

# The NICHD Connection

**September 2015**

**INSIDE THIS ISSUE**

Thank you, Dr. Guttmacher	1
Letter from the Editor	2
Sneak Peek at NICHD Award-Winning Research	5
Meet Our New Fellows	13
September Announcements	15
September Events	17
PhD Comics	19

**EDITOR IN CHIEF**

Shana R. Spindler, PhD  
Shana.Spindler@gmail.com

**LAYOUT & DESIGN**

Nichole Swan

**PHOTOGRAPHY**

Pixabay  
Unsplash

**CONTRIBUTORS**

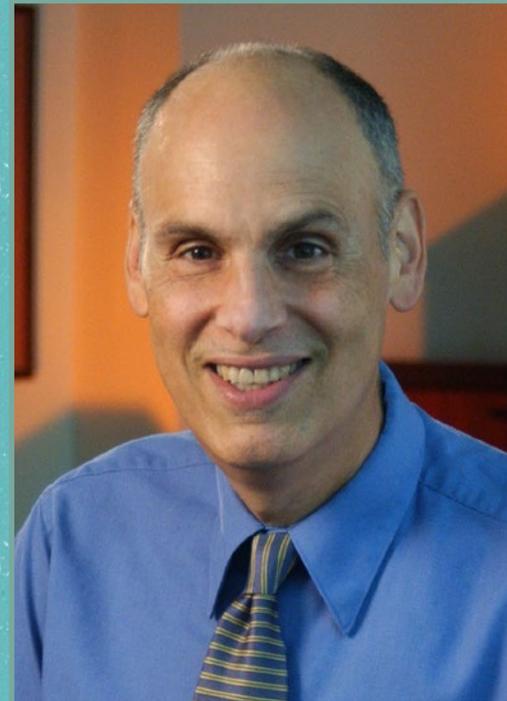
Kris Langlais, PhD  
ShanShan Li, ScD MSC  
Jana Kainerstorfer, PhD  
Uri Manor, PhD  
Amy Palin, PhD  
Jing Pu, PhD  
Cathy Ramos, PhD  
Megan Sampley, PhD  
Neelam Dabas Sen, PhD  
Jyothsna Visweswaraiah, PhD  
Megan Wyeth, PhD

THANK YOU,

*Dr. Guttmacher*

*By Current and Former NICHD Fellows*

“Dedicate ourselves to the idea that we will push forward the boundaries of biology—that we will improve the health and well-being of individuals, families, and communities of the world.”



DR. ALAN GUTTMACHER, DECEMBER 5, 2012, NICHD 50TH ANNIVERSARY COLLOQUIUM CLOSING REMARKS

*(continued on page 3)*

## Letter from the Editor

At the end of this month, Dr. Alan Guttmacher will retire from his position as NICHD Director. I'd like to take a moment to reflect on his unique perspective, which has shaped the NICHD scientific vision.

In the spring of 2011, Dr. Guttmacher graciously offered an interview with *The NICHD Connection*—the focus of the article: scientific trends and training. While composing the piece, it struck me how much Dr. Guttmacher valued interdisciplinary collaboration. A desire to have fluency in multiple fields guided his approach to science—an approach that, clearly, served him well.

It comes as no surprise that during his tenure as NICHD Director Dr. Guttmacher stood at the helm of developing the NICHD scientific vision, combining ideas from diverse disciplines in an effort to push forward the NICHD mission. Indeed, the Human Placenta Project, spearheaded by Dr. Guttmacher, taps several corners of biology and clinical studies to better understand an oft-misunderstood organ. With Dr. Guttmacher, it was never just talk. He put his ideas into action.

While pushing the NICHD forward, into the realm of interdisciplinary study, Dr. Guttmacher strengthened the cohesive feeling of our institute. Several times he used the phrase “NICHD family”—in his Director’s monthly eNewsletter—as a way to address NICHD staff in emails and in

his public speaking engagements. One instance in particular stands out in my mind. During his closing remarks at the NICHD 50th Anniversary Colloquium, in reference to the full day of diverse and engaging talks, Dr. Guttmacher said of the event:

I was trying to think, what did this remind me of? In some ways it reminded me of Thanksgiving. This was a gathering of a family, the NICHD family, and you are all in different ways part of the NICHD family...and it was just a wonderful feast—an intellectual feast—that had everything from cranberries to sweet potatoes to pumpkin pie.

Through his enthusiasm and colorful metaphors, Dr. Guttmacher made a lasting impression on the NICHD family. But don't just take my word for it. Current and former fellows offer their own kind words on Dr. Guttmacher; [beginning on the front page of this issue](#). In honor of Dr. Guttmacher's interdisciplinary approach to studying child health and human development, take a few minutes to browse [award-winning research projects from our institute](#) in our sneak peek of the upcoming NIH Research Festival this month.

