Polycystic Kidney Disease: Challenges, differing viewpoints and ways forward
June 25-June 30, 2017
Big Sky, Montana

Organizers:

Vicente Torres, M.D., Ph.D.
Mayo Clinic
Rochester, MN

Marie Trudel, Ph.D.
Institut de Recherches Cliniques de Montréal - IRCM
Montreal, Quebec

Sunday, June 25, 2017
4:00 PM – 9:00 PM Conference Registration
6:00 PM – 7:00 PM Welcome Reception
7:00 PM – 8:00 PM DINNER
8:00 PM – 9:30 PM Keynote Address:
Stephen C. Ekker, Mayo Clinic, Rochester, MN
How to Join the Genome Writers Guild

Monday, June 26, 2017
7:30 AM – 6:00 PM Conference Registration
7:30 AM – 8:30 AM Breakfast

Session One: Genetic Mechanisms in PKD
Lisa Guay-Woodford, George Washington University, Washington DC and York Pei, Toronto General Research Institute, Toronto, Ontario, Canada

8:30 AM – 8:35 AM FASEB Opening Remarks
8:35 AM – 9:00 AM In Memoriam: Dr. Jared James Grantham, presented by James Calvet, University of Kansas Medical Center, Kansas City, KS
9:00 AM – 9:30 AM  Hanna Rennert, Weill Cornell Medical College, New York, NY: Understanding Next Generation Sequencing for PKD

9:30 AM – 10:00 AM  Peter C. Harris, Mayo Clinic, Rochester, MN: Analysis of genetic factors influencing the phenotype in ADPKD

10:00 AM – 10:15 AM  FASEB Sponsored Coffee Break


10:45 AM – 11:15 AM  Alexis Hofherr, University of Freiburg, Freiburg, Germany: A forward genetic screen identifies a Ca2+–regulated mitochondrial metabolite carrier as a downstream target of Polycystin-2

11:15 AM – 12:00 PM  Abstract Oral Presentations

11:15 PM – 11:30 PM  Emilie Cornec-Le Gall, Mayo Clinic, Rochester, MN: Redefining Monoallelic Forms of Polycystic Kidney and Liver Disease (MPKLD) with Genomic Analysis: A comprehensive analysis of 600 genetically unresolved PKD/PLD pedigrees

11:30 PM – 11:45 PM  Patricia Outeda, University of Maryland, Baltimore, MD: A Novel Model of Autosomal Recessive Polycystic Kidney Questions the Role of the FPC C-terminus in Disease Mechanism

11:45 PM – 12:00 PM  Stephen Parnell, University of Kansas, Kansas City, KS: Re-expression of polycystin-1 at birth delays and limits, but does not prevent later cystic kidney growth

12:00 PM – 1:00 PM  Lunch–Meet the Experts Session

1:00 PM – 4:00 PM  Free Afternoon

4:00 PM – 6:00 PM  Poster Session

6:00 PM – 7:00 PM  Dinner

Session Two: Structure and Regulation of Polycystin 2
Barbara E. Ehrlich (Yale University, New Haven, CT) and Albert Ong (University of Sheffield, Sheffield, UK)

7:00 PM – 7:30 PM  Erhu Cao, University of Utah School of Medicine, Salt Lake City, UT: The structure of Polycystin-2

7:30 PM – 8:00 PM  Elisabeth P. Carpenter, University of Oxford, Oxford, UK: The structure of the closed conformation of polycystin-2 solved by cryo-EM in detergent

8:00 PM – 8:30 PM  Gregor Madej, Institute of Biophysics and Physical Biochemistry, Regensburg, Germany: Role of lipids in the activation of Polycystin-2

8:30 PM – 9:00 PM  Yong Yu, St. John’s University, Queens, NY: Clues to Polycystin-2 function revealed by gain-of-function mutations

9:00 PM – 9:30 PM  Xing-Zhen Chen, University of Alberta, Edmonton, Canada: Gating and functional regulation of polycystin-2
9:30 PM – 10:00 PM  Horacio F. Cantiello, Universidad de Buenos Aires, Buenos Aires, Argentina:  
Various regulatory mechanisms of Polycystin-2 function

