



## **Biology of Cilia and Flagella**

**July 16-21, 2017**

**Scottsdale, Arizona**

**Co-Organizers:**

**Iain Drummond**

**Massachusetts General Hospital, Boston, MA, USA**

**Jagesh Shah**

**Harvard Medical School/Brigham and Women's Hospital, Boston, MA, USA**

**Tamara Caspary**

**Emory University, Atlanta, GA, USA**

**Sunday,**

**July 16, 2017**

4:00PM – 9:00PM

Conference Registration

6:00PM – 7:00PM

FASEB Opening Reception

7:00PM – 8:00PM

Dinner

8:00PM – 9:00PM

Keynote Speaker **Brad Yoder** (University of Alabama, Birmingham)

**Monday,**

**July 17, 2017**

7:30AM – 9:00AM

**Breakfast**

**Session 1:**

**9:00AM – 12:00PM**

**Cilia Structure and Transport**

Session Chair: **Brad Yoder** (University of Alabama, Birmingham)

9:00AM – 9:15AM

Welcome from FASEB

9:15AM – 9:45AM

**Gaia Pigino** (Max Planck Institute of Molecular Cell Biology and Genetics)

Visualizing ciliary assembly and transport with 3D-EM

9:45AM – 10:15AM

**Karl Lehtreck** (University of Georgia)

IFT trains in different stages of assembly queue near the basal

body for consecutive release into cilia

10:15AM – 10:45 AM

**William Snell** (University of Maryland)  
Cilia membrane protein trafficking

10:45AM – 11:00AM

FASEB Sponsored Coffee Break

11:00AM – 11:30AM

**Oliver Blacque** (University College Dublin)  
Cilia-related roles for endosome maturation regulators Rabenosyn-5 and VPS45 in *C. elegans*.

11:30AM – 12:00PM

**William J. Monis** (University of Massachusetts Medical School)  
BLOC-1 is required for selective membrane protein trafficking from endosomes to primary cilia

12:00PM – 1:00PM

**Lunch**

1:00PM – 4:00PM

Free Time

**Session 2:**  
**4:00PM – 6:00PM**

**Basal bodies, Centrioles and Ciliogenesis**  
Session Chair: **Maureen Barr** (Rutgers University)

4:00PM – 4:30PM

**Laurence Pelletier** (Lunenfeld-Tanenbaum Research Institute, Toronto)  
Functional dissection of the centrosome-cilium proximity interaction landscape

4:30PM – 4:45PM

**Saurabh S. Kulkarni** (Yale School of Medicine)  
Positive Feedback Drives Actin Dependent Apical Expansion And Basal Body Patterning In Multiciliated Cells

4:45PM – 5:00PM

**Carolyn Ott** (Janelia Research Campus, Howard Hughes Medical Institute, Ashburn, Virginia)  
VPS4 at the centrosome influences gamma-tubulin levels, centrosome positioning, centriolar satellites and ciliogenesis

5:00PM – 5:15PM

**Irene Ojeda Naharros** (Institute of Molecular Life Sciences, University of Zurich, Zurich, Switzerland)  
The ciliopathy protein CC2D2A organizes the vesicle fusion machinery at the periciliary membrane of zebrafish photoreceptors

5:15PM – 5:30PM

**Martin F. Engelke** (University of Michigan Medical School)  
Employing genetically engineered, inhibitable kinesins to delineate the specific functions of kinesin-2 motors in intraflagellar transport

5:30PM – 6:00PM

**Radhika Subramanian** (Massachusetts General Hospital and Harvard Medical School)  
A cilium architect: how Kif7 fine-tunes microtubule length

6:00PM – 7:00PM

**Dinner**

**7:00PM – 9:00PM**

**POSTER SESSION 1**

**Tuesday,  
July 18, 2017**

7:30AM – 9:00AM

**Breakfast**

**Session 3:  
9:00AM – 12:15PM**

**Cilia in development and disease**

Session Chair: **Martina Brueckner** (Yale University School of Medicine)

9:00AM – 9:30AM

**Zhaoxia Sun** (Yale University School of Medicine)  
Zebrafish Models of Primary Ciliary Dyskinesia

9:30PM – 10:00AM

**Sarah Suci** (Emory University)  
Disruption of the ciliary GTPase Arl13b suppresses Sonic Hedgehog overactivation and inhibits medulloblastoma formation

10:00AM – 10:30AM

**FASEB Sponsored Coffee Break and Group Photo**

10:30AM – 11:00AM

**Shuying Yang** (University of Pennsylvania, School of Dental Medicine)  
Primary Cilia/IFT Proteins and Bone

11:00AM – 11:30AM

**Martina Brueckner** (Yale University School of Medicine)  
The Ubiquitin E3 Ligase RNF20 functions in heart development through transcriptional regulation of cilia