On behalf of *The NICHD Connection*, a publication that wouldn't exist without the Director's support, a big thank you to Dr. Guttmacher and a fond farewell.

Your Editor in Chief,  
Shana R. Spindler, PhD

## Thank You, Dr. Guttmacher

(continued from page 1)



Dr. Megan Sampley, NICHD basic science representative

As the Institutes and Centers fellows' representative for the NICHD, I would like to extend a sincere thank you on behalf of the NICHD fellows' community to Dr. Alan Guttmacher, who is retiring as the director of the NICHD. A pediatrician and medical geneticist, Dr. Guttmacher has served in the role since 2010. But who better to thank Dr. Guttmacher than two former, successful NICHD fellows, Dr. Kristofor Langlais and Dr. Jana Kainerstorfer, whose interactions with Dr. Guttmacher made a meaningful impact on their careers.

— DR. MEGAN SAMPLEY

In an August 6 press release, Dr. Collins announced that Dr. Alan Guttmacher is retiring from his directorship of NICHD and noted that among many other qualities, his scientific acumen, wit, and humanity will be greatly missed at NIH. As a former intramural postdoctoral fellow training at NICHD during Dr. Guttmacher's tenure, I would also point out his great enthusiasm and vision for the next generation of scientists.

Dr. Guttmacher shared his views with me during an interview I conducted for *The NICHD Connection*. He emphasized that training programs must be built in a way that empowers individuals to take charge of their own training experience and that diverse interdisciplinary teams will drive the cutting edge of discovery to solve previously intractable research problems. To this effect, he encourages NICHD trainees to develop a great depth of expertise in a specific area, but at the same time, gain fluency in other scientific areas by seeking out co-mentors across programs, taking coursework, and spending time in other



Dr. Kristofor Langlais, NIH Health Science Policy Analyst

(continued on page 4)

## Thank You, Dr. Guttmacher *(continued from page 3)*

labs. I took this advice to heart when preparing for my transition into science policy, which requires fluency in many areas of the life sciences and a working knowledge of emerging technologies, bioethics, and the landscape of federal regulations.

I'll conclude my thank you with a great story (told by Dr. Guttmacher during our interview), which, it seems to me, laid the foundation for his thinking:

As a medical student, one of the most important things I learned was in my first year of medical school. I had lunch with my biochemistry professor, who was reading a physics journal article. I asked, "Why are you, a biochemist, reading about physics?" My professor said, "A couple of times a week I treat myself to, over lunchtime, reading journals outside biochemistry. Everyone who does biochemistry is a biochemist, and some of my most important contributions have had to do with bringing some tool, some approach, some way of thinking about a problem from another discipline. And by reading outside of biochemistry, that's how I learned about those tools and approaches." This kernel of a lesson, I have seen this over and over again, with interdisciplinary teams coming together, bringing their tools and ways of thinking.

As much as the NICHD retreat is about casual interactions with peers, good food, and nerdy conversations, it is also about networking and making a good impression. So when Dr. Guttmacher and Dr. Stratakis were heading my direction to look at my poster, I was ready to shine and impress them. I started my presentation to Dr. Guttmacher, but I don't remember if I even made it to my results. What I do remember is finding myself in a completely different conversation than I had anticipated. Dr. Guttmacher was excited about the imaging methods I had used and was asking about, as well as suggesting, applications I hadn't even thought about. He made me think outside the box. He did so with humor, a smile, a dedication to teaching, and a deep felt fascination about the unknown, unwritten results. It was a truly enjoyable conversation with a man who can now look back on a lifetime of training the next generation without ever losing enthusiasm about science.



*Dr. Jana Kainerstorfer, assistant professor of Biomedical Engineering at Carnegie Mellon University (then a postdoctoral fellow in the Gandjbakhche lab), and Dr. Guttmacher at the 2010 annual fellows retreat*

## Sneak Peek at NICHD Award-Winning Research

At the 29th annual NIH Research Festival, fellows from across the NIH institutes and centers will present their research projects for the intramural community. Since 1995, the Scientific Directors and the Office of Research on Women's Health have funded the Fellows Award for Research Excellence (FARE), a competition to recognize intramural fellows' noteworthy research. Take a sneak peek at several award-winning NICHD research projects and don't forget to visit a poster or two at the big event (more information in this month's announcements and events).

*Cartoons designed by Shana Spindler and colored by Nichole Swan.*

### **GESTATIONAL DIABETES MAY AFFECT MALE OFFSPRING MORE** **By ShanShan Li, ScD, MSC**

Gestational diabetes (GDM) is the most common pregnancy complication among United States (U.S.) women. The high glucose level in utero associated with GDM may affect offspring obesity risk. Existing studies have been conflicting and mainly focused on early childhood. Long-term, sex-specific impacts of GDM through adolescence and adulthood are unknown.