Tuesday, June 27, 2017  
7:30 AM – 6:00 PM,  Conference Registration  
7:30 AM – 8:30 AM  Breakfast  

Session Three: Cell biology of PKD Proteins, extracellular vesicles and cilia  
Bradley Yoder (University of Alabama at Birmingham, Birmingham, AL) and Jing Zhou (Harvard Medical School, Boston, MA)  

8:30 AM – 9:00 AM  Feng Qian, University of Maryland School of Medicine, Baltimore, MD:  
Regulation of Polycystin-1 GPS cleavage and trafficking to the cilia  

9:00 AM – 9:30 AM  Stefan Somlo, Yale University School of Medicine, New Haven, CT:  
ER processing of Polycystin-1 and trafficking to the cilia  

9:30 AM – 10:00 AM  William Y Tsang, IRCM, Montréal, Canada: Regulation of ciliary entry  
10:00 AM – 10:30 AM  FASEB Sponsored Coffee Break and  
*Group Photo  
10:30 AM – 11:00 AM  Jinghua Hu, Mayo Clinic, Rochester, MN: A novel paradigm for anchoring polycystins on the ciliary membrane  
11:00 AM – 11:30 PM  Maxence Nachury, Stanford University School of Medicine, Stanford, CA:  
Signal-dependent ectocytosis  
11:30 PM – 12:00 PM  Takanari Inoue, Johns Hopkins University School of Medicine, Baltimore, MD:  
Membrane composition dictates fall of primary cilia and rise of cell cycle  
12:00 PM – 1:00 PM  Lunch  
1:00 PM – 4:00 PM  Free Afternoon  
4:00 PM – 6:00 PM  Poster Session  
6:00 PM – 7:00 PM  Dinner  

Session Four: Epigenetics and microRNAs  
Friedhelm Hildebrandt (Boston’s Children’s Hospital, Boston, MA) and Peter Igarashi (University of Minnesota, Minneapolis, MN)  

7:00 PM – 7:30 PM  Vishal Patel, University of Texas Southwestern Medical Center, Dallas, TX:  
Role of non-coding RNAs in PKD  

7:30 PM – 8:00 PM  Samir S. El-Dahr, Tulane University School of Medicine, New Orleans, LA:  
Epigenetics of renal development
8:00 PM – 8:30 PM  Katalin Susztak, University of Pennsylvania, Philadelphia, PA: Epigenetic based therapies for chronic diseases

8:30 PM – 9:00 PM  Xiaogang Li, University of Kansas Medical Center, Kansas City, KS: Epigenetic based therapies for PKD

9:00 PM – 10:00 PM  Abstract Oral Presentations

9:00 PM – 9:15 PM  Karam Aboudehen, University of Minnesota, Minneapolis, MN: The Long Noncoding RNA, Hoxb3os is Deregulated in Autosomal Dominant Polycystic Kidney Disease and Regulates mTOR Pathway

9:15 PM – 9:30 PM  Nikolay Gresko, Yale University, New Haven, CT: Polycystin 1 regulates WWTR1/TAZ, a non-canonical WNT and Hippo signalling target.

9:30 PM – 9:45 PM  Joshua Lipschutz, Medical University of South Carolina, Charleston, SC: Cardiac valve abnormalities in PKD are due to defects in ciliogenesis, and ciliogenic programs involving the exocyst are conserved across species and organs.

9:45 PM – 10:00 PM  Rory Olson, Mayo Clinic, Rochester, MN: Transcriptome analysis places primary cilium assembly at the intersection of the Pkhd1-Pkd1 interaction

Wednesday, June 28, 2017
7:30 AM – 6:00 PM, Conference Registration
7:30 AM – 8:30 AM, Breakfast

Session Five: Disease mechanisms (1): Cilia, calcium, and cAMP signaling
P. Darwin Bell (U of Alabama at Birmingham, Birmingham, AL) and Dorien Peters (Leiden University, Leiden, The Netherlands)

8:30 AM – 9:00 AM  Surya M. Nauli, The University of Toledo, Toledo, OH: Role of calcium signaling in PKD

9:00 AM – 9:30 AM  Paul G. DeCaen, Northwestern University Feinberg School of Medicine, Chicago, IL: Calcium signaling and polycystin-2

9:30 AM – 10:00 AM  Steven Kleene, University of Cincinnati, Cincinnati, OH: Polycystin-2 dependent channel of primary cilia

10:00 AM – 10:15 AM  FASEB Sponsored Coffee Break

10:15 AM – 10:45 AM  Peter Igarashi, University of Minnesota, Minneapolis, MN: Adenylyl cyclases in ADPKD, AC5, AC6 or both?

