Thoughts on the Collaborative Process: Dr. Ricardo Mostany, Associate Professor

Collaboration (n.) from Latin collaborare “work with” from con- (with) and laborare (work)

While the etymological definition of collaboration refers to the action of working together, in the scientific field its definition goes beyond two or more scientists or groups of scientists working together. The need to combine specialization with multidisciplinary approaches to answer mechanistic, translational, and complex questions in a scientific environment that is continuously progressing and becoming highly competitive for limited funds, urges us to find allies that complement our skills and knowledge. However, identifying the right partner for a collaboration is not a simple task and may be limited by several factors: location, budget, availability of the collaborator, complementarity of resources, etc. This first step is key—because it will shape the direction of the partnership.

Approaching the right potential collaborator requires some previous investigation about the research and the techniques this person implements in the laboratory and how easy it would be to adapt them to one’s advantage—to the benefit of both. Also, very important, is the personality of the potential collaborator. Ultimately, if the collaboration is to be fruitful and long-lasting—which is usually that is what one looks for—one will have to interact with this person for a while. In this sense, I treat collaborations as scientific friendships, and like such, the more I get along with my collaborators, the higher the chances that the partnership moves in the right direction. This does not necessarily mean that collaborators have to be best friends but at least they have to do their part to facilitate the scientific interaction, such as open and frequent communication with the members of the collaboration and commitment to the project.

Early dialogues about expectations about the structure of the collaboration: goals, timeframe, and role of each member are especially recommended. It is critical to keep fluent communication between the partners and to consider when decisions need to be made. The partners must reflect about the time and resources that all the persons involved in the collaboration, i.e., principal investigators, lab members, staff, etc. are investing and listen to all contributors without unilaterally modifying the aims or experiments previously decided. If all things are in alignment, the collaboration flourishes. However, no longer enjoying spending resources and time with someone or their lack of commitment weakens the partnership, which then becomes an unhealthy collaboration destined for failure.

In the ideal scenario, the result achieved in a collaboration, i.e., the knowledge produced, should be of higher impact than just the sum that collaborators’ impacts could achieve individually. While this is a difficult parameter to measure, there are ways to estimate whether the collaboration achieved the goals planned or set the storyline for a long-term research effort. On many occasions, collaborations allow the obtention of preliminary data for a grant proposal. In other cases, these partnerships lead to the publication of manuscripts. The development of technology is another outcome of a collaboration that may lead to a patent over a product or an idea.

Then the self-evaluation comes: Could you have landed that manuscript in that journal without the contribution of your collaborators? Could you have submitted a particular grant without the data produced by the collaborators while keeping the same chance of being funded? If the answer to those questions is no, you should grade your collaboration as successful. However, in the real world this is not always achieved, and the knowledge produced does not always crystallize into a grant, a paper, or a patent. Does that mean that the collaboration was a failure? I don’t think so. I believe that collaborations need to evolve until they reach maturity; the unpredictability of research outcomes is inherent to science and the researchers participating in the collaboration have to respond to the immediate outcomes, which sometimes are the expected and fit into the overall hypothesis being tested, but in many cases are not. Finding the solution for the unexpected results is sometimes easier when attacked from the different perspectives of the collaborators involved in the investigation. With time, this process refines, leading to a well-established, healthy—and why not!—a successful collaboration.

Please visit our webpage for more information about the collaborations of the Mostany laboratory
Faculty News

Dr. David Busija

- **Submitted Grants:** (1) NIH, October 2018; (2) NIH, November 2018; (3) NIH, November 2018.
- **Grant Reviewer:** (1) NIH Program Project Review, October 2018; (2) NIH Special Study Section, Vascular Cell and Molecular, November 2018.
- **Journal Reviewer:** *American Journal of Physiology (AJP)*.

Dr. Stephen Braun

- **Submitted Grant:** (1) R21 NIH NIAID, MPI: Miti Kaur, M.D. and Stephen Braun, Ph.D.
- **Study Section Reviewer:** Program Evaluation of NIH Peer Review Processes.
- **Invited Participant:** Invited by Egyptian Ministry of Education to visit Egypt as co-advisor for Raghda Eldesouki, MD, for her Ph.D. from the Department of Histology and Cell Biology at the Suez Canal University School of Medicine, Ismailia, Egypt.

Dr. Suttira Intapad

- **Submitted Grant:** (1) R01, 10/5/18.
- **Invited Speaker:** Department of Physiology, Renal and Vascular Workshop, Tulane School of Medicine, “Sphingosine signaling pathway and blood pressure in IUGR mice,” 6/21/18.
- **Guest Editor:** Cardiology Research and Practice Journal.
- **Journal Reviewer:** *American Journal of Physiology-Heart and Circulatory Physiology, Pharmacological Research*.

