P. Kimmig**[1], **P. Walter**[1,2]; [1]Department of Biochemistry and Biophysics, University of California San Francisco , San Francisco, CA, [2]Howard Hughes Medical Institute, University of California San Francisco , San Francisco, CA

6:00 pm M204 The RNA exosome regulates differentiation of human embryonic stem cells. **C. Belair**[1,2], **K. Kim**[3], **Y. Tanaka**[3], **I. Park**[3], **S.L. Wolin**[1,2]; [1]RNA Biology Laboratory, National Cancer Institute, Frederick, MD, [2]Cell Biology, Yale School of Medicine, New Haven, CT, [3]Yale Stem Cell Center, Yale School of Medicine, New Haven, CT

6:15 pm M205 Asymmetric Distribution of Hexose Transporter mRNA Provides a Growth Advantage. **T. Stahl**[1], **S. Hümmer**[1], **A. Spang**[1]; [1]Biozentrum, University of Basel, Basel, Switzerland

6:30 pm M206 Ribosome Heterogeneity in Translating the Genetic Code. **M. Barna**[1]; [1]Developmental Biology and Genetics, Stanford University School of Medicine, Stanford, CA

6:45 pm M207 mRNAs that transfer between mammalian cells are translated in acceptor cells. **G. Haimovich**[1], **S. Dasgupta**[1], **J.E. Gerst**[1], **R.H. Singer**[2,3]; [1]Molecular Genetics, Weizmann Institute of Science, Rehovot, Israel, [2]Anatomy & Structural Biology, Albert Einstein College of Medicine, Bronx, NY, [3]Janelia Research Campus of the Howard Hughes Medical Institute, Ashburn, VA

7:00 pm M208 Long-range function of secreted small nucleolar RNAs that direct 2'-O-methylation. **J.M. Rimer**[1], **J. Lee**[1], **C.L. Holley**[1], **R.J. Crowder**[1], **D.L. Chen**[2], **P.I. Hanson**[3], **D.S. Ory**[1], **J.E. Schaffer**[1]; [1]Medicine, Washington University, St Louis, MO, [2]Mallinckrodt Institute of Radiology, Washington University, St Louis, MO, [3]Cell Biology Physiology, Washington University, St Louis, MO

Satellite Event: Panel Discussion on Neurodegenerative Diseases

7:30-9:30 pm **Courtyard Philadelphia Downtown**

Organized by the Chan Zuckerberg Initiative

The Challenge of Neurodegenerative Diseases: Will Cell Biology Hold the Answer?

Join us for this panel discussion, followed by a reception, at the Courtyard Philadelphia Downtown, 21 North Juniper Street, Philadelphia.

Notes