

**2018 WEEKLY BULLETIN**  
**DEPARTMENT OF CHEMISTRY, NORTHWESTERN UNIVERSITY**  
**EVANSTON, ILLINOIS**  
**October 29, 2018**

*For full schedule, including Center events, please see the Department Calendar:*  
<http://www.chemistry.northwestern.edu/events/calendar.html>

Tuesday October 30<sup>th</sup>:            *Faculty Lunch Seminar: Nathan Gianneschi*  
Tech K140  
12:00-1:00pm

Friday November 2<sup>nd</sup>:            *ACS/Aldrich Award Seminar:*  
*James M. Mayer, Yale University*  
Tech LR3  
3:30-5:30pm

**Arrivals**

We did not have any new arrivals

**BIP**

BIP every Friday at 10:00am in Tech K140

**Announcements**

**One Heart Source** is currently accepting applications for our 2019 Service Learning Programs. We are offering 2 and 4 week Health Development programs in Cape Town, South Africa!  
As an OHS Mentor you will:

- Gain a deeper understanding of community and the cultural factors that influence health.
- Mentor students who strive to become healthcare professionals and cultivate lifelong relationships.
- Immerse yourself in history and culture to better understand diversity.
- Collaborate with groups of university students from around the world to discuss global health issues.
- Develop skills to pursue social justice through health education and intervention.
- Broaden health care skills in real-world environments

Apply here for our Volunteer Programs: [2019 Application](#)

Application Deadline: November 10, 2018

Learn more about our Health [Program](#) here.

**Opportunities**

**The Northwestern University Quantitative Bioelement Imaging Center (QBIC)** invites applications for a senior scientist position who lead the center into its next phase of growth and development as a national resource for bio-element imaging and analysis. Ph.D. level and other applicants with an

experience and expertise in ICP-MS and managing core facilities are encouraged to apply. Appointment will be commensurate with education and training and experience. A research faculty appointment is available for Ph.D. level candidates.

The QBIC core facility is located in Silverman Hall on Northwestern University's Evanston campus. QBIC focused on the development and application of novel tools, methods, and instrumentation for the analysis and mapping of inorganic elements in biological samples. QBIC operates under the direction of Dr. Thomas O'Halloran, Morrison Professor of Chemistry, and is the only facility in the greater Chicago area with multiple ICP systems (quadrupole ICP-MS, ICP-OES, and high resolution ICP-MS) dedicated to the analysis of biological and materials samples. Additionally, this core facility offers the only laser ablation system dedicated to mapping biological samples in the Chicago area. QBIC partners with NUance (Northwestern University Atomic and Nanoscale Characterization Experimental Center), to provide access to STEM-EDS measurements of elements at the ultrastructural level. The core facility is one of eight cores overseen by Northwestern's Chemistry of Life Processes Institute (CLP), and is supported by CLP's experienced business and marketing staff.

This position requires strong organizational and technical skills, an ability to work with a diverse range of scientists and a keen interest in collaboration. The responsibilities of the Associate Director include operation and routine maintenance of facility instruments, training and supervising student users, supervision of technical staff, grant writing and advising faculty on experimental design and data analyses.

Applicants should submit a letter of application, curriculum vita, and three letters of reference to Dr. Sheila Judge ([s-judge@northwestern.edu](mailto:s-judge@northwestern.edu)), Senior Director for Research, Education and Administration, Chemistry of Life Processes Institute; <http://clp.northwestern.edu>.

**The Surface Chemistry Group in the Materials Science Division at Argonne National Laboratory** is

in search of a postdoctoral appointee. The successful candidate will enable high efficiency solar-to-fuels conversion through precise few-atom cluster synthesis and chemically precise bridges across unconventional semiconductors. The appointee will advance the basic science of precision gas-phase surface synthesis (atomic layer deposition) and in situ and ex situ chemical and materials characterization. This will be interdisciplinary and highly collaborative work (part of an Energy Frontier Research Center) that includes surface synthesis, physical and optoelectronic characterization, and electrochemical assessment. Must have demonstrated outstanding promise as a research scientist. Strong applicants will exhibit strong basic science understanding, motivation, and an ability to originate, carry out, and publish significant original research. Strong written and verbal skills are required. Previous experience with atomic layer deposition, inorganic chemistry, surface characterization (ellipsometry, AFM, STM, FTIR), electrochemistry, and solar energy conversion are desirable but not required. A Ph.D. in Chemistry, Materials Science, Physics, or a related field received within the last three years is required.

