Structural Virology Postdoctoral Opening with Dr. Richard Kuhn

The Kuhn laboratory at Purdue University looks to further advance the structural information available for various targeted viruses. Skills in molecular biology, virology, structural biology, crystallography and electron microscopy are used by his group to provide advanced structural information for specific RNA viruses. Typically, these include positive-sense, single-stranded viruses from the families Picornaviridae and Flaviviridae but specific projects can sometimes extend beyond these boundaries. Individual assignments for the successful applicant will be determined based on applicant experience and in direct consultation with Dr. Kuhn.

Dr. Kuhn is looking for qualified Ph.D. applicants willing to work full-time on his NIH-funded research projects. Candidates should have a strong background in structural biology as well as be proficient in molecular biology, virology, or a related field of study. Candidates should expect to have both individual and team responsibilities to meet in a timely and efficient manner. Typically, this focuses on independently performing experiments within appropriate biosafety guidelines, recording & interpreting data and reporting results. Applicants should also be self-motivated, able to provide oral and written results in reasonably proficient English, and willing to participate in further career development activities such as professional meetings and conferences, seminar presentations, etc.

Interested individuals should submit the following documents, preferably as one pdf file, to Dr. Richard Kuhn (kuhnr@purdue.edu):

- Cover letter
- Curriculum Vitae
- The names and contact information of three references.

Salary is to be commensurate with relative education and/or experience and usual Purdue University benefits (such as health insurance options, paid holidays and vacations, sick leave, etc.) will apply. Purdue University is an equal opportunity, affirmative action employer.
Three Positions Immediately Available

- **Cartilage Tissue Engineering**: Investigate material properties that promote new cartilage formation and protect cartilage matrix from degradation in an inflamed environment. Experiments include but are not limited to materials development and characterization (e.g., rheology, SEM), stem cell culture, cell assays (e.g., qPCR, immunohistochemistry, ELISA, etc.), and potentially animal studies.
- **In Vitro Tissue Model for Drug**: In collaboration with industry, develop models of human tissue for drug screening. Activities include but are not limited to materials development and characterization, cell culture, and determining drug interactions with in vitro tissue.
- **Oyster Adhesive Mimics**: Identify and produce oyster cement proteins to establish structure-function relationships of new inorganic adhesive. Techniques include but are not limited to proteomics, DNA cloning, recombinant protein expression and purification, lap shear adhesive testing, and cell culture.

Qualifications

- **Required**: PhD degree in chemical engineering, biomedical engineering, materials science engineering, or related degree
- **Successful candidate**: Proactive learner who works well independently and as part of a team, has excellent written and oral communication skills, and has a strong publication record.

To Apply

E-mail Dr. Julie C. Liu (julieliu@purdue.edu) and include:

- Cover letter that includes: preferred start date, concise summary of how the candidate’s prior research accomplishments and career goals align with and can contribute to the desired position
- Curriculum Vitae (list the DOI for all publications)
- Contact information for at least 3 references

The Jeong/Lee Lab in the Department of Industrial and Physical Pharmacy at Purdue University College of Pharmacy is recruiting a postdoc and a research technician to join our research team. Jeong/Lee lab has been investigating the gut microbiota as (1) a drug-metabolizing organ and (2) a modulator of host response to drugs. Intestines harbor trillions of microbes that have evolved in the milieu of a diverse diet-derived small molecules. Gut microbiome (the collection of genetic materials harbored by the gut microbes) contains thousands of distinct genes with an enormous capacity to catalyze chemical reactions. Their functions, however, remains largely unknown.

Based on the expertise of Dr Jeong (a pharmacologist) and Dr Lee (a microbiologist), we identify and characterize the microbial factors involved in drug metabolism as well as host-microbe interactions.
interaction that leads to altered drug efficacy and toxicity. See https://openwetware.org/wiki/Jeong_lab:Projects for more information.

**Postdoc position:** Applicants should have Ph.D. or M.D. training and prior experience in bacterial and mammalian cell culture, basic molecular biology (western blotting and quantitative PCR), and mammalian cell culture. The applicant should demonstrate a solid understanding of cell biology concepts and a publication track record. Prior experience in rodent handling, especially with drug administration into mice (e.g., oral gavage, iv/ip injection), is desirable. Successful candidates will be expected to work independently and contribute to writing peer-reviewed manuscripts and grant applications. For application, please send CV and three names of references to Dr. Young Jeong, youngjeong@purdue.edu.

**Research technician:** Applicants should have B.S. or M.S. training and a minimum 3 years of research experience in biology (preferably in microbiology). Candidate must have a comprehensive knowledge of research principles, concepts, practices, and methods and be proficient in using basic lab equipment. Candidates must have a basic competence with commonly used computer software programs (e.g., Word, Excel, Prism, Adobe, etc.). For application, please send CV and three names of references to Dr. Young Jeong, youngjeong@purdue.edu.