We conducted a prospective cohort study of 19,956 U.S. individuals followed up from 1996 (age 9-14 years) until 2010 (age 23-28 years). After adjusting for various maternal and socio-economic factors, we found that exposure to a gestational diabetes intrauterine environment was associated with a significantly higher Body Mass Index among male offspring and a greater obesity risk in all three age groups, including late childhood, adolescence, and young adulthood.

You might wonder, *why boys?* Compared with a female fetus, a male fetus, on average, grows faster, has a smaller placenta, and tends to be heavier. We also know that a male fetus is more sensitive to a stressful event and is more susceptible to the mother's current diet and metabolism. This sex differential sensitivity to hyperglycemia environment during pregnancy might have profound differential long-term consequences.

*(continued on page 6)*

## Sneak Peek at NICHD Award-Winning Research *(continued from page 5)*

### THE MISSING LINK IN MITOCHONDRIAL FISSION *By Uri Manor, PhD*

Proper regulation of mitochondrial fission is essential for proper health and survival. Disrupted mitochondrial fission is implicated in a myriad of maladies, ranging from heart disease to cancer to neurodegeneration. Mitochondrial fission is triggered by interactions with another important cellular organelle, the endoplasmic reticulum (ER). The actin cytoskeleton—which is famous for remodeling cellular membranes through the sheer force of its polymerizing actin filaments—helps drive ER-mediated mitochondrial constriction. But an important question remains: What mitochondrial proteins interact with or regulate actin?

We show that the Spire protein family, which is important for initiating and regulating actin assembly in order to drive membrane dynamics, has a splice isoform, which we've called SpireIC, that localizes to the mitochondrial outer membrane. Through a series of high-resolution imaging experiments (including structured illumination microscopy—a method that gets double the resolution of conventional light microscopes), we show that SpireIC binds and promotes the formation of actin filaments on the mitochondrial outer membrane. We also show that SpireIC interacts with INF2 (inverted formin 2), an ER-anchored protein that promotes mitochondrial constriction by driving actin assembly at ER-mitochondria intersections, in order to drive mitochondrial fission. Thus, SpireIC provides a previously unaccounted for link between mitochondria and the ER as well as the actin cytoskeleton.

*(continued on page 7)*

## Sneak Peek at NICHD Award-Winning Research (continued from page 6)

### HOW TO MAKE IMMUNE CELLS THAT PREVENT ATTACKS ON SELF By Amy Palin, PhD

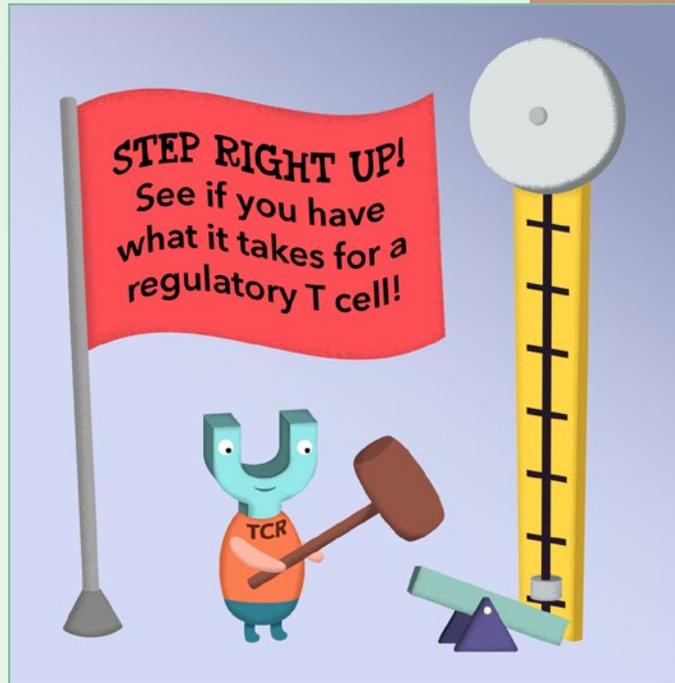
The immune system must recognize pathogens as foreign invaders and avoid attacking the body. Regulatory T cells (Tregs) are critical in maintaining tolerance to self and suppressing inappropriate immune responses. Most Tregs arise during T cell development in the thymus. They are thought to recognize self proteins with higher affinity than conventional T helper cells, protecting the body from immune attacks on itself.

During T cell development in the thymus, strength of the T cell receptor (TCR) signal determines which cells become Tregs. High TCR signal strength ensures the cell is not highly self-reactive. Our studies explore the basic mechanisms underlying TCR signal strength, with potential to support therapeutic targeting of TCR signaling to treat autoimmune diseases and leukemias.