Interested candidates should send a detailed CV, along with a list of publications, to Alex Martinson [martinson@anl.gov](mailto:martinson@anl.gov). Argonne is a U.S. Department of Energy laboratory managed by UChicago Argonne, LLC. Argonne is an equal opportunity employer, and we value diversity in our workforce.

**Wolfe Laboratories LLC., a subsidiary of Pace Analytical Life Sciences**, is a premier Contract Research and Development Organization located in Woburn, MA, providing pharmaceutical development services for small molecules, biologics, oligonucleotide therapeutics, and other biopharmaceutical drug candidates.

We are currently seeking Scientists to support the rapid growth of our organization. As key members of the Pharmaceutical Development team these roles will require high-performing individuals who can design and execute studies supporting the pharmaceutical development of small molecule drugs. We are looking for individuals with a solid understanding of the analysis and/or formulation of pharmaceutical

products as well a good working knowledge of the drug development process. These positions are critical in the operations of the organization and for the management of client drug development projects.

### **DUTIES AND RESPONSIBILITIES:**

An ideal candidate would specialize and possess the skills to work in one or more of the following areas:

#### Analytical Chemistry:

- Develop methods to characterize and understand the pharmaceutical properties (physicochemical and biopharmaceutical) of drug substances and formulations.
- In-depth understanding of HPLC and other chromatographic separations including the ability develop separation methodologies and understanding of method validation following FDA/ICH guidance
- Understanding of physical characterization of small molecule drugs, including particle size analysis, DSC, TGA and XRPD.
- Experience in a variety of other analytical and spectroscopic techniques including Karl Fischer titration, UV-Vis, IR/NIR, fluorescence, capillary electrophoresis, and dissolution
- Working knowledge of mass spectroscopy including TOF and LC-MS is a plus

#### Formulation Development:

- Design and conduct pre-formulation and formulation studies for the development of efficacious and stable parenteral, solid oral, ophthalmic, and other dosage forms
- Understanding of drug degradation processes and formulation approaches to prevent product degradation
- Experience with formulation processes including milling, preparation of solutions/suspensions, spray drying, lyophilization, tableting/coating, and capsule filling.

### **General Responsibilities:**

Will work as a member of cross-functional teams, with a large degree of independence representing own area of expertise. Execute and oversee specialized analytical testing and generation of technical documents. Assess and report data with a clear understanding of its reliability, interpret findings, and draw authoritative conclusions and recommendations so that their significance can be appreciated. Interface with clients to develop an in depth understanding of client objectives and define solutions to meet their program requirements by writing persuasive proposals for the projects. Regularly interact with clients to keep them abreast of project progress. Will present information for discussion at project teams. Will be expected to influence colleagues/clients in other areas/functions and/or in external groups. Write and review interim and final reports.

Maintain a strong awareness of FDA and other regulatory requirements in the area of pharmaceutical product development. Stay up to date with current scientific literature, particularly in the area of drug substance and drug product characterization, and actively apply new concepts as appropriate. Apply technical knowledge to the company improvement projects and the evaluation of new technology/processes. Collaborate with specialist scientific and/or technology teams.

### **REQUIRED BACKGROUND AND EXPERIENCE:**

Ph.D. in Pharmacy, pharmaceuticals, pharmaceutical chemistry, organic chemistry, biochemistry, biophysics, chemical engineering or closely related discipline. Scientist-level candidates will require at least 2 years of post-doctoral or industrial experience.

Understanding of drug development from the post discovery phase to the initial clinical trials phase. A demonstrated drive to apply technical knowledge to developing drug delivery systems and formulations.

Established track record of significant contributions as an individual technical expert as well as the ability to thrive in a multi-disciplinary team environment.

Outstanding written and oral communication skills as well as polished and persuasive client presentation skills.

Flexibility and outstanding time management skills to provide the full range of pharmaceutical support (including project representation) across many projects.

