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LIFE SCIENCES RESEARCH BUILDING
1400 Washington Avenue
Albany, NY 12222
Message from the Dean and the Scientific Director

We are pleased to bring you the sixth issue of Life Sciences News. The newsletter, now in its third year, is the mouthpiece of the Life Sciences Research community at UAlbany. The Life Sciences Research Program brings together faculty, students, post-docs and staff from the Departments of Biological Sciences, Chemistry, Physics, Psychology and The RNA Institute in a dynamic, collaborative environment. In this issue we feature additions to and accomplishments of our community, summarize recent events and present upcoming events for this spring and next fall. We also welcome a new faculty member, Dr. Thomas Begley. Most exciting are written contributions from our community, all of which reflect the vibrancy of our collective endeavor.

Marlene Belfort
Distinguished Professor
Director, Life Sciences Research

Edelgard Wulfert
Dean, College of Arts and Sciences
Professor of Psychology & Collins Fellow

FACULTY NEWS

Welcome New Faculty

Thomas Begley, PhD
Department of Biological Sciences and the RNA Institute
PhD: University at Albany, SUNY
Post-Doc: Harvard School of Public Health and Massachusetts Institute of Technology
Research Interests: Epitranscriptomic regulation of stress response pathways & cellular DNA repair capacity

Message from Thomas Begley, Interim Director of the RNA Institute

After watching the RNA Institute grow for the past seven years, it is my pleasure to become the Interim Director! I want to thank Paul Agris and Marlene Belfort for their past leadership, as their efforts have yielded outstanding physical space, world-class technology and equipment, and helped develop an impressive cadre of young investigators. We are currently working on providing an exciting 5th Annual Symposium on “RNA in Biomedical and Translational Research” on March 15-16 of 2018, increasing access and training through the RNA Institute, and nucleating larger grant proposals. I look forward to working with the faculty and staff to promote outstanding science, technology development and further a collaborative spirit that will add to the research profile of the University, of Albany and of the Capitol Region. I am also excited to become a faculty member in the Department of Biological Sciences. As an alumnus of the Department of Biological Sciences (PhD in 1999), I am honored to be part of its distinguished faculty. I am excited to work with past and new colleagues to further it’s education and training mission. My lab and research team are located in LSRB 1003; please stop by and make our acquaintance.

General Faculty Publications (please click here for list)
Marlene Belfort is the co-organizer of a Keystone Symposium, Mobile Genetic Elements and Genome Plasticity, in Santa Fe, NM from February 11th-15th, 2018.

Dan Fabris and Cara Pager, Chemistry and Biological Sciences, were awarded a two-year R21 from NIAID entitled, “Role of Post-transcription RNA Modifications on Zika Virus Gene Expression”.

Melinda Larsen, Biological Science, was awarded an R21 from the NIH/NIDCR: Endothelial Cell Signaling in Regeneration.

Igor Lednev, Chemistry, received a patent: Spectroscopic Method for Alzheimer’s Disease Diagnosis.

- Dr. Lednev gave a webinar on Raman Microspectroscopy for Forensic Purposes and Medical Diagnostics. According to the organizers, 323 people registered, including 151 from the US with the rest being from 52 other countries. Everyone who logged on stayed for the entire hour.


- Dr. Pande is a member of the Current Eye Research Editorial Board and she was an invited speaker at the 5th International Conference on the Lens, December 10th-15th, 2018, in Kona, HI.

Prash Rangan, Biological Sciences, is the co-organizer of the Northeast Society of Developmental Biology, April 20-22, 2018, at Marine Biological Laboratories (https://www.albany.edu/nesdb/).

- He is also the co-organizer of Gametogenesis section at Annual Drosophila Research Conference, Genetics Society of America, April 11th-15th, 2018, in Philadelphia, PA.

Annalisa Scimemi, Biological Sciences, will be a course instructor at Cold Spring Harbor Laboratory: https://meetings.cshl.edu/courses.aspx?course=C-ION&year=18.

Mehmet Yigit, Chemistry, received a 4-year grant from the Nanotechnology for Agricultural and Food Systems program of the NIFA/USDA Agriculture & Food Research Initiative (AFRI).

STUDENT/POST-DOC AWARDS AND NEWS

Graduate Student, Kara DeSantis (Larsen Lab), was awarded a F32 Postdoctoral Fellowship from the NIH/ NIDCR with mentor JoEllen Welsh, Biomedical Sciences: Exploring Interactions between Retinoid and Vitamin D Signaling in Salivary Gland Homeostasis and Cancer.