To study the role of TCR signal strength in T cell development, we have constructed a knock-in mouse with tyrosine to phenylalanine mutations in six of the ten major signaling motifs in CD3, an invariant protein complex that associates with TCR chains. Mice with germline expression of the mutated CD3 have an increase in regulatory T cells relative to mice lacking the amino acid swap. We have found that inducing expression of the mutated CD3 prior to the T cell selection processes in the thymus results in increased Tregs, while induction after selection does not.

We are now investigating the relationship between Treg development and deletion of highly self-reactive cells in the thymus. From these experiments, we hope to learn more about the generation of a T cell subset critically important in maintaining self-tolerance.

*(continued on page 8)*



## Sneak Peek at NICHD Award-Winning Research (continued from page 7)

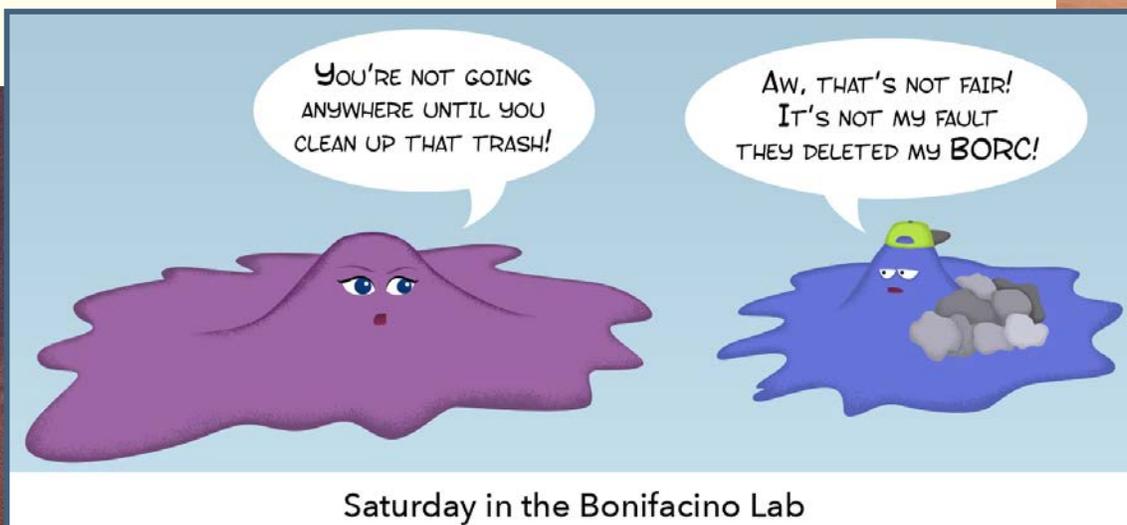
### A CELLULAR GARBAGE PAIL PILEUP By Jing Pu, PhD

Can you imagine if all of our garbage was stuck in the center of the city? While pondering this question, it's easy to appreciate dispersed trash pails and mobile garbage trucks. In a cell, lysosomes are the garbage disposal system for digesting biomolecules. Recently, lysosome positioning and movement has been found to affect several cellular processes.

Our study addressed the mechanism and the physiological significance of lysosome positioning and movement via the identification of a novel multi-protein complex we named BORC (short for BLOC-One Related Complex, but that's for another summary entirely). BORC connects lysosomes to a chain of proteins, which enables lysosomes to move along microtubule tracks from the cell center to the cell periphery. In BORC-deleted cells, lysosomes clustered near the nuclei and lost the ability to move long distances. One of the deficiencies in BORC-deleted cells involved cell migration—a critical process for normal and pathological cellular activities, such as cancer metastasis.

Lysosome clustering due to BORC deletion might decrease the chance of lysosome fusion with the plasma membrane, where lysosomes normally release hydrolases to digest extracellular matrix to promote cell spread. Perhaps a BORC block, "causing a garbage pail pileup," may not be such a bad idea when it comes to cancer cells.

(continued on page 9)



## Sneak Peek at NICHD Award-Winning Research (continued from page 8)

### NETO- $\beta$ STABILIZES TYPE-A IGLURS IN THE DONUT HOLE By Cathy Ramos, PhD

Determining the molecular components in an excitatory neuron synapse is a challenging and complex problem. The *Drosophila* neuromuscular junction (NMJ) is a powerful model to study the developmental mechanisms of excitatory synapse assembly.

At the NMJ, the presynaptic motor neuron releases glutamate, which then binds to the ion-channel glutamate receptors (iGluRs) on the postsynaptic muscle surface. In the fly, iGluRs are type-A or -B. The type-A arrives first at the synapse, forming a core. Next, type-B iGluRs surround the type-A core in a donut-shape form. Our lab discovered that the *Drosophila* iGluRs synaptic localization requires a highly conserved auxiliary subunit, Neto.

