Saturday, March 28

Saturday March 28th 8:00am – 10:00am (Room 104C)
How to Mentor: Basic Science, Clinical Science, and Educational Scholarship Skills for Graduate Students and Postdocs
Chairs: Linda May (East Carolina Univ.) & Jonathan Wisco (Brigham Young Univ.)

- Sarika Thakur (David Geffen School of Medicine at UCLA)
  What Every Young Investigator Needs to Know about Establishing a Basic or Clinical Science Research Program and Where to Get Help
- Marios Loukas (St. George’s University School of Medicine)
  Writing Papers Can be a Scary Thing: How to Mentor Students to Navigate the Monsters and See that Manuscript to Publication
- Belinda Huang (National Postdoctoral Association)
  What is My Role as a Post Graduate Student with Regard to Mentorship and Mentoring?

Saturday March 28th 10:00am – 10:30am (Room 105)
Career Networking Break

Saturday March 28th 10:30am – 12:30pm (Room 104C)
Leaning In Without Falling Over: Supporting the Success of Women in Science
Chairs: Lorinda Smith (Univ. of Utah) & Valerie O'Loughlin (Indiana Univ.)

- Debra Rolison (U.S. Naval Research Laboratory)
  Creating Change in Scientific Institutions through Subversion, Revolution (Title IX) & Climate Change
- Lisa Lee (University of Colorado School of Medicine)
  "Just The Facts, Ma'am": The Gender Gap in Academia, from the Classroom to the Bank
- Jessica Brinkworth (University of Montreal)
  Surviving the Sexodus Project: How STEM Women Approach Career Challenges
- Valerie O'Loughlin (Indiana University School of Medicine)
  I Say Assertive, You Say Bossy; I Say Leader, You Say B****: Gender bias in Academia

Saturday March 28th 10:30am – 12:30pm (Room 102AB)
How to Get Published
Sponsored by AAA Journals: Anatomical Sciences Education, Developmental Dynamics and The Anatomical Record

- Parker B. Antin, Editor of Developmental Dynamics
  Publishing Your Research: Strategies to Maximize Your Chances of Getting Your Papers Published and Navigating the Revision Process
- Kurt H. Albertine, Editor of The Anatomical Record
  How to Write Clearly
- Richard L. Drake and Wojciech Pawlina, Editors of Anatomical Sciences Education
  How to Publish an Educational Paper

Saturday March 28th 12:30pm – 1:30pm (Room 101)
Career Networking Lunch
  Topic - Establishing a Professional Network
  Moderator: Emmy Gordon
Saturday March 28th 2:00pm – 4:00pm (Room 102AB)
“Back to Basics” Anatomy for Everyday Practice: Integrating Anatomy Education into the Clinical Years
Chair: Nirusha Lachman (Mayo Clinic)
Anne Agur (University of Toronto)
Expanding Program Specific Anatomy Education During Residency: New Opportunities and Challenges
Geoffrey Cundiff (University of British Columbia)
Integrating Anatomical Education into a Residency Curriculum of a Surgical Specialty
Adam K. Jacob (Mayo Clinic)
Back to Basics: Applied Anatomy in Regional Anesthesia
Daniel B. Jones (Harvard Medical School)
Teaching Anatomy in the Simulation Center

Saturday March 28th 2:00pm – 4:00pm (Room 104AB)
Anatomy of Aging
Chair: H. Wayne Lambert (West Virginia Univ.)
Louise McCullough (The University of Connecticut Health Center)
The Aging Brain
Johanna Hannan (East Carolina University)
The Ups and Downs of Aging in the Male Genitourinary Tract
Zoltan Ungvari (University of Oklahoma Health Sciences Center)
You Are as Old as Your Arteries - and Microvessels
Arthur Dalley (Vanderbilt University School of Medicine)
Osteophytes for Neophytes-Geriatric MSK Anatomy for Health Care Students

Saturday March 28th 2:00pm – 4:00pm (Room 104C)
Vascular and Connective Tissue Imaging In Situ: Returning Bone to the Skeleton
Chair: Maria Serrat (Marshall Univ. School of Medicine)
Cornelia Farnum (Cornell University College of Veterinary Medicine)
Imaging the Dynamics of Bone Elongation: Integrating Macro- and Micro-scale Processes at the Organ Level in situ
Rebecca Williams (Cornell University)
New Strategies for Cellular-Scale Imaging of Bone and Cartilage
Rhonda Prisby (University of Delaware College of Health Sciences)
Conversion of Bone Marrow Blood Vessels into Bone Leads to “Microvascular Dead Space: - A Potential Etiology for Bone and Bone Marrow Disease with Advancing Age
Matthew Allen (Indiana University School of Medicine)
Mechanisms Need not be Molecular - Tissue-level Mechanisms for Drug-induced Changes to Bone Mechanical Properties
Maria Serrat (Marshall Univ. School of Medicine)
Imaging IGF-I Uptake in Growth Plate Cartilage Using in vivo Multiphoton Microscopy