Pace Analytical is an Equal Opportunity Employer and will not discriminate against any applicant for employment on the basis of race, age, religion, sex, veterans, individuals with disabilities, sexual orientation, or gender identity. <https://www.pacelifesciences.com/>

**Wolfe Laboratories LLC., a subsidiary of Pace Analytical Life Sciences, is** a premier Contract Research and Development Organization located in Woburn, MA, providing pharmaceutical development services for small molecules, biologics, oligonucleotide therapeutics, and other biopharmaceutical drug candidates.

We are currently seeking Scientists and Associate Scientists to support the rapid growth of our organization. As key members of the Pharmaceutical Development team these roles will require high-performing individuals who can design and execute studies to aid in the development of small molecules, biologics, oligonucleotide therapeutics, and other biopharmaceutical drug candidates. We are looking for individuals with a solid understanding of the analysis and/or formulation of pharmaceutical products as well as a good working knowledge of the drug development process. These positions are critical in the operations of the organization and for the management of client drug development projects.

#### **DUTIES AND RESPONSIBILITIES:**

**An Ideal Candidate would specialize and possess the skills to work in one or more of the following areas:**

##### **Analytical Chemistry:**

- Develop methods to characterize and understand the pharmaceutical properties (physicochemical and biopharmaceutical) of drug substances and formulations.
- In depth understanding of LC including the ability to develop HPLC and UPLC separation methodologies.
- Experience in a variety of analytical and spectroscopic techniques including UV-Vis, fluorescence, CD, CE, DLS, DSC, TGA, SEC-MALS.
- Working knowledge of LC-MS including quantitative analysis of small molecules in biorelevant fluids and biotherapeutic characterization.

##### **Biopharmaceutical Development:**

- Evaluate the chemical, physical, and biophysical properties of molecules including peptides, proteins, bioconjugates relevant to biopharmaceutical drug development.
- Develop analytical and biophysical methods to characterize product variants.
- Design and perform experiments to determine the stability in prototype formulations, to detect and identify the decomposition products, and to achieve formulations with acceptable shelf-life.

##### **Nucleic acids/Oligonucleotides:**

- Develop and execute analytical methods for content and purity including IP-RP-LC, AEX-LC, LC-MS, CE, UV-Vis, fluorescence, etc. to characterize oligonucleotide therapeutics.
- Develop stabilizing formulations for the efficient delivery of oligonucleotide drug candidates (siRNA, RNA, DNA, etc.).

- Experience with formulation and characterization of lipid nanoparticles and other polymeric and lipid delivery systems is a plus.

### **General Responsibilities:**

Execute and oversee specialized analytical testing and generation of technical documents

Collect, assess and report data with a clear understanding of its reliability, interpret findings, and draw authoritative conclusions and recommendations so that their significance can be appreciated.

Regularly interact with clients to keep them abreast of project progress

Interface with clients to develop an in-depth understanding of client objectives and define solutions to meet their program requirements by writing persuasive proposals for projects.

Write and review interim and final reports.

Maintain a strong awareness of current scientific literature, particularly in the area of drug substance and drug product characterization, and actively apply new concepts as appropriate.

Apply technical knowledge to the company improvement projects and the evaluation of new technology/processes. Collaborate with specialist scientific and/or technology teams.

Will work as a member of cross-functional teams, with a large degree of independence representing own area of expertise.

### **REQUIRED BACKGROUND AND EXPERIENCE:**

Ph.D. in pharmaceutical chemistry, chemical biology, organic chemistry, biochemistry, biophysics, chemical engineering or closely related discipline.

Understanding of drug development from the post discovery phase to the initial clinical trials phase.

A demonstrated drive to apply technical knowledge to developing drug delivery systems and formulations.

Established track record of significant contributions as an individual technical expert as well as the ability to thrive in a multi-disciplinary team environment.

Outstanding written and oral communication skills as well as polished and persuasive presentation skills.

Flexibility and outstanding time management skills to provide the full range of pharmaceutical support (including project representation) across multiple projects.

Background using HPLC, LC-MS, UV-Vis, fluorescence, CD, CE, DLS and other analytical techniques.