*Drosophila neto* encodes two isoforms generated by alternative splicing, Neto- $\alpha$  and - $\beta$ , which only differ by their intracellular domain. We found that Neto- $\beta$  is the predominant isoform at the NMJ. We generated two different *neto- $\beta$*  mutants: a *neto- $\beta$*  genetic null and a *neto- $\beta$*  truncation. When Neto- $\beta$  is missing or truncated, the NMJs show reduced iGluR type-A, which is normally sustained by the postsynaptic component p21-activated kinase (PAK). We showed that only Neto- $\beta$ , and not Neto- $\alpha$ , recruits PAK at the synapse, enabling PAK to stabilize type-A iGluRs, leading to normal synapse development.

(continued on page 10)

## Sneak Peek at NICHD Award-Winning Research (continued from page 9)

### HOW TO DRIVE THROUGH BUMPS IN THE ROAD TO TRANSLATION By Neelam Dabas Sen, PhD

An extensive and growing catalogue of human diseases is linked to diverse components of mRNA translation, the basic process of protein production. The entire process of translation in eukaryotes is divided into three steps: initiation, elongation, and termination.

Our study unveils, for the first time, a striking division of labor during initiation between eIF4A and Ded1, two essential DEAD box protein family members. These highly conserved proteins are believed to contribute to translation initiation by resolving mRNA secondary structures that impede ribosome attachment or subsequent scanning. Whether they perform distinct functions or act redundantly has been poorly understood.

Translation initiation is best explained by the scanning model. Initially, a host of proteins help attach the ribosome to the mRNA. Secondary structures in mRNAs act as bumps on the road for protein synthesis drivers. We compared the effects of mutations in Ded1 or eIF4A on global translational efficiencies in yeast by Ribosome Profiling—a recently developed high-throughput sequencing technique. Our findings suggest that Ded1 is critically required to promote scanning through secondary structures within the 5' untranslated region. It was evident that eIF4A cooperates with Ded1 in this function, but eIF4A also promotes an additional step of initiation common to all yeast mRNAs. Our study provides a critical insight into the regulation of cellular protein synthesis mediated via eIF4A and Ded1.

*(continued on page 11)*

## Sneak Peek at NICHD Award-Winning Research (continued from page 10)

### THE MULTIFACETED ROLES OF RIBOSOMAL PROTEINS By Jyothsna Visweswaraiah, PhD

Proper protein translation relies on the identification of correct start codons for every mRNA in the cell. With so many places along the mRNA that resemble start sequences, how does the translation machinery establish the precise place to begin?

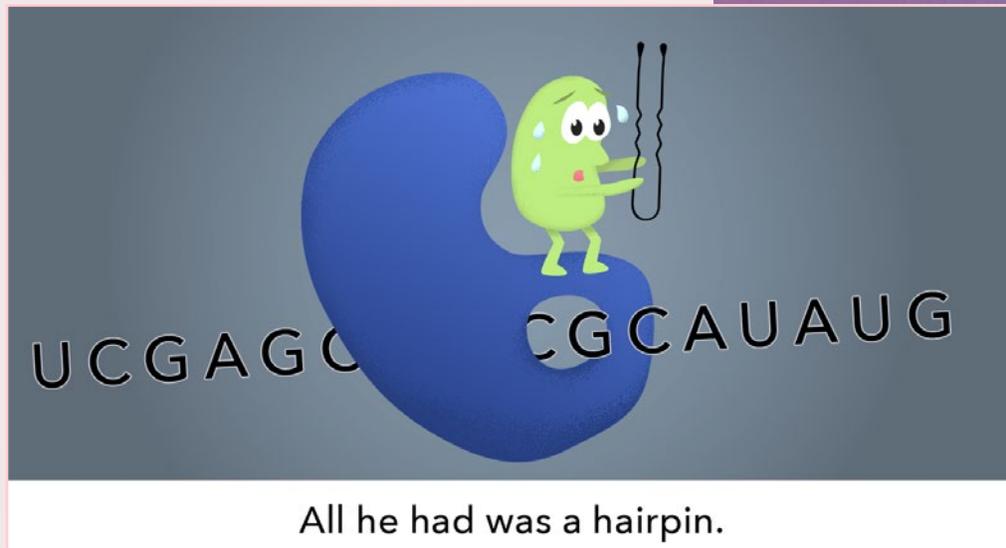
The first step of translation is known as initiation. Several proteins referred to as initiation factors can bind to the small subunit of the ribosome and form a pre-initiation complex (or PIC for short). One of the proteins that makes up the small ribosomal subunit, called Rps5, is located near the channel where the mRNA molecule exits the PIC during scanning.

We have now studied Rps5—in particular, a region of this protein that adopts a hairpin structure that dips into the exit channel—using genetic and biochemical methods. In mutant yeast cells harboring a mutated Rps5 hairpin structure, translation initiation at suboptimal start sites was diminished, thus making translation initiation more accurate.