**Post-doctoral Position for Crystallographer to Support Drug Discovery Research**

The laboratory of Dr. Daniel Flaherty in the Department of Medicinal Chemistry and Molecular Pharmacology at Purdue University is seeking a post-doctoral research associate in the field of protein X-ray crystallography to support drug discovery efforts against a novel antibacterial target of interest in our laboratory. **Required degree/skills:** PhD (or expected PhD) with experience in protein crystallography and biophysical techniques with a proven track record of successfully solving ligand-bound crystal structures. Required experience includes designing plasmids, cloning, mutagenesis, protein preparation, protein purification, and a strong background in utilizing PHENIX and COOT or other comparable software for structure determination. **Desired Skills:** Experience designing and executing biochemical assays for quantifying protein interactions with small molecules, such as with surface plasmon resonance (SPR) or isothermal titration calorimetry (ITC). Experience working with bacteria including *E. faecium, E. faecalis, N. gonorrhoeae* and *M. smegmatis* is a plus.

The candidate would have access to world-class facilities and instrumentation to support their work (crystallization drop-setting robots, screen optimization robots, plate imaging robots/hotel, walk-in plate incubator rooms, and rotating-anode home X-ray sources) within the Crystallography Core located in the Hockmeyer Hall of Structural Biology. Synchrotron data
collection is also a 2-hour drive from our laboratory at the Advanced Photon Source (APS) at Argonne National Laboratory with remote data collection capabilities. Other responsibilities include managing data collection time/trips, maintaining a laboratory notebook, assisting graduate students in crystallography, and manuscript preparation. This position is funded by a grant from the National Institutes of Health in search of novel inhibitors for a new antibacterial target. The position offers a competitive salary commensurate upon experience plus benefits and is contingent upon meeting progress milestones. The successful applicant will be assessed for productivity on a bi-annual basis with the option of yearly renewal if agreed upon by both parties.

Interested candidates should submit a cover letter, CV and at least 3 references that are familiar with the candidate’s experience and research potential to https://careers.purdue.edu/job/West-Lafayette-Post-Doc-Research-Associate-IN-47906/814628700/?locale=en_US . The position is open immediately, however, start date is flexible and negotiable depending on the availability of the candidate. For more information please visit https://www.flahertylab.com/positions

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Postdoctoral Opening in Computational Study of Tyrosine Kinases

Research area: A postdoctoral associate position is available to conduct computational and theoretical studies exploring conformational equilibrium of protein tyrosine kinases. The successful candidate will develop and apply computer simulation methods to explore conformational transitions and landscapes of multidomain proteins, substrate and inhibitor interactions of tyrosine kinases, and the physical basis for regulation of protein interactions by phosphorylation to gain molecular-level understanding of cellular function. Development of novel approaches to define and characterize flexible ligand interactions is another objective of the research. The research is in close collaboration with cell biologists and chemical biologists, with potential for drug discovery in infectious disease or cancer.

Highly motivated Ph.D. researchers should submit their applications to Dr. Carol Post. Applicants are anticipated to have a strong background in computational methods and physical understanding of molecules. A proficiency in molecular dynamics simulation methods is desired. Applicants should be self-motivated, able to work in a team environment, and be reasonably skilled in oral and written scientific presentations in English.

Applicants should submit the following documents to Dr. Post (cbp@purdue.edu):
- Cover letter briefly describing research experience
- Curriculum vitae
- Contact information for three references

Salary and Purdue University benefits (health insurance, vacation days, sick leave, etc) will apply. Purdue University is an equal opportunity, affirmative action employer. All members of the Post lab are expected to value diversity and inclusion, and will be treated with respect and provided the opportunity to achieve their full potential toward career development.
**Postdoctoral Opening in High-resolution NMR of Tyrosine Kinases**

Research area: A postdoctoral associate position is available to conduct structural studies on non-receptor protein tyrosine kinases and their complexes with substrates and inhibitors using high-resolution NMR spectroscopy and other biophysical methods. The research will address central questions about substrate recognition and regulation by phosphorylation of kinase-protein interactions. Structure and conformational dynamics will be characterized from multidimensional NMR spectroscopy to aid inhibitor design and the molecular basis of cellular function. The research is in close collaboration with cell biologists and chemical biologists, with potential for drug discovery in infectious disease or cancer.

Highly motivated Ph.D. researchers should submit their applications to Dr. Carol Post. Applicants are anticipated to have a strong background in biological NMR spectroscopy and general biophysical understanding of macromolecules. A proficiency in biochemistry and protein expression and purification is desired. Applicants should be self-motivated, able to work in a team environment, and be reasonably skilled in oral and written scientific presentations in English.

Applicants should submit the following documents to Dr. Post (cbp@purdue.edu):

- Cover letter briefly describing research experience
- Curriculum vitae
- Contact information for three references

Salary and Purdue University benefits (health insurance, vacation days, sick leave, etc) will apply. Purdue University is an equal opportunity, affirmative action employer. All members of the Post lab are expected to value diversity and inclusion, and will be treated with respect and provided the opportunity to achieve their full potential toward career development.