Saturday March 28th 2:00pm – 4:00pm (Room 105)
Creation of Tissue-like Structures In Vitro Using Advanced Technologies
Co-sponsored by the Anatomical Society
Chair: Stefan Przyborski (Durham Univ.)
Stefan Przyborski (Durham Univ.)
Platform Technologies for Routine Generation of Advanced Organotypic Three Dimensional Cell Culture Models
Molly Shoichet (University Toronto)
Three Dimensional Hydrogel Scaffolds and Applications in the CNS
John Haycock (University of Sheffield)
Development of 3D In Vitro Models of Nerve and Skin for Disease, Disorder and Testing Studies
Dan Huh (University of Pennsylvania)
Microengineered Physiological Biomimicry: Human Organs-on-Chips
Saturday March 28th 4:30pm – 5:45pm (Room 104AB)
Keynote Speaker
Sean Carroll (Howard Hughes Medical Institute and Univ. of Wisconsin)
Evo-Devo and an Expanding Evolutionary Synthesis

Saturday March 28th 6:00pm – 7:30pm (Westin, Grand Ballroom CD)
Welcome Reception

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Sunday, March 29

Sunday March 29th 7:30am – 8:30am (Room 101)
First Time Attendee Breakfast

Sunday March 29th 8:30am – 10:00am (Room 104AB)
Cardiovascular Biology Plenary Session
Anne Eichmann (Yale School of Medicine)
Molecular Parallels between Neural and Vascular Development
Ken Walsh (Boston Univ. School of Medicine)
Adipose Tissue - Vasculature Interactions

Sunday March 29th 10:00am – 12:00pm (Room 102AB)
Anatomy Education Roundtable - Developing Effective Cognitive Strategies for Future Long Term Recall of Medical Knowledge
Chair:  James Walker (Purdue Univ./ IU School of Medicine – Lafayette)
John Pelley (Texas Tech Univ HSC School of Medicine)
Developing Effective Cognitive Strategies for Future Long-Term Recall of Medical Knowledge: What are the Questions We Need To Answer?

Sunday March 29th 10:30am – 12:00pm (Room 104B)
Symposium - Vascular Organization and Patterning
Blanche Capel (Duke Univ. School of Medicine)
Fetal Macrophages Mediate Vascularization and Cord Formation during Testis Organogenesis
Mary Dickinson (Baylor College of Medicine)
Imaging Cardiovascular Development: Insights into Congenital Disease
Mark Kahn (Univ. of Pennsylvania School of Medicine)
Role of Flow in Lymphatic Vessel Remodeling and Patterning
Mark Majesky (Univ. of Washington)
Development of Coronary Vessels

Sunday March 29th 10:30am – 12:00pm (Room 104C)
Structures and Functions of Primary Cilia
Chair:  Takanari Inoue (Johns Hopkins Univ.)
Thibaut Eguether (University of Massachusetts Medical School)
IFT25 and IFT27 Couple the BBSome to the IFT Particle for Maintenance of the Ciliary Signaling Compartment
Jeremy Reiter (University of California, San Francisco)
Restricted Access: the Transition Zone Controls Ciliary Composition and Signaling
Lisa Satlin (Icahn School of Medicine at Mount Sinai)
New Insights into the Complex Physiologic Role of the Cilium in Secretory Epithelia

Sunday March 29th 10:30am – 12:00pm (Room 105)
Langman Graduate Student Platform Award Session
Shannon Kesl (Morsani College of Medicine, Univ. of South Florida)
Enhancement of Wound Healing with Dietary Ketosis: in vivo and in vitro Experiments
Emily Gilbert (Univ. of Guelph)
Neural Stem/Progenitor Cells of the Spinal Cord are Activated in Response to Tail Loss in the Leopard Gecko
Karen Lo (Simon Fraser Univ.)
Identification and Characterization of a Francisella tularensis Protein required for Vacuole Escape and Tularemia Development
Maria Gomez (Cincinnati Children’s Hospital)
BMP-pSmad1/5/8 Pathway Activation in Calcific Aortic Valve Disease
Stephanie Moore (Vanderbilt Univ.)
Fibrinogen Regulates MMP-9 Processing of VEGF-induced Angiogenesis and Tumor Growth in Osteosarcoma
Emily Kim (Loma Linda Univ.)
Lmx1b-Mediated Emx2-Associated Regulatory Region Active during Limb Development

Sunday March 29th 12:00pm – 12:30pm (Room 101)
AAA Members Meeting (formerly called the Business Meeting)
All AAA Members are invited to attend

Sunday March 29th 12:00pm – 1:00pm (Room 101)
Career Networking Lunch
Topic - Surviving as a Young Faculty
Moderator: Lisa Lee

Sunday March 29th 1:00pm – 2:30pm (Hale – Westin)
Scientific Affairs Committee Meeting