We then used PICs built *in vitro* from purified components to determine how the Rps5 mutations might affect assembly and stability of the PIC. The results revealed that mutating the upper region of the Rps5 hairpin rendered the PIC more likely to remain in a conformation that enables it to continue scanning at incorrect or suboptimal start sites.

These results suggest that the Rps5 hairpin is crucial for both efficiently and accurately recognizing the proper start codon to begin translation. These findings indicate that ribosomal proteins not only contribute to ribosome structure, but they also work with other initiation factors to find the correct start sites for protein synthesis.

(continued on page 12)



## Sneak Peek at NICHD Award-Winning Research (continued from page 11)

IT ISN'T NOT EXCITING, BUT SOMETIMES IT IS  
By Megan Wyeth, PhD

The brain has many mechanisms to modulate neurotransmission in order to influence neuronal computation; one way is by enhancing or reducing neurotransmission via kainate receptor activation. Kainate receptors belong to the glutamate receptor family, and can be located pre-, post-, or extrasynaptic. Our lab recently demonstrated that Neto1 is an auxiliary subunit required for proper kainate receptor localization and function on excitatory neurons. We were interested in whether Neto1 is also important for kainate receptors on inhibitory interneurons that regulate the output of excitatory cells.

We found that only particular types of interneurons express Neto1 to modulate their kainate currents. On one type of interneuron that inhibits excitatory cell dendrites, Neto1 was required for the function of kainate receptors on the interneurons' dendrites. Activation of kainate receptors that had Neto1 subunits increased the interneuron's excitability, thereby *enhancing* inhibitory output. On another type of interneuron that inhibits excitatory cell bodies, Neto1 was required for the function of presynaptic kainate receptor on their terminals. Activation of these kainate receptors with Neto1 subunits *reduced* inhibitory transmission. Thus, Neto1 auxiliary subunits do confer proper function to both pre- and postsynaptic kainate receptors on inhibitory neurons, where they can either enhance or suppress neurotransmission, modulating inhibition accordingly.

## Meet Our New Fellows

Please join *The NICHD Connection* in welcoming the following fellows to the NICHD family:



### **LARISSA ERBEN**

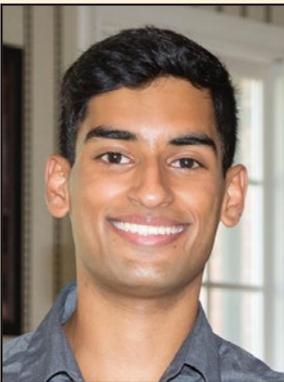
---

**Hometown:** Stuttgart, Germany

**PhD institution:** PhD student at University of Bonn

**NICHD mentor:** Dr. Andres Buonanno

**Area of research:** I study the trafficking of ErbB4 receptor in neurons.



### **NABIL SALEEM**

---

**Hometown:** Alpharetta, GA

**College:** Bates College, undergrad

**NICHD mentor:** Dr. Igor Dawid and Dr. Alison Heffer

**Area of research:** Developmental Biology. I study the genetic factors underlying neural crest development in zebrafish.



### **SRI HARSHA TELLA, MD**

---

**Hometown:** Vijayawada, India

**Medical school:** Siddhartha Medical College, NTR University of Health Sciences

**Residency:** Creighton University School of Medicine

**NICHD mentor:** Dr. Michael Collins

**Area of research:** Rare bone disorders, osteoporosis, Vitamin D, CKD/Dialysis and its effects on bones/PTH, and diabetes' effects on bones.

*(continued on page 14)*

## Meet Our New Fellows

(continued from page 13)



---

### **JEREMY WEAVER, PHD**

**Hometown:** Altoona, PA

**PhD institution:** Texas A&M University

**NICHD mentor:** Dr. Gigi Storz

**Area of research:** I study small proteins — proteins with 50 or fewer amino acids that serve as regulators of cellular function.



---

### **KATHERINE WOLF**

**Hometown:** Springfield, OH

**College:** University of Michigan, BS

**NICHD mentor:** Dr. Karel Pacak

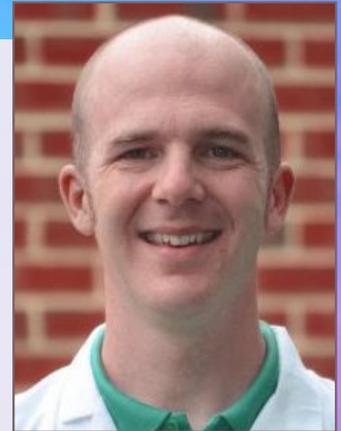
**Area of research:** I am studying the proper diagnosis, treatment, genetics, and research on Pheochromocytoma and Paraganglioma.