10:45 AM – 11:15 AM  Caroline Sussman, Mayo Clinic, Rochester, MN: Modulation of cystogenesis by cyclic nucleotide phosphodiesterases and PKA regulatory subunits

11:15 AM – 12:00 PM  Abstract oral presentations
Darren Wallace, University of Kansas, Kansas City, KS: Expression of Activated BRAF Induces Renal Cyst Formation in Normal Mice and Accelerates Disease Progression in ADPKD mice

Fernanda Lemos, Yale University, New Haven, CT: PC2 N-terminus interacts with InsP3R – implications for polycystic kidney disease

Hermant Badgandi, UT Southwestern, Dallas, TX: Tubby family proteins, ciliary trafficking of integral membrane proteins and polycystic kidney disease

**Business Meeting**

Lunch

1:30 PM – 3:30 PM

**Career Development Workshop**

Moderator: Gregory Germino (NIDDK, NIH, Bethesda, MD)
Ronald Perrone: Clinical Research perspective
Peter Igarashi: MD Basic Research Perspective
Maxence Nachury: PhD Basic Research Perspective
Gregory Germino: NIH Perspective
Frank Czerwiec: Industry Perspective
Roundtable discussion

3:30 PM – 4:00 PM

Free time

4:00 PM – 6:00 PM

**Poster Session**

6:00 PM – 7:00 PM

Dinner

**Session Six: Disease Mechanisms (2): Other Pathways and model systems**

Iain Drummond (Harvard Medical School, Boston, MA) and Terry Watnick (University of Maryland, Baltimore, MD)

7:00 PM – 7:30 PM

James Calvet, University of Kansas Medical Center, Kansas City, KS: The role of ciliary developmental signaling in PKD (notch, hedgehog, wnt)

7:30 PM – 8:00 PM

Leonidas Tsiokas, University of Oklahoma Health Sciences Center, Oklahoma City, OK: Wnt calcium signaling in PKD

8:00 PM – 8:30 PM

Benjamin S. Freedman, University of Washington School of Medicine, Seattle, WA: Induced pluripotent stem cells and organoids to study PKD

8:30 PM – 9:00 PM

Timothy A. Fields, KUMC, Kansas City, KS: Roles of progenitor cells in cyst formation

9:00 PM – 9:30 PM

Katharina Hopp, University of Colorado, Aurora, CO: The role of the adaptive immune system in ADPKD.

9:30 PM – 10:00 PM

**Abstract Oral Presentations**

9:30 PM – 9:45 PM

Cheng ‘Jack’ Song, University of Alabama at Birmingham, Birmingham, AL: Cilia-mediated regulation of injury responses in cystic kidney disease
9:45 PM – 10:00 PM
Chiara Formica, Leiden University, Leiden, the Netherlands: *Four-Jointed knock-out causes a delay in renal failure in an ADPKD model with kidney injury*

Thursday, June 29, 2017

7:30 AM – 6:00 PM,
Conference Registration

7:30 AM – 8:30 AM
Breakfast

Session Seven: Cell Metabolism and metabolomics
* Alessandra Boletta (San Raffaele Scientific Institute, Milano, Italy) and Gregory Germino (NIDDK, NIH, Bethesda, MD)*

8:30 AM – 9:00 AM
Robert H. Weiss, University of California, Davis, CA: *Metabolomics of PKD*

9:00 AM – 9:30 AM
Eduardo N. Chini, Mayo Clinic, Rochester, MN: *Food restriction and related metabolic interventions in PKD*