Sunday March 29th 2:30pm – 4:00pm (Room 102AB)
Educational Neuroscience: Towards the Science of Learning
Chair: Ann Zumwalt (Boston Univ. School of Medicine)
Peter Bergethon (Pfizer Corporation)
Advancing the Neuroscience of Learning
Timothy D. Wilson (Western University)
Cerebral Blood Flow and Spatial Ability
Ann Zumwalt (Boston University School of Medicine)
In Pursuit of an Objective Assessment of Learning using Gaze Tracking and EEG

Sunday March 29th 4:10pm – 4:30pm (Room 102AB)
e-Poster Slam – Education Posters

Sunday March 29th 2:30pm – 4:30pm (Room 104AB)
Symposium - Endothelial-to-mesenchymal Transition
Raghu Kalluri (MD Anderson Cancer Center)
The Biology of Endothelial to Mesenchymal Transition and its Role in Cancer
Elisabetta Dejana (Univ. of Milan)
The Pathological Modifications of the Blood Brain Barrier and Cerebral Cavernous Malformations
Michael Simons (Yale University School of Medicine)
Endothelial-to-mesenchymal Transition in Cardiovascular Pathology
Damian Medici (Brown Univ.)
Endothelial-mesenchymal Transition as a Novel Mechanism for Tissue Regeneration

Sunday March 29th 2:30pm – 4:30pm (Room 104C)
Cilia in Development
Chair: Jeffrey Amack (SUNY Upstate Medical Univ.)
Maureen Barr (Rutgers University)
Cilia and Extracellular Vesicles are Signaling Organelles
Iain Drummond (Harvard Medical School)
Motile and Sensory Cilia Function in Zebrafish
John Wallingford (University of Texas)
Planar Cell Polarity, Ciliogenesis, and Human Disease

Bradley Yoder (University of Alabama at Birmingham)
Mammalian DRC, Ciliary, Motility and Left-Right Body Asymmetry

Sunday March 29th 2:30pm 4:30pm (Room 105)
Major Transformations of the Amniote Nose
Chair: Tomasz Owerkowicz (California State Univ., San Bernardino)

- A.W. Crompton (Harvard University)
  Origin of the Mammalian Nose
- Timothy Smith (Slippery Rock Univ.)
  Nasal Morphometry in Primates: Is There a Sensory Trade-off for Visual Specialists?
- Jason Bourke (Ohio Univ.)
  Using Airflow Patterns to Aid Inferences of Nasal Soft-tissue Reconstructions in Dinosaurs
- Tomasz Owerkowicz (California State Univ., San Bernardino)
  “Respiratory” Turbinates in Endotherms and Ectotherms

Sunday March 29th 5:00pm – 6:30pm (Room 102AB)
Developmental Biology Award Hybrid Symposium
H.W. Mossman Award Lecture in Developmental Biology featuring 2015 Young Investigator Award Recipient, Dirk Hockemeyer

- Dirk Hockemeyer (Univ. of California, Berkeley)
  Elucidating Telomerase Function in Human Tumor and Stem Cell
- Brad Amendt (The Univ. of Iowa)
  TBX1 Protein Interactions and microRNA-96-5p Regulation Controls Stem Cell Proliferation during Craniofacial and Dental Development
- Annita Achilleos (Stowers Institute for Medical Research)
  The Craniofacial-specific Role of the Ribosomal Gene Polr1c and its Role in Treacher Collins Syndrome
- Darren Bridgewater (McMaster Univ.)
  Developmental Origins for Kidney Disease in Shroom3 Deficient Mice

Sunday March 29th 6:15pm – 6:30pm (Room 102AB)
e-Poster Slam – Developmental Biology Posters

Sunday March 29th 5:00pm – 6:30pm (Room 104AB)
Cardiovascular Biology Platform Session
Chair: Katie Bentley (Harvard Medical School)

- Bruno Larrivee (Univ. of Montreal)
  Targeting BMP Signaling for the Treatment of Neovascular Age-related Macular Degeneration
- Przemyslaw Sapięha (Univ. of Montreal)
  Semaphorin 3A and VEGF Promote Inflammation in Retinopathy
- Feilim Mac Gabhann (Johns Hopkins Univ.)
  Context-Specific Regulation of VEGF Receptor Signaling
- Christopher Carman (Harvard Medical School)
  Vascular Endothelia Mechanically Sense Barrier Quality and Maintain Functional Integrity through ROS-Dependent Actin Remodeling
- Ramaswamy Krishnan (Beth Israel Deaconess Medical Center)
  Force Chains And Gap Formation in Thrombin-induced Endothelial Permeability
- Katie Bentley (Harvard Medical School)
  Temporal Dynamics of Vascular Patterning, an Integrative Approach

Sunday March 29th 5:00pm – 6:30pm (Room 104C)
Cell Biology Award Hybrid Symposium
R.R. Bensley Award Lecture in Cell Biology featuring 2015 Young Investigator Award Recipient, Bungo Akiyoshi
Bungo Akiyoshi (Univ. of Oxford)
Discovery of Unconventional Kinetochores in Kinetoplastids