11:30AM – 12:00PM

**Jeremy Reiter** (University of California San Francisco)  
Ciliary Hedgehog signaling restricts injury-induced adipogenesis

12:00PM – 12:15PM

**Dominic Norris** (MRC Harwell Institute, Oxfordshire UK)  
Location, location, location: PKD2 in the cilium prevents renal cyst formation

12:15PM – 1:15PM

**Lunch**

**1:15PM – 2:30PM**

**Career Development Session (Academia, Pharma, Foundations, NIH, Publishing)**

2:30PM – 3:00PM

Free Time

**Session 4:  
3:00PM – 6:00PM**

**Ciliary in Photoreceptors**

Session Chair: **Jarema Malicki** (University of Sheffield)

3:00PM – 3:30PM

**Brian Perkins** (Cleveland Clinic)  
Mutations in zebrafish cep290 result in age-related cone degeneration

3:30PM – 4:00PM

**Anand Swaroop** (National Eye Institute, NIH)  
Modeling CEP290 ciliopathies using patient-derived fibroblasts and iPSCs

4:00PM – 4:30PM

**Uwe Wolfrum** (Johannes Gutenberg Universtät Mainz)  
Vesicle trafficking to primary cilia of photoreceptor cells

4:30PM – 4:45PM

**Break**

4:45PM – 5:15PM	<b>Seonghin Seo</b> (University of Iowa) Photoreceptor outer segment as a sink for membrane proteins: hypothesis and implications in polarized protein distribution in photoreceptors
5:15PM – 5:45PM	<b>Jarema Malicki</b> (University of Sheffield) Transport in Photoreceptor Cilia
5:45PM – 6:00PM	<b>Abigail R. Moyer</b> (Byrd Health Sciences Center, West Virginia University) ARL2BP, a ciliopathy protein linked to retinitis pigmentosa, controls axonemal growth
6:00PM – 7:00PM	<b>Dinner</b>
<b><u>7:00PM – 9:00PM</u></b>	<b>POSTER SESSION 2</b>

**Wednesday,  
July 19, 2017**

7:30AM – 9:00AM

**Session 5:  
9:00AM – 12:00PM**

9:00AM – 9:30AM

9:30AM – 9:45AM

9:45AM – 10:15AM

10:15AM – 10:45AM

10:45AM – 11:00AM

11:00AM – 11:30AM

11:30AM – 12:00PM

12:00PM – 1:00PM

**1:00PM – 2:00PM**

**Breakfast**

**Cilia, motility, and multiciliogenesis**  
Session Chair: **Mary Porter** (University of Minnesota)

**Pascal Barbry** (Université Côte d'Azur, CNRS)  
MicroRNA regulation of multiciliogenesis

**Zhihua Jiang** (Department of Medicine, Columbia University)  
GW182 promotes multicilia formation by stabilizing miRNA targets in a novel class of apical localized mRNP granules

**Mary Porter** (University of Minnesota)  
Conserved complexes regulating ciliary motility and waveform asymmetry

**Brian Ciruna** (The Hospital for Sick Children, Toronto)  
Linking cilia and CSF flow defects to the pathogenesis of idiopathic scoliosis

**FASEB Sponsored Coffee Break**

**Rebecca Burdine** (Princeton University)  
Insights into disease from cilia motility mutants

**Chris Kintner** (Salk Institute)  
Transcriptional Control of Motile Ciliation

**Lunch**

**Meet the Experts Session**

2:00PM – 3:00PM	Free Time
<b>Session 6:</b> <b><u>3:00PM – 6:00PM</u></b>	<b>Ciliary signaling</b> Session Chair: <b>Greg Pazour</b> (University of Massachusetts Medical School)
3:00PM – 3:30PM	<b>Saikat Mukhopadhyay</b> (UT Southwestern Medical Center) Tubby family proteins, ciliary trafficking of integral membrane proteins and polycystic kidney disease
3:30PM – 4:00PM	<b>Markus Delling</b> (University of California, San Francisco) Primary Cilia Are Not Calcium-Responsive Mechanosensors
4:00PM – 4:30PM	<b>Søren Christensen</b> (University of Copenhagen) IFT20 teams up with Cbl proteins to put a brake on ciliary PDGFR $\alpha$ signaling
4:30PM – 4:45PM	<b>Coffee Break</b>
4:45PM – 5:15PM	<b>Rachel Giles</b> (University Medical Center Utrecht, the Netherlands) DNAAF1 links heart laterality with the AAA+ ATPase RUVBL1 and ciliary intraflagellar transport
5:15PM – 5:45PM	<b>Benjamin R. Myers</b> (Stanford University / HHMI) Ion Gradients Drive Patched Regulation of Hedgehog Signaling at the Ciliary and Plasma Membranes
5:45PM – 6:00PM	<b>Robert O'Hagan</b> (Rutgers University) The Tubulin Code specializes the form and function of cilia by regulating transport and sculpting the axoneme
6:00PM – 7:00PM	<b>Dinner</b>
<b><u>7:00PM – 9:00PM</u></b>	<b>Poster Session 3</b>
<b>Thursday,</b> <b><u>July 20, 2017</u></b> 7:30AM – 9:00AM	Breakfast
<b>Session 7:</b> <b><u>9:00AM – 12:00PM</u></b>	<b>Ciliary Transition Zone</b> Session Chair: <b>Iain Drummond</b> (Massachusetts General Hospital)
9:00AM – 9:30AM	<b>Jung-Chi Liao</b> (Institute of Atomic and Molecular Science, Taiwan) Superresolved molecular architecture at the base of primary cilia
9:30AM – 10:00AM	<b>Michel Leroux</b> (Simon Fraser University) Transition zone organisation and function
10:00AM - 10:15AM	<b>Tomoharu Kanie</b> (Stanford University) The CEP19-RABL2 GTPase complex binds IFT-B to initiate

