Dear Members of the Division of Precision and Computational Diagnostics (PCD),

Welcome to the seventh issue of our Divisional Newsletter. The last quarter was filled with a significant number of activities, events and inclusion of new Divisional personnel. We are thrilled to welcome Drs. Jacquelyn Roth and Malay Haldar as our newest faculty members to the Division. We also welcomed two new Clinical Genomic Technologists; Donna Didario at the Center for Personalized Diagnostics (CPD) and Emily Collins in MolPath. We are delighted to gain from their experiences in our laboratories. Congratulations are in order to “Karthik” Ganapathy who gained admission to a Master’s program at Temple University. We will miss him as he pursues this opportunity and wish him the very best in this endeavor. And Emma Staatz who has decided to pursue her medical education in Boston!

We successfully navigated inspection by the College of American Pathologists. Congratulations to the entire Division for a job well done!

This quarter, we launched our first translocation panel by next generation sequencing. This test will detect several translocations that are clinically relevant in lung cancer, thyroid cancer and solid tumors. Kudos to the Research and Development team led by Dr. Robyn Sussman who worked in conjunction with Dr. Jason Rosenbaum at the CPD for finalization of the test. The quarter was concluded by a rare cosmic event; a solar eclipse on the 21st of August. Contemporaneously, we were honored to host the Dean of the Perelman School of Medicine, and Executive Vice President for the University of Pennsylvania Health System, Dr. J. Larry Jameson at the CPD. Dr. Jameson is a strong proponent of molecular medicine and toured the CPD. On behalf of faculty and staff of the Division, I extended our gratitude for his support and all around support.

We are anticipating a very active and productive fall with both professional and social activities. Please continue to offer ideas for activities that demonstrate the impact of the PCD to patient care at HUP.

Best wishes to all for a pleasant upcoming fall season.
Kojo S. J. Elenitoba-Johnson, M.D.

MolPa Jokesters

Wednesday, August 16 was “Tell a Joke Day,” so MolPa compiled their favorite jokes for you to enjoy. August 16 was also “National Rum Day,” but that you will have to celebrate on your own time.

Knock, knock!
Who’s there?
HIPAA!
HIPAA who?
I can’t tell you!
- Gary Tang

Biology is the only science in which multiplication is the same thing as division.
- Vivianna Van Deerlin
PCD Fellows

For the 2017-18 academic year the Penn Molecular Genetic Pathology (MGP) Fellowship program welcomes two new fellows.

Jad Saab, MD
Jad Saab completed his medical school and residency in anatomic pathology at the American University of Beirut, Lebanon. He then came to the United States to pursue further training in anatomic and clinical pathology at Weill Cornell, followed by a fellowship in surgical pathology at Memorial Sloan Kettering. After this one-year MGP fellowship, Jad will pursue an additional fellowship in dermatopathology, followed by a pursuit for a career in academic pathology.

Paul Hess, MD, PhD
Paul Hess is a graduate of the Medical Scientist Training Program at the University of Pennsylvania. As part of this dual program, he completed medical school and received his PhD in Cell and Molecular Biology. Paul then pursued training in clinical pathology at the Hospital of the University of Pennsylvania. After this one-year MGP fellowship, Paul plans to complete his training in pathology and pursue a career in academic pathology.

Rosenbaum presents at NextGenerationDx

Next-Generation Sequencing (NGS) Reveals Genomic Heterogeneity of ALK Fusion Breakpoints in Non-Small Cell Lung Cancer

In non-small cell lung cancer (NSCLC), ALK rearrangement results in a fusion protein containing constitutively active AKS kinase domain. ALK rearrangement is quite variable, with multiple potential breakpoints and fusion partners, and “ALK positive” by fluorescent in situ hybridization (FISH) shows only 60% response rate to ALK inhibitors. Next-generation sequencing (NGS) offers a more detailed analysis of chromosomal rearrangements and more potential clinical utility.