Pace Analytical is an Equal Opportunity Employer and will not discriminate against any applicant for employment on the basis of race, age, religion, sex, veterans, individuals with disabilities, sexual orientation, or gender identity. <https://www.pacelifesciences.com/>

**Beloit College** invites applications for a Visiting Assistant Professor of Chemistry appointment to begin in January 2019. The successful candidate will hold a Ph.D. (A.B.D. or Ph.D. candidates will receive full consideration) in chemistry or a related field and will teach an upper-division undergraduate physical chemistry course on thermodynamics and kinetics and one section of an introductory chemistry course. This full-time position offers a one-semester appointment with the possibility of reappointment contingent on performance and funding and is an excellent opportunity to gain teaching experience in a department that is known nationally for innovative pedagogy. Over the last 20 years, multiple visiting faculty members in the chemistry department have secured tenure-track positions at colleges and universities.

Because equity and inclusion are central to our students' liberal education and vital to the thriving of all members of our residential learning community, Beloit College aspires to be an actively anti-racist institution. We recognize our aspiration as ongoing and institution-wide, involving collective commitment and accountability. We welcome employees who are committed to and will actively contribute to our

efforts to celebrate our cultural and intellectual richness and be resolute in advancing inclusion and equity. We encourage all interested individuals meeting the criteria of the described position to apply.

Located in a diverse community close to Madison, Milwaukee, and Chicago, Beloit is a selective undergraduate liberal arts college that attracts students from across the United States and the world. The college emphasizes excellence in teaching, learning beyond the traditional classroom, international perspectives, and collaborative research among students and faculty. It is recognized as one of the Colleges That Change Lives and in 2014 was recognized among the Great Colleges to Work For.

Inquiries may be addressed to Theodore Gries, Chemistry Department Chair at [griest@beloit.edu](mailto:griest@beloit.edu). Interested individuals may submit a letter of interest, curriculum vitae, unofficial scans of undergraduate and graduate transcripts, and the contact information for three references to the Sanger Center for the Sciences Administrative Assistant, Taylor Ajamian, at [ChemistrySearch2018@beloit.edu](mailto:ChemistrySearch2018@beloit.edu). Review of applications will begin immediately and continue until the position is filled.

AA/EEO Employer

**Siemens** The Staff Biochemist position involves the development and/or qualification of in vitro clinical chemistry and/or immunoassay diagnostic products. Commercial Product Support works closely with representatives from other functions to re-design, develop, transfer, verify and validate a new or revised product. This position reports to a Director of Assay Development.

Responsibilities:

A candidate for this position would have responsibility for:

- Leading the development and/or qualification of assay products for clinical chemistry or immunoassay systems
- Leading complex investigations of assay product issues
- Leading or participating in design control regulated activities such as risk management, design verification, design change, process characterization and validation
- Representing Commercial Product Support in cross-functional meetings and discussions
- Guiding the work of 2-3 biochemists
- Writing plans, protocols and reports
- Troubleshooting technical problems
- 

Required experience, education and knowledge/skills:

- Background in Biochemistry, Chemistry or the Biological Sciences
- Team player with the ability to take initiative
- Required knowledge, skills or expertise: Leadership
- Effective verbal and written communication skills
- Word, Excel, Powerpoint experience
- Flexibility to change priorities to meet business needs
- Statistical analysis
- Broad chemistry/biochemistry knowledge of buffer systems, enzymes, surfactants, preservatives
- Working with biohazardous materials
- No travel required

Preferred Knowledge/Skills, Education, and Experience Preferred, but not required experiences include:

- Experience with assay systems and evaluation of assay performance
- Experience as a technical lead for assay development projects
- Experience working under FDA 21CFR820.30 and ISO 13485

- Training in design of experiments and six sigma techniques

Education:

Requires Ph.D or 5-8 years relevant industry experience in Life Sciences, Medical Devices or Diagnostics  
Knowledge and Experience: Demonstrates and applies a broad knowledge of field of specialization through successful completion of moderately complex assignments. Successfully applies complex knowledge of fundamental concepts, practices, and procedures of particular area of specialization. Demonstrates knowledge of organization's business practices and issues. Typically 5-8 years of successful experience in related field and successful demonstration of Key Responsibilities and Knowledge as presented above. Advanced degree MAY be substituted for experience, where applicable. Direction of Others: Provide technical guidance for 2-3 biochemists. Key Working Relationships: Primarily intra-organizational contacts.

Job requisition number: 228788

Please contact Peter Foote ([peter.foote@siemens-healthineers.com](mailto:peter.foote@siemens-healthineers.com)) for a referral, or with any questions. Visit <https://jobs.siemens-info.com/jobs/228788?lang=en-us&previousLocale=en-US> for more information.