intraflagellar transport at the ciliary base

10:15AM – 10:30AM

**Emily L. Hunter** (Emory University, Atlanta)  
The Chlamydomonas IDA3 gene encodes a novel IFT adapter protein specifically required for transport of the ciliary inner arm I1/f dynein

10:30AM – 10:45AM

**FASEB Sponsored Coffee Break**

10:45AM – 11:00AM

**Yohei Katoh** (Kyoto University)  
Intraflagellar transport-A complex mediates ciliary entry and retrograde trafficking of ciliary G protein-coupled receptors

11:00AM – 11:15AM

**Raquel Y. Salinas** (Duke University)  
Photoreceptor disks form through peripherin-dependent suppression of ciliary ectosome release

11:15AM – 11:45AM

**John Wallingford** (University of Texas, Austin)  
Systems biology of multiciliated cells

11:45AM – 12:00PM

**Business Meeting**

12:00PM – 1:00PM

**Lunch**

1:00PM – 4:00PM

Free Time (Group Activities)

**Session 8:**

**4:00PM – 6:00PM**

**Cilia and CNS Development**

Session Chair: **Jagesh Shah** (Harvard Medical School)

4:00PM – 4:15PM

**Nicholas Barbari** (Indiana University-Purdue University)  
Impact of conditional disruption of cilia and the transition zone proteins on feeding behavior and obesity

4:15PM – 4:45PM

**Kirk Mykyntyn** (Ohio State University)  
Neuronal Primary Cilia and Dopamine Receptor 1 Signaling

4:45PM – 5:15PM

**Eva Anton** (University of North Carolina, Chapel Hill)  
Primary Cilia Signaling Drives the Development of Interneuronal Connectivity

5:15PM – 5:30PM

**Emily Bowie** (Duke University)  
Characterizing the role of TTBK2 and primary cilia in adult neural function

5:30PM – 6:00PM

**Julie Craft Van De Weghe** (University of Washington, Seattle)  
Novel ciliary proteins and disease mechanisms in Joubert syndrome

6:00PM – 7:00PM

**Dinner**

**7:00PM – 9:00PM**

**Poster Session 4**

**Joubert Foundation meeting interaction**

**Friday,**

**July 21, 2017**

7:30AM – 9:00AM

**Breakfast**

**Session 9:**

**9:00AM – 12:15PM**

**Human Genetics and Therapeutics in Ciliopathy Syndromes**

Session Chair: **Hannah Mitchison** (University College London)

9:00AM – 9:30AM

**Freidhelm Hildebrandt** (Boston Children's Hospital)

DNA damage response signaling in ciliopathies

9:30AM – 10:00AM

**Heymut Omran** (University Hospital Muenster)

Mutations in CCNO and MCIDAS cause a novel mucociliary clearance disorder characterized by reduced generation of multiple motile cilia

10:00AM – 10:30AM

**Hannah Mitchison** (University College London)

Novel PCD genes

10:30AM – 10:45AM

**FASEB Sponsored Coffee Break**

10:45AM – 11:15AM

**Barbara Tanos** (The Institute of Cancer Research, London)

Primary cilia mediate diverse kinase inhibitor resistance mechanisms in cancer

11:15AM – 11:30AM

**Domenico F. Galati** (University of Colorado)

Altered cilia assembly and signal transduction in Down syndrome

11:30AM – 11:45PM

**Lai Kuan Dionne** (Washington University School of Medicine)

Centrosome Amplification Disrupts Ciliogenesis and Causes Cystic Kidney Disease

11:45AM – 12:15PM

**Warren Green** (University of Florida, Gainesville)

Gene therapeutic rescue of olfactory ciliopathies: beyond the periphery

12:15PM

Closing Comments and Departure

Boxed Lunches Available

## **END OF CONFERENCE**

For additional information contact:  
FASEB Science Research Conferences  
9650 Rockville Pike  
Bethesda, MD 20814

[www.faseb.org/src](http://www.faseb.org/src)