Samantha Brugmann (Cincinnati Children's Hospital Medical Center)
GLI-dependent Etiology of Craniofacial Ciliopathies

Joseph Sanger (SUNY Upstate Medical Univ.)
Inhibition of the Ubiquitin Proteasomal System Reversibly Blocks Myofibrillogenesis

Karen Lo (Simon Fraser Univ.)
Identification and Characterization of a Francisella tularensis Protein required for Vacuole Escape and Tularemia Development

Sunday March 29th 6:15pm – 6:30pm (Room 104C)
e-Poster Slam – Cell Biology Posters

Sunday March 29th 5:00pm – 6:30pm (Room 105)
Postdoc Platform Award Session

Georgios Kararigas (Charite Univ. Hospital)
Sex-Specific Calcium Handling Underlying Sex-Specific Cardiomyocyte Death in Heart Failure

Elaine Wirrig (Cincinnati Children's Hospital Medical Center)
Neural Crest-Derived Valve Interstitial Cells Calcify In The Klotho-Deficient Mouse Model Of Aortic Valve Disease

Wuqiang Zhu (Univ. of Minnesota)
Heart Specific Deletion of RNA Binding Protein Rbfox1 Sensitizes Mice to Pressure Overload Induced Cardiac Dysfunction

Foteini Hassiotou (The Univ. of Western Australia)
Delineating the Cellular Hierarchy of Glioblastoma and Gliosarcoma for Identification of Therapeutic Targets

Girriso Benderro (Case Western Reserve Univ.)
Diminished Ang-2 Expression and Microvascular Density in COX-2 Knock-out Mouse Cerebral Cortex in Moderate Hypobaric Hypoxia

Katherine Brakora (UCSF)
Facial Development and Alterations in FGF Signaling in a Mouse Model of Crouzon Syndrome

Monday, March 30

Monday March 30th 8:30am – 10:00am (Room 104AB)
Neurobiology Mini-Meeting
Plenary - The Anatomy of Memory and Neurodegenerative Disease: Prions, a Nobel Idea
Chair: Paul Trainor (Stowers Institute for Medical Research)

Eric Kandel (Columbia Univ.)
Persistence of Memory and Prion Mechanisms: A Perspective

Stanley Prusiner (Univ. of California, San Francisco)
Prions causing Alzheimer's and Parkinson's—Quest for Effective Therapeutics

Monday March 30th 10:30am – 12:00pm (Room 102AB)
Anatomy Education Platform 1
Chairs: Heather Billings & Anna Edmondson

Christopher Ramnanan (Univ. of Ottawa)
Impact of Different Small Student Group Learning Approaches to Compressed Medical Anatomy Education

Rebecca Lufler (Tufts Univ. School of Medicine)
Is Accreditation Driving Our Teaching in The Right Direction?

William Saltarelli (Central Michigan Univ.)
Implementing a Cooperative Learning Model in a Cadaver Anatomy Laboratory

Anita Killins (Harding Univ.)
Team-based Learning in Gross Anatomy Improves Academic Performance and Perceptions of Teamwork  
Kimberly Betts (Geisel School of Medicine at Dartmouth)  
A New Twist on PBL: A Pilot Study of a Problem-based Dissection Exercise  
Stefanie Attardi (Western Univ.)  
Optimizing Communication in an Online Systemic Anatomy Course with a Laboratory

**Monday March 30th 10:30am – 12:00pm (Room 104AB)**  
**Neurobiology Mini-Meeting**  
**Genetic Factors in Abnormal Brain Development**

David Katz (Case Western Reserve University)  
Therapeutic Strategies for Restoring Neural Circuit Function in Rett Syndrome  
Alcino Silva (UCLA)  
Mechanisms and Adult Treatments for Cognitive Deficits Associated with Neurodevelopmental Disorders  
Christopher Walsh (Harvard Medical School)  
Genetic Factors Regulating Human Cerebral Cortex Development

**Monday March 30th 10:30am – 12:00pm (Room 104C)**  
**Best Practices for Using Social Media as it Reshapes Academia and the Classroom**  
Chair: Jason Mussell (Louisiana State Univ. Health Sciences Center)

Frank LoMonte (Student Press Law Center)  
Twitter Goes to College: Student and Employee Rights on Social Media  
Kevin Dougherty (Baylor Univ.)  
Expanding the Classroom with Social Media  
Kirsten Brown (George Washington Univ.)  
Creating and Controlling Your Academic Brand  
Alison F. Doubleday (Univ. of Illinois at Chicago)  
Current Trends in How Students use Technology and How Faculty can Support those in the Classroom (and out)

**Monday March 30th 10:30am – 12:00pm (Room 105)**  
**Craniofacial Tissues: Development, Repair and Regeneration**  
**Joint AAA/Society for Craniofacial Genetics and Developmental Biology Session**  
Chairs: Xiaohua Liu (Texas A&M Univ. Baylor College of Dentistry) & Venu Varanasi (Texas A&M Univ. Baylor College of Dentistry)