**L'Oréal USA** is currently seeking a talented and innovative Sr. Scientist - Raw Materials to join our Innovative Raw Material group in Advanced Research department located at our Clark, NJ facility. Contact: [zhi.li@rd.loreal.com](mailto:zhi.li@rd.loreal.com)

#### MAJOR FUNCTIONS

- Work as part of a global team and support its mission of valuing and continuously improving L'Oréal portfolio of raw materials (RMs) used in cosmetic formulations
- Interact with L'Oréal internal partners (lab, Safety & Regulatory, Sourcing, Qualification, ...) and external vendors for matters pertaining to raw materials used in L'Oréal formulations
- Support L'Oréal business needs through activities related to addressing raw materials crisis, valorizing & renovating raw materials in portfolio, and securitizing focused raw materials
- Contribute to L'Oréal Sustainable Innovation and Sharing Beauty With All (SBWA) visions as a member of its Innovative Raw Material group

#### DETAILED DESCRIPTIONS

- Coordinate internal partners' RM technical data requests for technical / safety / regulatory / claim / sustainability related issues, by assessing independently the nature of the requests, interacting directly with external suppliers for information, checking quality of documents received, and tracking proactively status of requests till completion.
- Review supplier information in order to ensure data consistence and compliance with chemical & cosmetic regulations and L'Oréal internal guidelines.
- Track raw material related crisis; Lead assigned projects related to identifying alternative for raw materials in crisis by working closely with internal & external partners globally
- Cascade from global team to US stakeholders raw material database related knowledge, including raw material related IT tools & modules, properties, categorization, and crisis management system. Assist any related new tool/module deployment
- Coordinate Raw Material group's workshops, supplier visits & events, and technical trainings by working closely with stakeholders, suppliers, and US labs

- Participate in team's efforts' of addressing raw material related key regulatory developments in US; help maintain a strong connection among key stakeholders.
- Contribute to team's efforts related to securing of specific raw materials; Lead projects related to renovating raw materials in portfolio by working closely with internal & external partners globally
- Participate team's efforts of raw material technical supports to US labs

## QUALIFICATIONS

- B.S., M.S. or Ph.D. in chemistry, chemical engineering, or biochemistry. All experience levels will be considered for appropriated job levels (Scientist, Sr. Scientist I, Sr. Scientist II, or Associated Principal Scientist)
- Strong team player that is able to work both collaboratively and independently in a fast-paced global R&D environment.
- Strong communication and interpersonal skills to manage internal & external partners' expectations and to proactively coordinate activities with tight timeline
- Strong organizational skills and multi-tasking ability; good attention to detail and quality of work
- Strong drive to build expertise in cosmetic Raw Material related topics
- Prior academic or industrial experience with wet chemistry is a plus
- Prior lab experience with formulating cosmetic / household / pharmaceutical products is a plus
- Must be legally eligible to work in the US on a long-term basis

## **The Department of Biochemistry & Molecular Biology at the Indiana University School of Medicine:**

Seeking applications for all levels of tenure-track faculty positions in the areas of:

- Gene Expression (<http://indiana.peopleadmin.com/postings/6296>),
- Structural Biology (<http://indiana.peopleadmin.com/postings/6178>),
- Chemical Biology (<https://indiana.peopleadmin.com/postings/6187>), and
- Metabolism and/or Neuroscience (<http://indiana.peopleadmin.com/postings/6177>).

These positions are associated with the Department of Biochemistry and Molecular Biology (BIOM) and/or the Precision Health Initiative (PHI) at IUSM with the possibility of primary or secondary appointments in other departments or Centers on campus. Further descriptions for each of these positions can be found at their respective URL and attachment to this email.

Successful applicants are expected to have/develop an independent research program, participate in training students and fellows, and engage in research interactions within the IUSM community complementary to their scientific interests. A competitive salary, startup funds, and space will be provided.

Interested individuals should submit a *Curriculum Vitae*, cover letter, summary of past accomplishments and future research plans, and the names and contact information for 3-5 references in electronic format to the most relevant posting. The search committee will begin considering applications immediately and on an on-going basis until positions are filled. Questions can be directed to [biomfac@iupui.edu](mailto:biomfac@iupui.edu).