Dr. Prasad Katakam

- **Invited Speaker:** (1) 11th World Congress for Microcirculation, “Impaired mitochondrial activity of nitric oxide synthase isoforms and aging related cerebral microvascular and cardiac function,” 9/9–13/18 Vancouver, Canada; (2) Department of Pharmacology, "Measurement of mitochondrial respiratory function using Seahorse XFe24 analyzer," 9/21/18; (3) International Conference on Neuroscience and XXXVI Annual Meeting of Indian Academy of Neurosciences, "Impaired mitochondrial activity of neuronal nitric oxide synthase isoforms and cerebral microvascular dysfunction accompanying aging," 10/19–31/18, Varanasi, India.
- **Submitted Grant:** American Heart Association (AHA) Innovative Research Award, October 29, 2018.
- **Professional Service:** (1) Poster Judge, 11th World Congress for Microcirculation, Vancouver, Canada 9/9–13/18; (2) Judge: Health Sciences Research Day, 2018.

Dr. Sarah Lindsey

- **Grant Award:** NIH/NHLBI Administrative Supplement for Research on Sex/Gender Influences, HL133619-01A1S2 (PI), NIH-NHLBI, $97,825 08/18-01/19.
- **Grant Submission:** (1) June 2018 – Letter of Intent for DoD grant (Co-PI with Prieto), and (2) Oct 2018 – Letter of Intent for AHA Collaborative Grant (Co-PI with Prieto and Miller).
- **Session Moderator:** "Vascular Stiffness," AHA Hypertension Scientific Sessions, Chicago, IL, 9/9/18.
- **Invited Speaker:** (1) APS Conference on Cardiovascular, Renal, and Metabolic Diseases: Sex-Specific Implications for Physiology, “Vascular Changes in the Postmenopausal Female,” Knoxville, TN, 10/2/18.
- **Poster Presentation:** "Tissue-Specific Estrogen Receptor Profiling Using Droplet Digital PCR," APS Conference - Cardiovascular, Renal and Metabolic Diseases: Sex-Specific Implications for Physiology. 9/30–10/3/18. Knoxville, TN.
- **Reviewer:** (1) AHA Peer Reviewer, National Fellowships, (2) Cardiorenal Basic Science, Fall Cycle; (3) NIH-NHLBI, Peer Reviewer, Mentored Transition to Independence Review Committee.

Dr. John MacLachlan

- The paper, "Environmental signaling: from environmental estrogens to endocrine-disrupting chemicals and beyond," published in *Andrology*, was in top 20 downloaded articles for 2017 with 1351 downloads.

Dr. Howard Mielke

- **Invited Speaker:** (1) Keynote Address: "The astonishingly large role of legacy soil lead as a source of exposure to children," Brooklyn College Student Center, NYC, 10/19/18; (2) Columbia University Mailman School of Public Health, Environment Health Science, "Getting the lead in, out, and beyond, 10/22/18; (3) Two presentations at Healthy Homes and Lead Prevention Regional Conference, 1) "On ways to be proactive rather than reactive in preventing childhood lead poisoning, increase lead hazard..."
control activities and reduce asthma triggers," 2) "The pre- and post-Katrina lead in soil and blood lead surveys for metropolitan New Orleans," New Orleans, LA, 10/10–11/18; (3) "Connections between soil health and human health," Silver Spring, MD, 10/16–17/18.

- **Reviewer:** International Journal of Environmental Research Public Health, Environmental Research.

- **Professional Achievement:** In 1997, a paper by Howard W. Mielke, et al., outlined the health hazard of "Lead-Based Hair Coloring Products: Too Hazardous for Household Use," Journal of the American Pharmaceutical Association, Vol. NS37, No. 1, January/February. After 20 years, the FDA finally reversed their regulation; the notice of action stated the following: The Food and Drug Administration (FDA) is amending the color additive regulations to no longer provide for the use of lead acetate in cosmetics intended for coloring hair on the scalp because new data available since lead acetate was permanently listed demonstrate that there is no longer a reasonable certainty of no harm from the use of this color additive. This action is in response to a color additive petition filed by the Environmental Defense Fund, Earthjustice, Environmental Working Group, Center for Environmental Health, Healthy Homes Collaborative, Health Justice Project of Loyola University Chicago School of Law, Breast Cancer Fund, Improving Kids' Environment, Consumers Union, Natural Resources Defense Council, Consumer Federation of America, Learning Disabilities Association, Maricol Maffini, and Howard Mielke.

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**Dr. Ricardo Mostany**

- **Grant Award:** Tulane Brain Institute Marko Spark Fund Award, PIs: Fadok and Mostany, "Determining the neural correlates of fear intensity using advanced neurotechnology," $50,000, 7/1/18–6/30/19.