Thomas Webster (Northeastern Univ.)  
Using Nanotechnology and Picotechnology to Increase Tissue Growth and Reduce Bacterial Infections  
Jeffrey Bush (Univ. of California, San Francisco)  
Convergence and Extrusion Driven by Non-muscle Myosin II are Required for Normal Fusion of the Mammalian Secondary Palate  
Matthew Harris (Harvard Medical School)  
A Genetic Model to Understand Integration during Skull Development and Etiology of Craniofacial Disorders

**Monday March 30th 12:00pm – 1:00pm (Room 101)**  
**Career Networking Lunch**  
**Topic - Careers Outside Academia**  
Moderator: Ann Zumwalt

**Monday March 30th 12:20pm – 2:30pm (Hale – Westin)**  
**Membership Committee Meeting**

**Monday March 30th 2:30pm – 4:30pm (Room 102AB)**  
**Didactic Methods in the Anatomical Sciences: How Does Technology Help or Hinder? (Hybrid)**  
Chair: Michael Hortsch (Univ. of Michigan)
Akram Abood Jaffar (Univ. of Sharjah)
Facebook in Anatomy Education: Why and How?

Bruce Wainman (McMaster Univ.)
The Effect of Image Quality and Image Presentation on the Recall of Anatomic Knowledge

Michael Hortsch (Univ. of Michigan)
“How We Learn May Not Always Be Good For Us” – Analytics of Students’ Study Strategies, Educational Resource Choices, and Learning Success in a Medical Histology Course

Haviva Goldman (Drexel Univ. College of Medicine)
Technology and Innovation in Histology: Adapting to a Changing Landscape of Teaching in Medical Microanatomy

Robert Druzinsky (Univ. of Illinois)
Tablets in the Gross Anatomy and Neuroanatomy Labs: Quick and Dirty Can Work

Claire Smith (Brighton and Sussex Medical School)
Shaping Neuroanatomy Education in Medicine: Implementing an IPad Friendly E-booklet to Support Practical Based Learning

Sonya Van Nuland (Western Univ.)
E-Learning: Effective or Defective? The Impact of Commercial E-Learning Tools on Learner Cognitive Load and Anatomy Instruction

Monday March 30th 2:30pm – 4:30pm (Room 104AB)
Neurobiology Mini-Meeting
Symposium - Spinal Cord Injury and Repair Strategies
Chair: Brian Allman (University of Western Ontario)

Jacqueline Bresnahan (University of California, San Francisco)
Degeneration and Repair after Spinal Cord Injury (SCI) in the Non-human Primate (NHP)

Michael Beattie (University of California, San Francisco)
Degeneration, Repair, and Plasticity after SCI: A Central Role for Cytokines

Arthur Brown (Western University)
Sox9 Knock-down in Mice Improves Locomotor Recovery after Spinal Cord Injury by Reducing CSPG Levels and Facilitating Reactive Sprouting

Samuel David (McGill University)
Mechanisms Underlying Macrophage Polarization in Spinal Cord Injury - Detrimental and Beneficial Influences on Recovery

Monday March 30th 2:30pm – 4:30pm (Room 104C)
Evolution, Development and Relationships between Heart and Head Muscles: Surprising Implications for Vertebrate Origins and Medicine
Chair: Rui Diogo (Howard Univ.)

Rui Diogo (Howard Univ.)
Why Study Muscles: Bringing Together Anatomy, Evolution, Development, Genetics, Birth Defects and Medicine

Eldad Tzahor (Weizmann Institute of Science)
Cardiac and Craniofacial Development and Regeneration

Robert Kelly (Aix-Marseille University)
Connecting Heart and Head Muscle Development in a DiGeorge Syndrome Mouse Model

Lionel Christiaen (New York University)
Regulation of Cardiopharyngeal Fate Specification in a Simple Chordate

Monday March 30th 2:30pm – 4:30pm (Room 105)
Understanding the Zygoma: A Key Morphofunctional Partition in the Craniofacial Skeleton
Chair: Qian Wang (Texas A&M University Baylor College of Dentistry)

Paul Dechow (Texas A&M University Baylor College of Dentistry)
A Biomedical Synthesis of the Zygoma: Bone Elastic Properties, Morphology and Function, and Reconstructive Medicine

Matthew Ravosa (University of Notre Dame)
Zygomatic Arch Development in Mammals: Phenotypic Plasticity and Osteoblast Behavior

Joan Richtsmeier (Pennsylvania State University)
Developmental and Evolutionary Significance of the Zygomatic Bone  
**Callum Ross** (University of Chicago)  
Biomechanical Studies of the Zygoma: A Review of in vivo and FEM Studies of the Lateral Orbital Wall and Zygomatic Arch  