9:30 AM – 9:45 AM
FASEB Sponsored Coffee Break

9:45 AM – 10:15 AM
Michael Caplan, Yale University School of Medicine, New Haven, CT: *Polycystins and the Regulation of Mitochondrial Function*

10:15 AM - 10:45 AM
Elisabeth Kemter, Ludwig-Maximilians-Universität München, Munich, Germany: *Endoplasmic reticulum stress, unfolded protein response and mitochondrial dysregulation in ADTKD*

10:45 AM – 11:15 AM
Sorin Fedeles, Yale University School of Medicine, New Haven, CT: *Endoplasmic reticulum stress and unfolded protein response in ADPKD*

11:15 AM – 12:00 PM
*Abstract Oral Presentations*

11:15 AM – 12:00 PM
María Irazabal, Mayo Clinic, Rochester, MN: *Possible role of nox4 in cystogenesis through its effects on fumarate hydratase in experimental PKD*

11:15 AM – 12:00 PM
Christine Podrini, San Raffaele Scientific Institute, Milan, Italy: *Dissecting the Metabolic Reprogramming in Polycystic Kidney Disease*

11:15 AM – 12:00 PM
Mahiro Kurashige, NIDDK/NIH, Bethesda, MD: *The C-terminal product of polycystin-1 localizes to the mitochondrial matrix protein where it regulates mitochondria function*

12:00 PM – 12:15 PM
Jennifer Arroyo, Mayo Clinic, Rochester, MN: *A role for canonical Wnt signaling in renal development, maintenance, and ADPKD*

12:15 PM – 1:15 PM
Lunch

1:15 PM – 4:00 PM
*Group Activity (optional)*

4:00 PM – 6:00 PM
*Poster Session*
Session Eight: Biomarkers and clinical trials
Arlene Chapman (University of Chicago, Chicago, IL) and Stefan Somlo (Yale University School of Medicine, New Haven, CT)

7:00 PM – 7:30 PM  Ronald Perrone, Tufts University School of Medicine, Boston, MA: Lessons from CRISP, HALT PKD, TEMPO and the PKD Outcomes Consortium: TKV and other Biomarkers

7:30 PM – 8:00 PM  Bradley Erickson, Mayo Clinic, Rochester, MN: Advanced imaging of ADPKD

8:00 PM – 8:30 PM  Ron Gansevoort, University Medical Center Groningen, Groningen, The Netherlands: Update on the tolvaptan clinical trials and postmarketing information

8:30 PM – 8:50 PM  Marie Hogan, Mayo Clinic, Rochester, MN: Update on clinical trials of somatostatin analogs for PKD and PLD

8:50 PM – 9:10 PM  Anjay Rastogi, David Geffen School of Medicine UCLA, Los Angeles, CA: Clinical Studies of Tesevatinib, an EGFR Inhibitor, for the Treatment of ADPKD

9:10 PM – 10:00 PM  Special Lecture: Ken Gruchalla, Cardiovascular and Renal Diseases, Bureau of Medical Sciences, Health Canada
Regulatory Path to Drug Approval for Inherited Slowly Progressive Renal Diseases

Friday, June 30, 2017

7:30 AM – 8:30 AM  Breakfast

Session Nine: Disease Mechanisms (3): Extrarenal tissues and organs
Robert Bacallao (Indiana University, Indianapolis, IN) and Peter Harris (Mayo Clinic, Rochester, MN)

8:30 AM – 9:00 AM  Tetyana V. Masyuk, Mayo Clinic, Rochester, MN: New insights into the pathobiology of Polycystic Liver Disease

9:00 AM – 9:30 AM  David A. Long, UCL Institute of Child Health, London, UK: Role of the vasculature in the progression of PKD

9:30 AM – 9:45 AM  FASEB Sponsored Coffee Break

9:45 AM – 10:15 AM  Barbara E. Ehrlich, Yale University, New Haven, CT: Function of the polycystins: Insights from the heart

10:15 AM – 10:45 AM  P. Darwin Bell, U of Alabama at Birmingham, Birmingham, AL: The intrarenal renin-angiotensin system in PKD

11:00 AM  Lunch to Go and DEPARTURES

END OF CONFERENCE
For additional information contact:
FASEB Science Research Conferences
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