

PCD NEWSLETTER

THIS ISSUE: WELCOME | NOTABLE EVENTS | CONVERSATIONS

DIRECTOR'S CORNER



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

Welcome to the tenth issue of our Divisional Newsletter. We are excited to welcome several new members to our division. Akshay Chitturi, MS, joined the bioinformatics team at the CPD; Cooper Terry is a new technologist in the Molecular Pathology Lab; Sarah Herlihy, PhD, joined Molecular Pathology as the R&D Coordinator; and Cody Hardesty is the Administrative Assistant for the CPD and Cytogenetics Labs, faculty, and staff. Welcome to all new members and we are thrilled that you've decided to join the PCD.

In other news, the Molecular Pathology Lab has launched the first-ever FDA-Cleared BCR/ABL1 fusion detection assay. This launch was led by Caren Gentile, MS, Monica Shah, Jackie Roth, PhD, and Chris Watt, MD, PhD. Several members of the CPD traveled to the TRI-CON conference in San Francisco, CA, where they delivered exciting talks about the NGS assays in the CPD. Also, April Schrank-Hacker from Cytogenetics is featured in our first "Conversations" piece on page 4.

It has been a few months of celebrations in our division! The CPD turned five years old and the staff celebrated with a surprise party for Jennifer Morrissette, PhD. A special guest, our Department Director, Dr. David Roth was in attendance. Several other celebrations included the Persian New Year, Pi Day, the Superbowl, and the past holiday season. We are looking forward to our upcoming activities and hopefully spring will arrive soon! Best wishes to all for a great spring season.

Kojo Elenitoba-Johnson, MD

WELCOME



AKSHAY CHITTURI, MS
Akshay is a Bioinformatics Specialist at the Center for Personalized Diagnostics.

Akshay has a Bachelors in Biomedical Engineering from Johns Hopkins University. Akshay recently graduated from the Professional Science Masters program at Temple University, and previously did research in the Dunbrack Computational Lab at the Fox Chase Cancer Center. He enjoys golfing, tennis, and chess in his free time.



COOPER TERRY, BS
Cooper is a Technologist in Molecular Pathology.

Cooper received a BS in Biotechnology from Miami University. Previously, he worked as a Laboratory Technician at Genomind. Cooper enjoys hiking, soccer, computer coding, and short walks to the fridge. Ever since his beloved Patriots lost in the Super Bowl, he has been listening to "Mad World" on repeat in his free time.

CODY HARDESTY, BS
Cody is the Administrative Assistant for the Center for Personalized Diagnostics and Cytogenetics.



Cody has a BS in Neuroscience from Washington State University with minors in Chemistry, Biology, and Psychology. He moved from Washington State about a year and a half ago and during this time he has primarily been working. Within the last six months he decided to take an EMT course at Drexel University, and he recently became a nationally certified EMT. He hopes to use this certification in the near future to volunteer or do part time work to help those in need. In his own time, he enjoys binge watching television shows, playing with his cat, exploring the food scene in Philadelphia, and listening to music/full albums.



SARAH HERLIHY, PHD
Sarah is the Research & Development Coordinator in Molecular Pathology.

Sarah is thrilled to be the new Research and Development Coordinator for Molecular Pathology and fill the stylish shoes of Dr. Jackie Roth. Sarah received her BS and PhD in biology from Ashland University and Texas A&M University, respectively. Previously, she was at The Wistar Institute as a postdoctoral fellow in the Immunology, Microenvironment, and Metastasis Program. She and her husband recently purchased their first home and are looking forward to moving in soon. As an avid Ohio State football fan, Sarah is eager to build a fantastic working relationship and intense Ohio State-Michigan rivalry with her R&D counterpart Robyn.

NOTABLE EVENTS

MOL PATH CELEBRATES PI DAY

π day, 3/14, is celebrated by mathematics enthusiasts world-wide. This ubiquitous constant is integral to many equations that define our world, including the topology of DNA folding. Albert Einstein, in a stroke of kismet, was born on π day. MORE importantly, though, it is an opportunity to eat PIE!

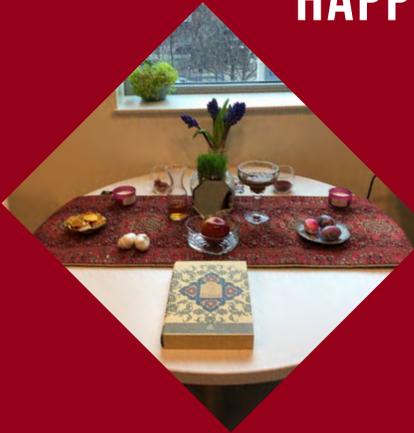


PCD CELEBRATES SUPERBOWL

The PCD laboratories celebrated the Superbowl win of our hometown Eagles! Molecular Pathology had a party and CPD/Cytogenetics had a Pringles guessing contest, which was won by Robyn Sussman, PhD.