**Monday March 30th 5:30pm – 6:30pm (Room 102AB)**  
**Educational Research Platform Awards Session**  
- **Taylor Phelps** (Medical College of Georgia at Georgia Regents Univ.)  
  The Influence of Spatial Ability on High and Low Order Anatomy Examination Questions  
- **Jessica Kahl** (Univ. of Colorado School of Medicine)  
  Quantification of Pattern Recognition Skills Acquisition in Histology Using an Eye-Tracking Device: First-Step Toward Evidence-Based Histology Education  
- **Artin Galoosian** (GWU SMHS)  
  Improving Anatomical Knowledge through Interactive Modules on the OB/GYN Clinical Clerkship  
- **Jessica Byram** (Indiana Univ. School of Medicine)  
  Using Generalizability Analysis to Establish Guidelines for Designing Horizontally Integrated Anatomy Assessments  
- **Guenevere Rae** (Louisiana State Univ. Health Sciences Center)  
  Using the Brains We Have: Dissection of the Human Brain Assists the Medical Student in Learning and Retaining Neuroanatomy  
- **Alexander Whelan** (Univ. of Ottawa)  
  Benefits of Extracurricular Participation in Dissection in a Prosection-Based Medical Anatomy Program  

**Monday March 30th 5:30pm – 6:30pm (Room 104AB)**  
**Neurobiology Mini-Meeting**  
**Neurobiology Award Hybrid Symposium**  
**C.J. Herrick Award Lecture in Neuroanatomy featuring 2015 Young Investigator Award Recipient, Feng Zhang**  
- **Feng Zhang** (The Broad Institute, Massachusetts Institute of Technology)  
  Development and Applications of CRISPR-Cas9 for Genome Manipulations  
- **Xiangmin Xu** (Univ. of California, Irvine)  
  Cell-type Specific Hippocampal Circuit Mapping by Genetically Modified Rabies Virus  
- **Patrick Nahirney** (Univ. of Victoria)  
- **Lyon Hough** (Missouri State Univ.)  
  Effects of Developmental Hyperserotonemia in the Rat Dentate Nucleus Neuronal Morphology  

**Monday March 30th 5:30pm – 6:30pm (Room 104AB)**  
**e-Poster Slam – Neurobiology Posters**  

**Monday March 30th 5:30pm – 6:30pm (Room 104C)**  
**Cardiovascular Development and Disease**  
**Chair: L. Bruno Ruest (Texas A&M Univ. Baylor College of Dentistry)**  
- **Simon Conway** (Riley Hospital for Children at Indiana University Health)  
  BMP signaling and Congenital Heart Defects  
- **Laura Dyer** (Middle Georgia State College)  
  BMPER-mediated BMP Signaling Promotes Cardiac Development  
- **Christine Seidman** (Harvard Medical School)  
  Genetic Pathways in Congenital Heart Development  

**Monday March 30th 5:30pm – 6:30pm (Room 105)**  
**Morphological Sciences Award Hybrid Symposium**  
**Morphological Sciences Award Lecture featuring 2015 Young Investigator Award Recipient, Richard Daneman**
Richard Daneman (Univ. of California, San Diego)  
Regulation of the Blood-Brain Barrier in Health and Disease  
Ian George (Univ. of Missouri)  
Quantifying the Connectivity of the Language-Specific Cerebrocebellar Network (LSCN)  
Andas Czirok (Univ. of Kansas Medical Center)  
How and Why Embryonic Tissue Layers Move during Early Morphogenesis in a Avian Embryos?  
Melissa LaBonty (Tufts Univ.)  
Understanding the Mechanisms Driving Ectopic Bone Formation in a Zebrafish FOP Model

Monday March 30th 6:30 pm – 7:39 pm (NW Lobby A Foyer)  
Student Poster Reception

Tuesday, March 31

Tuesday March 31st 8:00am – 10:00am (Room 102AB)  
Let's Get EDucated! How Anatomists Can Help with Accreditation Requirements  
Chair: Ann Poznanski (California Northstate Univ. College of Medicine)  
Barbara Barzansky (American Medical Association)  
Your Role in Meeting LCME Accreditation Standards  
Virginia Lyons (Your Role in Meeting LCME Accreditation Standards)  
Competencies 101: The Knowledge, Skills, Behaviors and Attitudes of a Top Notch Anatomy Educator  
Kimberly Topp (University of California, San Francisco)  
Wide and Deep Preparation for any Residency? Really?  
Ann Poznanski (California Northstate University College of Medicine)  
Curriculum Content Review: A Guided Collaborative Process in Continuous Quality Improvement

Tuesday March 31st 8:00am – 10:00am (Room 104AB)  
The Evolutionary Tapestry of Vertebrate Morphology and Function  
Co-sponsored by the International Society of Vertebrate Morphologists  
Co-sponsored by The Anatomical Record  
Chair: Lawrence Witmer (Ohio Univ.)  
Colleen Farmer (University of Utah)  
Evolution of the Vertebrate Lung  
Roland Frey (Leibniz Institute for Zoo and Wildlife Research)  
Convergent Evolution towards a Mobile Larynx in Some Mammals  
Dominique Adriaens (University of Ghent)  
Evolution and Biomimetics of the Seahorse Tail  
Stephanie Pierce (Harvard University)  
Early Tetrapod Functional Morphology/locomotion/evolution  
Olga Panagiotopoulou (University of Queensland)  
Comparative Locomotor Mechanics of Mammalian Feet