If you are new to the NICHD and would like to be introduced in this newsletter, please send your name, home country or state, College/PhD/MD institution, NICHD mentor, and area of research to our Editor, Shana Spindler, at [Shana.Spindler@gmail.com](mailto:Shana.Spindler@gmail.com).

## September Announcements

### FORMER FELLOW THOMAS MILLER FEATURED ON LABTV

LabTV is a website that hosts fun videos of today's scientists describing their research projects for a lay audience. Thomas Miller, former fellow in the Shi lab, has a new LabTV segment covering his research on stem cell formation in *Xenopus laevis* as they go from tadpoles to frogs. Curious? Check it out! <http://www.labtv.com/Home/Profile?researcherid=1286>.



### NATIONAL POSTDOC APPRECIATION WEEK, SEPTEMBER 21-25

The sixth annual national postdoc appreciation week will take place the fourth week of September this year. Don't forget to thank your NICHD postdoc fellows for all that they do! To learn more, please visit <http://www.nationalpostdoc.org/?NPAW>.

### 2016 FELLOWS RETREAT PLANNING: JOIN THE TEAM

Each spring at the NICHD Fellows Retreat, fellows gain experience communicating their research to a broad audience, attend talks from invited guests, and meet with NICHD alumni to find out about the unexpected places our training can take us. All NICHD fellows are invited to serve on the Steering Committee, which will plan our 2016 event for postdoctoral fellows, clinical fellows, and graduate students. This is a great opportunity to use your organizational skills and gain new transferrable skills while working in a team.

Please send a note to Alex Szatmary, chair of the Steering Committee, at [szatmaryac@mail.nih.gov](mailto:szatmaryac@mail.nih.gov) to express your interest. The group builds the program for the meeting, invites speakers, reviews abstracts, selects fellow/graduate student presenters, moderates sessions, and plans a social outing, among other responsibilities. We hope to start our monthly meetings in September.

*(continued on page 16)*

## September Announcements

*(continued from page 15)*

### SAVE THE DATE! INTERVIEWING WORKSHOP WITH SCOTT MORGAN, OCTOBER 13<sup>TH</sup>

The NICHD Office of Education will offer an interviewing session on October 13<sup>th</sup>, from 10 a.m. to 12 noon. The workshop will use singular examples to identify strategies to help answer questions, and more importantly, increase your overall confidence. We will use interactive exercises and peer review to analyze expected questions, themes, dilemmas, and demeanors. Please contact Yvette Pittman ([pittmanyv@mail.nih.gov](mailto:pittmanyv@mail.nih.gov)) for more info.

### SAVE THE DATE! TIME MANAGEMENT WORKSHOP, OCTOBER 21<sup>ST</sup>

What time of day are you most productive? How do you prioritize your to-do list? Do you have a list...? Consider ways to maximize your efficiency, based on who you are and how you like to work. Save the date of Wednesday, October 21<sup>st</sup>, from 1 to 2:30 p.m. for this time-saving Time Management workshop. Please contact Yvette Pittman ([pittmanyv@mail.nih.gov](mailto:pittmanyv@mail.nih.gov)) for more info.

## September Events

### WEDNESDAY, SEPTEMBER 9, 12:30 – 1:30 PM

For All New Postbac Fellows: NICHD Postbac Welcome and Orientation  
Building 31, room 2A48

This is a great opportunity to meet other postbacs in the institute, to mingle and enjoy pizza for lunch, and share your interest with us!

Our institute currently has approximately 50 postbacs conducting both clinical and basic science research. We would like to bring you all together over the coming year for career development, outreach, and social activities that will enrich your NIH experience.

Come and learn about the postbac volunteer and training opportunities such as ICU simulator rounds, the “Becoming an Effective Scientist” postbac course, shadowing at our Genetics Clinic, and volunteering at the Children’s Inn. Meet this year’s two postbac reps: **Daniel Flores** and **Jackie Picache**.

### MONDAY, SEPTEMBER 14, 12 – 1:30 PM

“Becoming an Effective Scientist,” annual postbac course launch  
Clinical Center

This unique course, an NICHD tradition, runs over lunchtime on Mondays, from 12 noon to 1:30 p.m., in the Clinical Center. The intent is to create a comfortable environment within a small group of peers to perfect your analytical skills while expanding your knowledge of experimental techniques.

The 11-week series will launch with a practical focus, including designing experiments, keeping a good lab notebook, and presenting your research. In subsequent weeks, we will shift to mini-lectures and paper analysis with a scientific focus. This year’s curriculum will cover different areas of biomedical research, including neuroscience, endocrinology, physical biology, epigenetics, and cellular and molecular biology.

We provide pizza, by the way, so you only need to bring a beverage with you. And for those of you who attend more than half of the sessions, we provide a certificate in recognition of your participation. We don’t restrict participation to NICHD. If you know of a postbac friend in another institute who would be interested, please let me know. We’ll keep the group to fewer than 20, which allows for great discussion.