- **Submitted Grant:** R01 to NIA.

- **Invited Speaker:** (1) Institute of Neurobiology, University of Puerto Rico, Minisymposium - Visions of the Body and the Brain: Advances in Structural & Cellular Imaging, "Reduced sensory-evoked structural plasticity in the aged brain," San Juan, PR. 5/11/18; (2) Tulane National Primary Research Center, "Reduced sensory-evoked structural plasticity in the aged brain," Covington, LA. 10/16/18; (3) Swamy Science Social Club, "Aging and the Brain – A New Hope," New Orleans, LA. 10/29/18.


- **Reviewer: Grants:** (1) Louisiana Clinical and Translational Science Center (LA CaTS); (2) The Research Foundation Flanders, Fonds Wetenschappelijk Onderzoek - Vlaanderen, FWO, Belgium; (3) Sinergia Grant reviewer: Swiss National Science Foundation (SNSF). Journals: (1) Neurobiology of Learning and Memory; (2) Cellular and Molecular Neurobiology.

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**Dr. Margaret Zimmerman**

- **Grant Award:** LA CaTs Roadmap Scholar Award, "Renal Implications of Menopausal Hormone Therapy," 7/2018–7/2020.


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**Dr. Lindsay**

- **Leader:** Tulane Brain Institute Marko Spark Fund Award, PIs: Fadok and Mostany, "Determining the neural correlates of fear intensity using advanced neurotechnology," $50,000, 7/1/18–6/30/19.

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**SOM Committees: Dr. Bunnell:** Chair: Faculty Grievance, Chair: Personnel and Honors, Research Advisory, Executive Committee; **Dr. Busija:** Head: Basic Science Chairs, LCME subcommittees: (1) Mission, Planning, Organization, and (2) Leadership and Administration; **Dr. Intapad:** SOM Faculty Advisory; **Dr. Mondal:** Nominating; **Dr. Lindsey:** BMS Admissions, BMS Curriculum, LCME Accreditation-Junior Faculty Committee, Campus Climate Task Force-Sexual Harrassment by Faculty Subcommittee; **Dr. Katakam:** Faculty Advisory Committee, BMS Steering, Medical School Admissions; **Dr. Hamblin:** Nominating; **Dr. Clarkson:** Curriculum, BMF Steering; and **Dr. Mostany:** Tulane Brain Institute Executive; Chair; Tulane Brain Institute Seminar Series; Nominating (Basic Sciences Rep).
Laboratory of Dr. Stephen Braun

Nathan Johnson, M.D./Ph.D. student (SCRM) was awarded a F30 Fellowship from NIH NIGMS for "Modifying CMV-specific T cells with a novel bicistronic CD4-CAR/maC46 vector to target HIV," $198,096, 7/01/18–6/30/23. Congratulatations Nathan!

Laboratory of Dr. Prasad Katakam

Venkata (Ram) Sure (Pharm) presented a poster, "Inhibition of Nitric Oxide Synthase (NOS) Impacts Mitochondrial Function Differently in Brain Microvascular Endothelial Cells and Cortical Neurons," at the 11th World Congress for Microcirculation, Vancouver, Canada, 9/9–13/18. Ram has published a first-authored paper. Please see page 6.


Prasad Sakamuri, (Pharm) has published a first-authored paper. Please see page 6.


Laboratory of Dr. Sarah Lindsey, Please visit our webpage

Dr. Benard Ogola (Pharm) (1) gave a poster, "Female Protection from Arterial Stiffness Diminishes with G Protein-Coupled Estrogen Receptor Deletion or Angiotensin II Hypertension," AHA Hypertension Scientific Sessions, Chicago, IL, 9/9/18; (2) received a Travel Award from the American Society for Biochemistry & Molecular Biology to attend a Grantsmanship Enhancement Workshop; (3) won first place in the ASPET postdoctoral oral competition at EB2018! Congratulations Ben! Ben also has a first-authored publication. Please see page 6.


Members of the Lindsey and Mostany labs presented the following poster:


Laboratory of Dr. Debasis Mondal

Namrata Khurana, an International Ph.D. candidate from Amity University, India, working with Dr. Debasis Mondal was awarded a Graduate Student Travel Award by the AAISCR to attend the American Association of Cancer Research meeting where she presented a poster, "Bardoxolone-methyl suppresses both androgen receptor and its splice-variant ARv7 in prostate cancer cells to enhance the anti-cancer efficacy of enzalutamide," April 14–18, 2018, Chicago, IL. Other authors from the lab and University include: Partha Chandra, Hogyoung Kim, Asim B. Abdel-Mageed, Suresh C. Sikka and Debasis Mondal.

Dr. Partha Chandra (Pharm) has published a first-authored paper. Please see page 6.