Tuesday March 31st 8:00am – 10:00am (Room 104C)  
Anatomy and Genetics: How Phenomics Informs our Understanding of Genomes (Hybrid)  
Co-sponsored by AAA’s Advisory Committee for Young Anatomists  
Chair: Benjamin Auerbach (The Univ. of Tennessee)  
Joan Richtsmeier (Pennsylvania State Univ.)  
Developmental Context and the Genotype-phenotype Map  
David Houle (Florida State Univ.)  
From Genotype to Phenotype in the Drosophila Wing  
Charles Roseman (Univ. of Illinois: Urbana-Champaign)  
Morphological and Population Genomic Analysis Demonstrates that Natural Selection and Neutral Evolutionary Processes Contributed to the Evolution of the Human Skeleton  
Kristen Savell (Univ. of Tennessee, Knoxville)  
Selection Gradients and Ecogeographic Variance in the Human Post-Crania
Rui Diogo (Howard Univ. College of Medicine)
The End of an Old Dogma with Crucial Implications for Medical and Biology Students and for Medicine: Regenerative, Developmental, Paleontological and Evolutionary Studies Contradict the Fore-hindlimb Serial Homology

Tuesday March 31st 10:30am – 12:00pm (Room 102AB)
Anatomy Education Platform 2
Chairs: Virginia Lyons & Timothy Wilson

Tracey Wilkinson (Univ. of Dundee)
Are Spot Test Multiple Choice Questions Easier to Answer than Short Answer Questions?

Kelli Wheeler (Medical College of Georgia at Georgia Reagents Univ.)
Evaluation of the Impact of Peer Teaching within the Gross Anatomy Laboratory on Student Academic Performance

Sagar Chawla (Mayo Clinic)
The Hidden Learning Environment: Effect of informal student networks on team performance in a Gross Anatomy Course

Ala’a El-Shaar (Boston Univ. School of Medicine)
Use of Gaze Tracking and EEG to Measure Short- and Long-term Learning by Medical Gross Anatomy Students

Jean Langlois (Centre Hospitalier Universitaire de Sherbrooke)
Vision-Based Spatial Abilities and Pictures of Objects Recognized from Haptic Perception

Tuesday March 31st 10:30am – 12:00pm (Room 104AB)
Evolution and Comparative Anatomy Platform
Chair: Tamara Franz-Odendaal

Emily Rayfield (Univ. of Bristol)
Genetic and Environmental Control on Mandibular Form and Function in Mice

Julia Molnar (Coastal Carolina Univ.)
Changes in Vertebral Morphology with Increasing Aquatic Adaptation in Crocodylomorphs

Daniel Urban (Univ. of Illinois at Urbana-Champaign)
Mechanisms of Mammalian Middle Ear Ossicle Transition from the Reptilian Jaw Joint

Janine Ziermann (Howard Univ. College of Medicine)
Cephalic Muscle Evolution in Chordates

Matthew Borths (Stony Brook Univ.)
Using Geometric Morphometrics to Examine Cranial Disparity in Extinct and Extant Marsupial and Placental Carnivores

Neal Anthwal (Kings College London)
The Evolution and Development of The Mandibular Coronoid Process in Mammals

Tuesday March 31st 10:30am – 12:00pm (Room 104C)
Stem Cells, Tissue Engineering & Regeneration
Chair: Martine Dunnwald

Jennifer Paxton (Univ. of Edinburgh)
Enhancing engineered ligament strength using a multi-strand approach.

Emily Gilbert (Univ. of Guelph)
Neural Stem/Progenitor Cells of the Spinal Cord are Activated in Response to Tail Loss in the Leopard Gecko

Elizabeth Hutchins (Arizona State Univ.)
Integrated Transcriptomic, Proteomic, and MicroRNA Data Identify Key Regulators of Developmental and Repair Processes during Tail Regeneration in the Green Anole Lizard

Diana Ramirez-Bergeron (Case Western School of Medicine)
Impaired Vascular Oxygen Sensing Affects the Maintainance and Regeneration of the Bone Marrow

Kazuhiko Shimizu (Tokyo Women's Medical Univ.)
Roles of Podoplanin Positive Cells in Wound Healing of the Mouse Tongue

Pelagie Favi (Northeastern University)
Fabricating Microporous Nano Silver Bacterial Cellulose Scaffolds Using a Laser-cutting Instrument for Bone Tissue Regeneration

**Tuesday March 31st 10:30am – 12:00pm (Room 105)**

**Bones, Cartilage & Teeth Platform**

**Chair:** Ralph Marcucio

- **Haza Star** (King’s College London)
  The Role of the Eda Pathway in the Morphogenesis of Molar Roots

- **L Bruno Ruest** (Texas A&M Univ. Baylor College of Dentistry)
  Activation of RANKL and MMP Production by Endothelin Signaling in Cultured Periodontal Fibroblasts