Faryabi winner of PCPM Accelerator Fund

R. Babak Faryabi and his team were recently awarded a Penn Center for Precision Medicine (PCPM) Acceleration Fund grant for their project entitled, “Clinical Decision Making for AML Patients with FLT3-ITD Mutations Using ITD-profiling Algorithm.”

Internal tandem duplication (ITD) mutations are diverse and complex mutations that are observed in various cancers including acute myeloid leukemia (AML). Their data suggest that the diversity of these mutations could impact the efficacy of response to treatment with targeted therapies for AML patient. In this project, his team will develop an algorithm to improve the accuracy of detection and characterization of ITD mutations. They will apply their algorithm to NGS data of AML patients to characterize ITD mutations in FLT3. Currently, several small-molecule FLT3 inhibitors are in trials for targeted therapy of FLT3-ITD-positive AML patients. Yet, the clinical responses to these treatments are variable, suggesting that the mere presence of FLT3-ITD in a patient might not guarantee effective response to targeted inhibition of FLT3. Faryabi lab is developing a machine learning method that benefits from the output of their ITD characterization and systematically relate the features of these complex mutations with other data modalities with the goal of predicting efficacy of treatment with FLT3 inhibitors.
Join the PCD at the Oktoberfest Weekend

When: Saturday, September 30, 2017
Where: Mount Hope Estate, 2775 Lebanon Rd, Manheim, PA 17545
Time: Faire open 11:00 AM – 8:00 PM (advised to get there early)
We will meet for lunch at 1:00 PM at the Wicked Pickle Booth.
Cost: Adults $31 at gate/ $26 online – Kids (5-11) $12, under 4 FREE!
Group Rates: Adults $22, Kids (5-11) $7.95, under 4 FREE!

* Many merchants & all food booths are cash only *
**FRIENDS & FAMILIES ARE WELCOME!**
For the Group Rate, please RSVP by September 15th
Email: laura.pritchard@uphs.upenn.edu

Join the PCD for a day of mirth and merriment amidst jousting knights and royal delights!
A cast of hundreds of colorfully costumed characters will fill the Shire with music, dancing and more!
With over 90 stage shows daily, 22 Royal Kitchens and scores of artisan merchants with handcrafted wares, the Renaissance Faire invites guests to immerse themselves in a 35-acre village and experience the fantasy!
Learn more at [http://www.parenfaire.com](http://www.parenfaire.com)
Yoga on the Banks
Several PCD members enjoyed getting their sweat on recently at a yoga session!

Goodbye & Good Luck
Emma & Karthik!

Congratulations to Jess O’Donnell and her husband on the birth of their son; Erich Michael Sondermann III on August 23, 2017

Quizzo
PCD members dominated a local Quizzo game taking home the first place prize—great job Team Fancy Pants! Let us know if you want to join in the next game!

Welcome New Members!
Emily Collins is excited to return to the lab following her role as a Field Applications Specialist for DiaSorin where she validated immunodiagnostic instrumentation and trained instrument operators. She previously worked as a Medical Technologist at the Philadelphia VA Medical Center. Emily is a graduate of New York University and Thomas Jefferson University’s Master of Science in BioScience Technology program. She enjoys traveling, going to the movies, pizza, and walking her French Bulldogs around South Philly.

Donna Didario has joined the Center for Personalized Diagnostics as a Clinical Genomics Technician. She has a BS in Biology from Temple University and an MS in Cell Biology/Biotechnology from The University of the Sciences. Donna worked full time in the molecular lab at Thomas Jefferson University and recombinant plant genetics lab at DuPont. She looks forward to starting in clinical genetics. She currently lives in Wilmington, Delaware and is happy to be back in Philly.

Contributors
Kojo Elenitoba-Johnson, MD, R. Babak Faryabi, PhD, Emily Collins, Donna Didario, Jacquelyn Roth, PhD, Laura Pritchard, MolPath Faculty/Staff

Do you have comments, suggestions, or content for the newsletter? Please contact Jackie Roth or Laura Pritchard; jacquelyn.roth@uphs.upenn.edu or laura.pritchard@uphs.upenn.edu