Robert Rosenblatt (Lednev Lab) hails from Astoria, Queens and came to University at Albany in 2014, majoring in biochemistry and molecular biology. He became interested in both biomedical research and forensics, after spending a summer running diagnostic tests on the skeletal remains of the 15th century inhabitants of a mass grave site in a Hungarian/Romani region of Transylvania. He joined the Lednev Lab in the Department of Chemistry in 2016, studying a novel forensic method development, Raman spectroscopy, and taking the lead on an interdisciplinary project involving biochemistry, spectroscopy and statistics. After nearly two years of research, the project has generated interesting results. Robert recently finished drafting a manuscript documenting his research as a first author. He will report the results of his research at Pittcon 2018, Orlando, FL, a major national meeting in analytical chemistry and spectroscopy. Robert received the ACS Kolthoff Award in order to attend the conference and present in the ACS poster session. Contributed by Igor Lednev
Confessions of a recovering imposter by Melanie Lolier

A few years ago, I started attending scientific conferences with mixed emotions. On the one hand, the thought of getting away from Albany for a bit, and hanging out with my peers, made conferences feel like a mini vacation. On the other hand, I actually had to talk about my research with people of varying levels of expertise. Although I replicated my findings several times, I feared that maybe I was just lucky, and my findings were not real. Despite exhaustive PubMed searches, what if there was a key paper I managed to miss? Even though I am one of a handful of people who conduct this type of research, what qualified me as an expert? With every question they asked me about my research and methodology, it was only a matter of time before they found out that I was an imposter.

The Impostor Phenomenon (IP) is a thought pattern in which a person, in spite of many accomplishments, feels recurrent thoughts of unworthiness and incompetence. Coined by two psychologists, Suzanne Imes and Pauline Rose Clance in 1978, IP describes a “specific form of intellectual self-doubt”. Imes and Clance first characterized IP in professional women, first recognizing these feelings in their own graduate school experiences.

Although not limited to women and minorities, IP is pervasive among these groups, particularly those in science. The achievements of the individual are not internalized, often because she does not attribute her success to hard work. Instead, achievements are chalked up to serendipitous luck, and are not celebrated because they are not deserved. In fact, successes are often accompanied by the fear of being found out, and the fear of others realizing she is an imposter.

As both a woman and a minority, IP is something I have struggled with for most of my academic life. I characterize success as chance happenings, while internalizing any missteps as personal failures. My tendency to strive for perfection is a common trait in individuals with IP. This combination of aiming for perfection, and having difficulty in internalizing success, ultimately sets one up for failure.

While I have not overcome IP by any means, I have learned a couple of coping strategies for particularly difficult days. First, I try to stop comparing myself to others. The only person I can truly compare myself with is me—I’m my own best experimental control. I take time to reflect on the techniques I slowly mastered, and the experiments I finally got to work. Secondly, I learned to talk it out. Sharing my experiences with both peers and faculty helps me put my feelings in perspective. Talking about feeling like an imposter helps me feel less isolated. By doing so, you may be surprised to learn that you aren’t the only one with these doubts.

Featured Instrument:

QTRAP 6500 Mass Spectrometer

The QTRAP 6500 mass spectrometer is coming to Life Sciences Research Building from the Health Sciences Campus of the university. The QTRAP 6500 is configured with ESI and APCI Turbo V source, nanospray III source, linear ion trap with mass range of m/z 5-2000, Shimadzu Nexera LC-30AD UHPLC pumps and Nexera SIL-30 AC autosampler for high throughput. The instrument, sample introduction system, and the data acquisition as well as data processing are controlled through an Analyst 1.62 software and/or LC solutions v5.51 by a contact closure. The database search function is through a Proteinpilot version 4.5 or Mascot 2.3 algorithm (Matrix Science). Software Skyline from the MacCoss Lab at the University of Washington is used for monitoring proteins and peptides in biological samples for applications such as target verification and validation, PTM characterization, and other targeted quantitative proteomics applications. The unique MIDASTM workflow enables high throughput validation and quantitation of bio-molecule targets discovered through genomic or proteomic experiments. LightSight version 2.3 software is available for building and optimization of metabolite MRM quantitative assays. MultiQuant Software version 2.1 provides a comprehensive package for quantitation of small molecule compounds, large molecule biomarkers and biopharmaceuticals on the QTRAP system. It supports the analysis of large numbers of samples, peptides and MRM transitions.
Qishan Lin, Ph.D.  Mass Spec Resource for Epitranscriptomics, Research Associate Professor of Biomedical Sciences, qlin@albany.edu, (518) 437-44447. LSRB 1085