Please contact Yvette Pittman at [pittmanyv@mail.nih.gov](mailto:pittmanyv@mail.nih.gov) for space availability.

*(continued on page 18)*

## September Events

*(continued from page 17)*

### **TUESDAY, SEPTEMBER 15, 11:30 AM**

32nd Annual NIH Institute Challenge Relay.

NIH Bethesda Campus – In Front of Building I

To register your team, visit: <https://www.fedesp.com/nih/events/the-nih-institute-relay/>

### **WEDNESDAY-FRIDAY, SEPTEMBER 16-18, 9 AM – 5 PM**

Annual NIH Research Festival

Natcher Building

Festival schedule and general information can be found at <http://researchfestival.nih.gov>.

### **FRIDAY, SEPTEMBER 25, 10 – 11 AM**

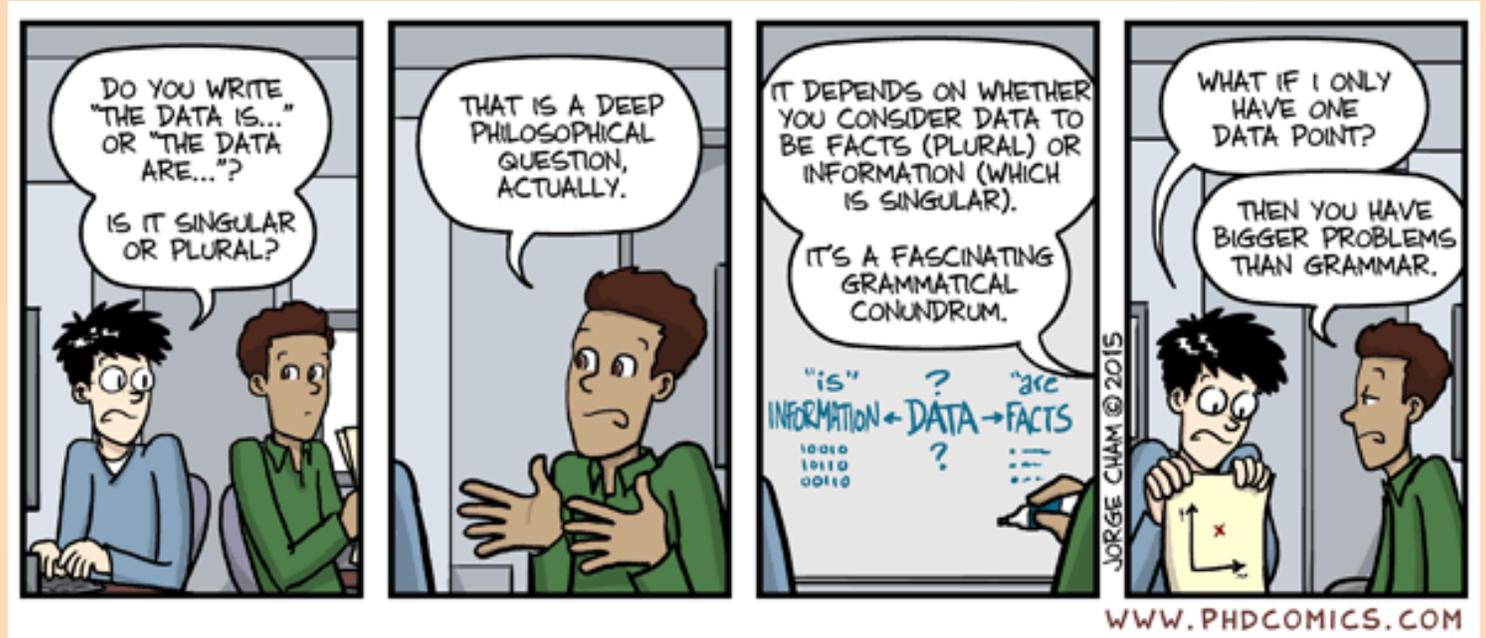
For All New Postdoc Fellows: NICHD Postdoc Orientation

Building 3I, Room 2A48

Led by the NICHD Office of Education, the orientation will highlight both NICHD and NIH-wide intramural resources for postdoc fellows. Topics will include career-planning tools, grant opportunities for fellows, ideas for presenting your science locally, and the core facilities available to you. We will share information about key programs to support your professional development, complementing the mentored experience you will have at the bench. Don't miss this opportunity to meet fellows from other research areas and different buildings on campus.

This orientation is separate from all of the other orientations, and it supplements the NIH-wide Office of Intramural Training and Education session. If you recently joined an intramural NICHD lab as a postdoc or visiting fellow, please plan to attend this NICHD-specific event.

# PhD Comics



<http://phdcomics.com/comics/archive.php?comid=1816>

