

The [Lampe](#) (Chemical Engineering) and [Mura](#) (Chemistry) groups seek a current first or second year undergraduate for a paid position performing computational and experimental work, as part of a newly-funded joint project starting in summer 2016. (The precise start date can be discussed; funding is assured for at least one year.)

Competitive candidates will have programming language experience and will be passionate to learn at the junction of computational and experimental science; however, prior programming expertise is not a strict requirement, and *all highly motivated students are invited to apply*. The student is expected to work an average of 10 hours/week during the academic year and 40 hours/week during the summer; compensation will be in the form of the UVA hourly wage during the academic year and a competitive stipend during the summer months.

As part of this experience, the student will (i) gain technical skills in scientific research, (ii) learn how to read and critically evaluate the scientific literature (iii) obtain extensive training in scientific presentations, including speaking in front of audiences, (iv) gain invaluable experience in how to work as part of an interdisciplinary team. The student is expected to attend weekly research group meetings, and will be mentored by both Drs. Lampe and Mura. All of the above training will occur in an inviting and nurturing group environment, and the student will have the opportunity to ultimately present their scientific findings as a poster at a national conference. From this experience, the successful candidate will develop expertise in computational biology and chemistry, including (i) computer programming languages (e.g. Python, D), (ii) state-of-the-art software suites for molecular simulations (e.g., NAMD, VMD), and (iii) methodologies and analytical tools from computational structural biology (contact maps, radial distribution functions, etc.). The student also will learn many experimental skills in the wet-lab, including sterile technique, bacterial cell culture, recombinant DNA technology (e.g. plasmid design), protein expression and purification, protein characterization via methods such as gel electrophoresis and dynamic light scattering (DLS), and hydrogel formation/characterization. In short, the student will be immersed in an environment that leverages a broad range of methodologies, experimental and computational.

Interested candidates should send (i) a Statement of Interest, (ii) a resume, and (iii) a UVA transcript (unofficial copy is fine) as a single PDF to apply.lampebiomaterials@gmail.com by **April 1**. The statement of interest should not exceed 2 pages, and should address the following questions (in addition to any other information you wish to provide):

1. Why are you interested in doing research? How does that pursuit fit into your long-term academic and career plans, at least on the timescale of the next 5-10 years?
2. Describe any prior research experiences/training, either in experiment or computation?
3. What past experiences do you have that might help with your getting start in research? We do not expect that all applicants will have had research experiences by now (that's the point of your current application!) Rather, we are interested in learning about any past experiences in scientific employment, extracurricular activities (school organizations), etc. Think very broadly!
4. Why do you think you'll be a good researcher/fit for this advertised position?
5. What about the groups' research directions do you find most interesting? (Visit our websites.)
6. Our groups values diverse viewpoints and backgrounds. What unique point of view or new perspective might you bring to our team?
7. Briefly describe an idea or article in engineering and research that you've recently found interesting and exciting.