Laboratory of Dr. Ricardo Mostany, Please visit our webpage

Brandon Thrash, (Pharm) was accepted at LSU School of Medicine and started in the Fall of 2018. Congratulations Brandon!

Drew Davidson (CMB) was chosen as a Graduate Student Leader for 2018–19 for Tulane’s STEM Outreach Program. Congratulations Drew!

Rebecca Voglewede (BI) presented a talk, "Age-dependent alterations of somatosensory-evoked structural plasticity within cortical layer five," at the following institutions: (1) Department of Brain and Cognitive Sciences, MIT, Cambridge, MA, 4/9/18; (2) Kresge Institute, University of Michigan, Ann Arbor, MI, 5/14/18; and (3) Center for Learning and Memory, University is Texas at Austin, Austin, TX, 5/14/18. (4) Rebecca also presented, "Reduced sensory-evoked structural plasticity in the aging barrel cortex," Department of Pharmacology, Tulane University, New Orleans, LA, 10/12/18. Rebecca successfully defended her dissertation on 11/12/18. Congratulations Rebecca!
New Faces in Pharmacology in Fall 2018

**Nikita Bess**, M.S., joined the Busija lab as a Research Technician. She is studying mitochondria in the cerebral vasculature following strokes. Nikita has been accepted into the UQ-Ochsner MD program. Congratulations Nikki!

Pharmacology has two, new, much appreciated administrative personnel. Pictured below left, Linda Martin (left) has worked at Tulane SOM in the Depts. of Biomedical Sciences and Medicine. She is happy to have landed in Pharmacology. Phyllis Lefort (right) previously worked with a commercial property leasing company and is thrilled to now be working at Tulane.

Joining the Intapad lab, pictured on the right, Dr. Amruta Narayanappa (right), is a Lab Technician working on maternal preeclampsia programs in hypertension in mouse offspring. Amruta has a Ph.D. from the University of Agricultural Sciences, GKVK, Bengaluru, India. Katherine Chan (left) is a masters student in the MSPH program in the School of Public Health and Tropical Medicine. Katherine is working on the imbalance of the sphingolipid synthesis/degradation pathway in preeclamptic mouse placenta and kidney of intrauterine growth restricted mouse fetus.

**Alexandria Leland**, an undergraduate student pursuing a degree in Neuroscience and Asian studies has joined the Mostany lab and is learning patch-clamp recording and two-photon techniques while studying age-related changes in the neocortical pyramidal neurons of the mouse somatosensory cortex.

Master's in Pharmacology Graduate Spotlight: Rachel Cohen

M.D. Candidate, Tulane class of 2019

In March of 2013, my senior year of undergraduate education, I knew I wasn't going to get into medical school that cycle. I wallowed through the month of March, but by April I was ready to take the next step toward achieving my dream of becoming a physician. I started looking for a one-year master's program that would help me prove to the medical community that I, Rachel Cohen, could succeed in medical school. At the time, I had lived all of my 22 years of life in the Midwest with no intent on leaving the region, so naturally my first choice of program was in Chicago. However, when Tulane's Pharmacology Master's Program flashed up on my computer screen, I remembered the spring break trip to New Orleans, from which I had just returned. I thought, "I kind of liked New Orleans … I'll apply there!" I didn't think much about it because I was “definitely” going to the Chicago school. Two weeks later, I received an acceptance letter from the Tulane Pharm program and then found out that my application to the Chicago school had been misplaced in their system. Devastated by this additional hurdle, I called my mother to complain. My mother, however, saw what I could not yet see: an opportunity that the universe seemed to be pointing at with a neon sign.

It's funny how life works sometimes. Doors were closing all around me and Tulane's Pharmacology Master's program was an open window. I thought to myself, "… it’s only a year; then I can go back home." Despite my initial hesitation, it was through the Pharm program that I not only fell in love with Tulane School of Medicine, but with New Orleans as well. I loved my fellow students and my professors. The Pharmacology Master's program gave me a wonderful foundation for medical school, and in addition, helped me gain the confidence I needed to take the next steps. Through the Tulane Pharmacology program, I proved to the medical community that I could be a successful med student and proved it to myself as well. The pharm program was my cocoon. I grew so much during that year and I am forever grateful for the strength and opportunities that the program gave me.

Thank you to those who have donated to The Dr. Krishna C. Agrawal Education Fund to support our students

This endowed fund supports students in the Department of Pharmacology.

To read the biography of Dr. Krishna please go to: Agrawal Fund

To support Pharmacology students through The Dr. Krishna C. Agrawal Education Fund or to make a gift to the Department of Pharmacology, contact Mark McKeown, Senior Director of Development for Tulane University School of Medicine, 504-314-7380, or mmckeown@tulane.edu

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Publications