Dr. Lin has been conducting proteomics/mass spectrometry research for more than 20 years. He designed and established the Proteomics/Mass Spectrometry Core Facility at the Center for Functional Genomics and maintained and oversaw its daily operations. He has recently moved to Life Sciences to join the Mass Spec Resource for Epitranscriptomics being established by Dr. Dan Fabris. Dr. Lin’s lab performed proteomics/mass spectrometry on a fee-for-service basis, for more than 300 clients around the world. In this capacity, he was invited to join the NIH Proteomics/metabolomics Study Section several times. His current research interests involve the development and application of mass spectrometry techniques for RNA chemical modifications, RNA regulatory enzymes (writer and reader), and quantifying sites of protein PTMs, phosphorylation, and acetylation. He welcomes collaborations and/or services in the use of advanced epitranscriptomics/proteomics and mass spectrometry technologies.

GROUP NEWS

Upcoming WISH Events

February 9th – WISH Meeting at the Center for Medical Sciences in the 2nd Floor Bioinformatics Conference Room. Speakers are: Janice Pata (School of Public Health), Gabriele Fuchs (College of Arts and Sciences), and Dola Saha (College of Engineering and Applied Sciences).

February 23rd – WISH Undergraduate Symposium

March 2nd – Dr. Alicia Wasula (Shade Tree Meteorology, LLC)

April 13th – Dr. Jennifer Manganello (School of Public Health)

The Hudson Valley RNA Club (HVRC) will soon be under new leadership. Gabriele Fuchs, Assistant Professor of Biological Sciences, Alan Chen, Assistant Professor of Chemistry, and Jason Herschkowitz, Assistant Professor of Biomedical Sciences, will be taking over from Joan Curcio, Professor of Biomedical Sciences. Dr. Curcio has done an excellent job promoting and running the club and securing support from the RNA Society, New England Biolabs and Krackeler Scientific. We would like to thank her for her outstanding service.

UPCOMING EVENTS

Biological Sciences: https://www.albany.edu/biology/news_and_events/events/main.shtml

Chemistry: https://www.albany.edu/chemistry/docs/Final%20Seminar%20Schedule%202017.pdf

Hudson Valley RNA Club (HVRC): http://www.hudsonvalleyrnaclub.org/meeting-schedule/

Upcoming Fall Coffee Socials:

Coffee socials will be held on the first Monday of every month.
Dr. Joachim Frank, formerly of the Department of Biomedical Sciences and currently at Columbia University, received the Nobel Prize in Chemistry for development of analytic tools for his work on cryo-electron microscopy. He maintains an affiliation with the RNA Institute. Dr. Belfort, who co-authored several papers with Dr. Frank, gave the following high praise to him, "Joachim laid the foundations of a technique to image molecules that are of primary importance in cells. Basically, he developed the methods to construct a 3-dimensional image of the molecule from many thousands of two-dimensional images, embedded in ice and photographed through an electron microscope. The resolution of this technology, called cryo electron microscopy, has become so high and the images so detailed that the method has become favored for imaging molecules and molecular machines that are of key importance in the functioning of cells." This groundbreaking work was performed at Wadsworth Center, while Dr. Frank was a faculty member in the Department of Biomedical Sciences.

Dr. Frank will be presenting talks sponsored by the Writers Institute entitled, "Conversation about life in the arts and sciences", on Tuesday, March 6th, at 4:15 pm in the D’Ambra Auditorium, Life Sciences Research Building. This will be followed by another presentation/Q&A at 7:30 pm in Huxley Theatre, NYS Museum, Cultural Education Center.