- **Katherine Woronowicz** (Univ. of California, San Francisco)
  FGF and TGFβ Signaling are Required during Secondary Chondrogenesis in the Jaw Skeleton

- **Nicholas Mignemi** (Vanderbilt Univ.)
  The Temporal and Spatial Development of Vascularity in a Healing Displaced Fracture

- **Grace Bundens** (Cooper Medical School of Rowan Univ.)
  Development of a Serum-free, Three Dimensional Cell Culture Model for Primary Human Articular Chondrocytes to Test Potential Therapeutics

- **Stephanie Moore** (Vanderbilt Univ.)
  Fibrinogen Regulates MMP-9 Processing of VEGF-induced Angiogenesis and Tumor Growth in Osteosarcoma

**Tuesday March 31st 12:00pm – 1:00pm (Room 101)**

**Career Networking Lunch**

  **Topic - Mid-to-Late Career Transitions**
  **Moderator:** Michael Lehman

**Tuesday March 31st 2:30pm – 4:30pm (Room 102AB)**

**Keep Calm and Carry On Educating**

  **Co-sponsored by the Anatomical Society**
  **Chair:** Claire Smith (Univ. of Sussex)

- **Peter Bazira** (Hull York Medical School)
  Discourse Perspectives on Learning Anatomy by Whole-body Dissection

- **Gabrielle Finn** (Hull York Medical School)
  Students’ personality and learning anatomy

- **Victor Nyamse** (Glasgow Caledonian University)
  The Anatomy Schema Network

- **Claire Smith** (Univ. of Sussex)
  Spatial Ability and Learning Anatomy

**Tuesday March 31st 2:30pm – 4:30pm (Room 104AB)**

**The Development and Control of Vertebrate Morphology**

  **Co-sponsored by the International Society of Vertebrate Morphologists**
  **Co-sponsored by The Anatomical Record**
  **Chair:** Dominique Adriaens (University of Ghent)

- **Karen Sears** (University of Illinois)
  The Developmental Evolution of Mammalian Limbs

- **L. Patricia Hernandez** (George Washington University)
  Ostariophysan Trophic Evolution

- **Rebecca German** (Northeast Ohio Medical University)
  Sensorimotor Integration in Anatomy and Function during Feeding in Infant Mammals

**Tuesday March 31st 2:30pm – 4:30pm (Room 104C)**

**Breaking the Barrier: The Gastrointestinal Tract in Health and in Inflammatory Bowel Disease**

  **Chairs:** Abdo Jurjus (American Univ. of Beirut) & Inaya Hajj Hussein (Oakland Univ. William Beaumont School of Medicine)
Abdo Jurjus (American University of Beirut)
Inflammation in Colorectal Cancer Inflammatory Bowel Disease, and Diabetes Mellitus: The Link

Francesco Cappello (Univ. of Palermo)
Role of Chaperones in Healthy Bowel and IBD

Inaya Hajj Hussein (Oakland University)
Integrating Histology, Gross Anatomy and Histopathology in a Case Based Approach to Inflammatory Bowel Disease

Jean Marie Reimund (Strasbourg University)
New Insight in Inflammatory Bowel Disease Pathophysiology: Current and Future Therapeutic Applications

Tuesday March 31st 2:30pm – 4:30pm (Room 105)
Making Connections: Comparative Biomechanics and Evolution of Joints
Chair: Casey Holliday (Univ. of Missouri)

Elizabeth Brainerd (Brown Univ.)
Costo-vertebral Joints in Amniotes: To What Extent does Joint Shape Determine Rib Motion during Breathing?

Casey Holliday (Univ. of Missouri)
PMJs and TMJs: Convergence in the Craniomandibular Joints of Crocodilians and Mammals

Robert Kambic (Harvard University)
Skeletal Kinematics Reveal the Complex Interactions of Degrees of Freedom at Joints

Henry Tsai (University of Missouri)
Solutions for Gigantism: Evolutionary and Biomechanical Implications of Dinosaur Hip Joint Soft Tissues

Tuesday March 31st 5:00pm – 5:30pm (Room 104AB)
Henry Gray Scientific Award Symposia

David Burr (Indiana University School of Medicine)
How Anatomical "Artifacts" are leading to Novel Treatments for Osteoporosis

Tuesday March 31st 5:30pm – 6:00pm (Room 104AB)
Henry Gray Distinguished Educator Award Symposia

Arthur Dalley (Vanderbilt University School of Medicine)
Through a Camera Lucida, Darkly: The State and Future of Anatomical Education

Tuesday March 31st 6:00pm – 6:30pm (Room 104AB)
Ladman Award Symposia

Kathryn Jones (Indiana University School of Medicine)
Service and Mentoring: The Joy in Academics

Tuesday March 31st 7:00 pm – 8:00 pm (Westin Ballroom)
Evening Closing Awards Ceremony Reception

Tuesday March 31st 8:00 pm (Westin Ballroom)
Evening Closing Awards Ceremony Dinner