HAPPY NOWRUZ



At the moment when the sun crosses the celestial equator and equalizes night and day (calculated exactly every year), Iranians all around the world gather together to observe and celebrate the coming of Spring. This year, Spring equinox was on Tuesday, March 20th at 12:15:28 ET. Ashkan Bigdeli and Safoora Deihimi were kind enough to share Nowruz, the Persian New Year, with the members of PCD on March 20. The table was decorated according to tradition with seven items (a traditionally lucky number) mostly taken from nature, including purple hyacinths symbolic of spring. The event was a welcome reprieve and beam of light in an otherwise prolonged and dreary winter season.



HAPPY HOLIDAYS 2017

'Twas a holiday season full of gatherings, great times, and celebration in the division. Molecular Pathology held its annual Holiday Bingo, and the PCD attended the Department of Pathology and Laboratory Medicine Holiday Party. One staff member even harbored a full-size decorated tree in his office for months.

Gary Tang (right, the man in the dinosaur) wore a costume to Holiday Bingo in capitulation to 100% participation by the members of the Molecular Pathology Lab in Penn's Way charity this year! We wait with bated breath to see what he will wear next year.



CPD 5TH ANNIVERSARY

The Center for Personalized Diagnostics (CPD) went live with its first targeted next-generation sequencing assay on February 14, 2013. Founding members David Roth, MD PhD and Jennifer Morrisette, PhD and current director Kojo Elenitoba-Johnson, MD toasted to the success and expansion of the CPD over the last five years. Composed of 5 members at inception, the CPD has expanded to include 20 employees! Jennifer Morrisette and Barnett Li are the two members remaining from the original team.



(Left to right) Dr. David Roth, Dr. Kojo Elenitoba-Johnson, and Dr. Jennifer Morrisette



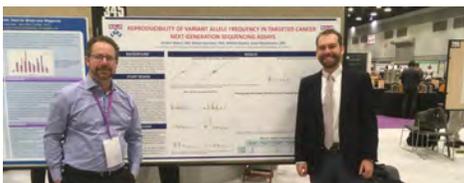
NGS flow cell cake designed especially for the celebration

REQUEST FOR PUBLICATIONS!

Starting with the next issue, we will have a section listing new/recent publications by members of the division. We will also have a spotlight portion within this section where we briefly interview an author of one of the publications. Please submit publications for listing (to Cody Hardesty) or let us know if you would like to be interviewed!

USCAP 2018, VANCOUVER, BC

Anders Meyer, MD and Jason Rosenbaum, MD presented their poster entitled "Reproducibility of variant allele frequency in targeted cancer NGS assays." Co authors included Robyn Sussman, PhD, and Ashkan Bigdeli, MS.



TRI-CON 2018, SF, CA

Robyn Sussman, PhD, Jason Rosenbaum, MD, and Jennifer Morrisette, PhD delivered presentations at the TRI-CON conference in February.

Jason Rosenbaum "Turning Lead to Gold: Validating the Detection of Fusion Transcripts against an Imperfect Standard - Modern Day ALKemy"

Jennifer Morrisette "Getting the most out of what you're given: preparing for complex specimens"



Robyn Sussman "Getting the whole picture: how DNA and RNA NGS from a single clinical specimen can alter therapeutic strategy"

MOL PATH LAUNCHES NEW BCR/ABL1 ASSAY

This spring, the first-ever FDA-Cleared BCR/ABL1 fusion detection assay was launched and was led by Caren Gentile, MS, Monica Shah, Jackie Roth, PhD, and Chris Watt, MD, PhD.

MOL PATH LAUNCHES 6800

Jennifer Resling and Gary Tang led the laboratory through the launch of a new infectious disease testing platform.

MOL PATH - FLU SEASON

This season the team worked 7 days per week to get through one of the most challenging influenza seasons yet - Kudos to the whole Mol Path lab!

CYTOGENETICS GOES FISHING

The cytogenetics staff is accommodating numerous STAT FISH requests each week. A big thank you to the whole team!

CPD DUAL EXTRACTION PROTOCOL IS LIVE

This Spring, the CPD launched a split extraction protocol for DNA and TNA, enabling clinicians to order the Solid Tumor panel and the Fusion Transcript panel on limited specimens.