October 5, 2017 - The Chemistry department hosted the third annual Chemistry Undergraduate Research Symposium, co-organized by Professors Gerd-Uwe Flechsig, Alan Chen and Qiang Zhang. The symposium provides our undergraduates with an opportunity to formally present their research and be recognized for their hard work. There were a total of 65 registered undergraduates from UAlbany and SUNY Plattsburgh. Many of our department’s faculty, graduate students, staff, and post-docs were also in attendance. All students in the 2017 World of Chemistry attended, as well. These students heard how getting involved with research can jumpstart their careers, which was also the theme of the opening remarks by Professor Jeanette Altarriba, Vice Provost & Dean, Office of Undergraduate Education and by Professor James Dias, Vice President for Research. Erica Brunelle, a Ph.D. student in Chemistry and NIJ graduate fellow, shared her personal research experience. We also heard excellent presentations from our undergraduate students. A captivating and informative keynote lecture "My Journey from Forensic Scientist Undergrad to Technical Supervisor of a Forensic Toxicology Lab" was given by Dr. Kelly Virkler from the Forensic Services/Toxicology NYSP Forensic Investigation Center, who was a graduate student here many years ago. We also had the honor to invite scientists Drs. Stacey Helming and Alexander Steeles from Regeneron to discuss scientific careers and opportunities at Regeneron. Departmental awards and poster prizes were given out.
The Life Sciences Research Symposium Highlights Excellence in Graduate and Postdoctoral Research

The 9th Annual Life Sciences Research Symposium (LSRS; November 3rd) drew 28 oral presenters and 40 poster presenters from trainees in the Departments of Biology, Chemistry, and Psychology. The symposium, organized by Dr. Paolo Forni (Biology) and Dr. Joanna Workman (Psychology), serves as a forum to showcase graduate and postdoctoral research in life sciences fields at the University at Albany. The event, held in the D’Ambra Auditorium of the Life Sciences Research Building, was generously sponsored by the College of Arts and Sciences, the Life Sciences Initiative, Departments of Biology, Chemistry, Physics, and Psychology, University Auxiliary Services, and Krackeler Scientific. The LSRS attracted nearly 90 attendees and consisted of 4 oral sessions (two in the morning and two in the afternoon) and two poster sessions. Due to the generous support of the Research Symposium, 12 outstanding trainees (on the following page) received monetary awards for their oral and poster presentations. Contributed by Joanna Workman (Co-Organizer).

Best Oral Presentations:
Christopher Lennon, Ph.D., Belfort Lab (Biology)
Gaston Bonefant, Pager Lab (Biology)
Lisa Marie Ramirez, Pande Lab (Chemistry)
Vibhav Valsangkar, Sheng Lab (Chemistry)

Best Posters:
John McCauley, Scimemi Lab (Biology)
Danielle Kelley, Belfort Lab (Biology)
Matthew Koslow, Larsen Lab (Biology)
Justin Walden, Belfort Lab (Biology)

Runners-up for Best Oral Presentations:
Allison Catizone, Sammons Lab (Biology)
Clare Miller, Fuchs Lab (Biology)
Rachel Netzband, Pager Lab (Biology)
Zeinab Hosseini, Larsen Lab (Biology)

The 2017 Workshop for Interaction and Scientific Collaboration (WISC): Sex, Genes, and Behavior

The Workshops for Interaction and Scientific Collaboration (WISC) has grown into an annual series of conferences hosted at the University at Albany. The WISC provides a platform to facilitate the exchange of scientific ideas across departments, campuses, and the entire SUNY system. The 2017 WISC was a day-long meeting held on December 1st and organized by Dr. Morgan Sammons (Biology) and Dr. Joanna Workman (Psychology). Speakers presented broad methodological approaches and experimental systems, with the overarching goal of understanding ‘Sex, Genes, and Behavior’ at the physiological and molecular levels. Keynote speakers included Dr. Stephanie Seminara (Massachusetts General Hospital and Harvard Medical School), Dr. Marisa Bartolomei (University of Pennsylvania, Perelman School of Medicine), and Dr. Ofer Tchernichovski, (Hunter College, City University of New York). Ten other speakers represented SUNY institutions such as the University at Albany, Binghamton University, University at Buffalo, Stony Brook University, and Upstate Medical University. The workshop hosted 110 registrants from institutions around the Capital Region including the Wadsworth Center, Albany Medical College, and SUNY Polytechnic Institute. The WISC received generous support from The College of Arts and Sciences, the Departments of Biology and Psychology, the Life Sciences Initiative, the SUNY Research Foundation, and a grant from Conversations in the Disciplines (SUNY). Contributed by Joanna Workman (Co-Organizer).
Life Sciences website: http://www.albany.edu/lifesciences/.

For facilities questions please contact Jessica Moran at 518-437-4414 or <jemoran@albany.edu>.