CPD ACQUIRES TWO COVARIS MACHINES

The CPD is beginning development on a hybrid capture-based panel, which requires samples to be sonicated with a Covaris upfront. Step one: Check!

CPD ACQUIRES BIOMEK

The R&D team is actively working on automating all FFPE and Cytology extractions, as well as the Heme and Fusion Transcript Panels, with new i5 robots in Pre- and Post-PCR.

IN CYTOGENETICS

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"I was always interested in how people think and make decisions and what impact that has on systems."

April Schrank-Hacker is the focus of our inaugural "CONVERSATIONS" section, which aims to interview one staff member every issue. April recently completed a master's degree program and is interested in digital workflows in the laboratory.

What program did you obtain your degree from?

I have always wanted to attend the University of Pennsylvania since I was a child. I was blessed to have earned my Master's degree in Organizational Dynamics (MSOD) with two minor certificates; one in change management and a second in organizational leadership. I am passionate about improving organizations and currently pursuing a doctorate in Organizational Leadership at Stockton University in Galloway, NJ.

What made you want to pursue this? What was your thesis topic on?

Early in my career here at Penn, our Director, Jennifer Morrissette asked me what my five-year plan was. Honestly, I didn't have a coherent one. Jennifer encouraged me to think broadly about what I am passionate about and how I might connect that to a future path. I was always interested in how people think and make decisions and what impact that has on systems, so I wrote my Capstone on mental modeling and developing a growth mindset in organizational cultures. My doctoral dissertation is focusing on how leaders will think, act and make decisions to grow high performing teams in domains of chaos and complexity within VUCA (Volatility, Uncertainty, Complexity and Ambiguity) organizational systems. I am very passionate about learning how we understand and improve our worlds through interconnected, polymathic lenses.

Do you feel that your thesis relates to your daily work?

I have been so fortunate to be able to work in such an organizationally diverse environment. The doctorate program has exposed me to a wide variety of work disciplines, interesting and innovative approaches to complex or chaotic problems, and points of view I hadn't been exposed to previously. As different we are as individuals, we come together to work collaboratively in groups, and build teams to serve within our organization's mission. We then, as a unified whole, reach forward into society and work to change the world through each patient we serve. It is our challenge to look at things in a new way; create what does not yet exist and continue to keep UPHS at the forefront of patient diagnostics.

THE GOOD CATCH AWARD



- AKIMI MOELLER** The Good Catch Award is an opportunity for us to recognize the vigilance and dedication to patient safety displayed by our staff every day. Anytime we identify an error before it reaches our patients, that's a good catch: mislabeled or mishandled specimens, laboratory error, incorrect information, unsafe practice. It's just one more example of our commitment to enhancing Quality and Patient Safety at Penn Medicine. Recipients thus far are listed on the left.
- JESS O'DONNELL**
- MONICA SHAH**
- GARY TANG**

You have applied for some grants and are interested in creating a digital workflow in cytogenetics. Could you tell us a little bit more about that?

In 2017 Stockton University recognized my work, "Building Leadership Capacities for Navigating Domains of Complexity and Chaos" with a Distinguished Research Fellowship. I am currently working toward obtaining my certification as a Global Leadership Profiler and debriefer. Obtaining this credential will provide me the tools needed to help others build their own leadership skills and capacities and empower them to lead from the action-logic they operate from within an organization. My goal is to build the groundwork to create high performing, interconnected teams. I have applied for the 2018 Fellowship and currently awaiting the award decision. I'm keeping my fingers crossed! As I see this, digital pathology is a natural extension of this very idea. It is a way to interconnect individual practitioners, specialized groups, and diverse teams to the greater whole of the organization to create unified, aligned and precision-based processes that drive excellence. This improves operational systems by digitally connecting each to each other in a real-time, collaborative environment. This has great impact on each level, empowering us and creating a ripple of impact that enhances our capacities to serve the greater good of our patients and society as a whole. To me, that is the bedrock of why we show up each day- to serve our patient in the most efficient, effective and collaborative way possible.

I know you are an avid reader. What are you reading now, and do you have any recommendations?

I love to read and study a wide variety of disparate topics, but especially biographies of leaders. There are many lessons to learn from in biographies, without the sometimes painful consequences! Currently, I am studying the philosophy of the ancient Stoics, such as Marcus Aurelius, Seneca and Epictetus, and reading "Principles" by Ray Dailo. In Principles, he shares honestly and openly his successes and failures in becoming one of the greatest metrics-based market predictors ever.

*"Luck is what happens when preparation meets opportunity."
Seneca the Younger*



CONTRIBUTORS

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