



SEEKING: Postdoctoral Researchers in Computational Structural Biology/Chemistry

Overview: The [Trant Lab](#) at the University of Windsor is looking for **one to three** motivated postdoctoral researchers; the positions are initially for 1-year and potentially renewable based on project continuance, and based on satisfactory performance at an initial amount of \$40,000/year. The candidate should have significant experience (from their doctoral work, industrial career, or previous postdoctoral work) in modelling of protein-ligand interactions. Individuals from under-represented groups are especially encouraged to apply. This includes ethnic, religious, sexual, disability, and gender minorities as well as first-generation university students (those whose parents do not hold university degrees). Individuals who have faced obstacles that have hindered their education and productivity are encouraged to apply. We are looking for good colleagues FIRST with strong problem solving and outstanding teamwork skills: a flashy CV full of top-journal publications is not necessary, please do not self-select out. The position is expected to start as soon as filled, but is currently awaiting confirmation of funding from the industrial partner.

Preference for Canadians and those able to legally work in Canada who are already in Canada: Unfortunately, due to COVID delays with the Government of Canada, strong preference is given to Canadian Citizens or Permanent Residents, or those with a valid Open Canadian Work Permit. However, exceptional candidates from outside of Canada should still send an inquiry; we can wait for the perfect person. **THIS POSITION CAN BE PERFORMED REMOTELY.** Ideally it would involve relocation to Windsor, but this is not strictly necessary, and we understand that both with the pandemic and uprooting oneself to do a job for a year with no certainty of permanence...who wants to move (unless you really do, Windsor is an awesome place). However, payment of salary still requires the right to work in Canada.

About You: Position is open to individuals holding a PhD in chemistry, biochemistry, structural biology or a related discipline. The successful candidate(s) will have doctoral-level expertise in modeling protein interactions with other proteins, drugs, or other ligands. Bonus points for familiarity with cyclic peptides. Preferred that you have familiarity with membrane proteins modelled in a membrane (we can teach this if you don't). **Must be comfortable with either or both of Amber and/or GROMACS.** Familiarity with Schrodinger and Rosetta are a plus, but it is so user friendly that it is a simple bonus. Experience in simple script-writing, and or programming is a bonus. Any experience in small molecule computational chemistry (potential energy surfaces of reactions using Gaussian for example) is preferred in the ideal candidate, but not required. Individuals will be required to work closely with the biological, analytical, inorganic/materials, and synthetic chemistry teams, and previous experience in an interdisciplinary environment, or a strong interest in developing this experience will be preferred, as will an affinity for learning and applying new computational techniques (and will likely make you happier in the position).

About the Team: The Trant Team is located at the University of Windsor and uses synthetic, computational, and medicinal chemistry to discover novel molecules that can be used to address under-examined biological processes and develop innovative diagnostic and therapeutic modalities for diseases. The team is actively supported by NSERC, CIHR, the ACS PRF, the New Frontiers Program, the Arthritis Society of Canada and a myriad of other funding agencies and

industrial partners (through MITACS, NSERC, and the Ontario Centre of Innovation, and through direct contracts) to provide a very significant operating budget. The lab currently hosts 14 other postdoctoral researchers, 16 graduate students, technical support, and a large team of undergrad researchers, providing a unique highly multidisciplinary, highly intellectually stimulating environment. John provides extra support and training in project management and grant writing suitable for scientists looking for future leadership positions in academia, government, and/or industry. PDFs are strongly encouraged to collaborate with other members to advance new ideas and build on existing areas of research within the group, broadly spanning medicinal and materials science, small molecule drug design, peptide science, and the interactions of all of the above with biomolecules. The team operates a large synthetic chemistry, analytical chemistry, and computational chemistry facility, along with a biochemistry/molecular biology/microbiology/bioprinting facility. We collaborate extremely closely with cell biology, immunology, structural biology and tissue culture labs as well as with engineers, materials scientists, physicists, translational biologists, clinicians, and other synthetic and medicinal chemists both in Windsor, across the country, and around the world. We think we have more fun than all the other labs. But I think all labs think that.

About the Project: The project involves the modeling of ligand protein interactions with an understudied family of proteins as part of an industrial collaboration to refine our understanding of the basic biochemistry of this class of proteins and also to better develop a new class of potential drugs for multiple indications. This will involve both protein preparation, rigid and induced docking, and short and long molecular dynamics simulations to understand protein dynamics and better estimate relative affinities and probe different binding modes and binding sites. We expect the positions to be starting in early Summer 2021 (June/July) contingent on confirmation of a go ahead and a funding agreement with the partner. We expect to start work very quickly after that is in place and are looking for interested candidates. Should you not be available until September, that could still be possible. As the positions are not HARD confirmed, withdrawing your application because another opportunity arose will be actively encouraged.

About Windsor: The University of Windsor provides a stimulating and friendly working environment in the Southernmost, and warmest city of Eastern Canada, right next to Lake Erie. The towns of La Salle and Amherstburg, ranked as the safest places to live in Canada, are within a 10 to 20- minute drive. Windsor has the small-town charm but quick access to big-city amenities with the campus less than 10 minutes' drive from downtown Detroit. The cost of living is lower than in comparable University towns in Canada, and the city is located in the middle of a wine-growing region, as well as being the historic centre for both whisky and beer production in Canada with many microdistilleries and microbreweries. The city is 28% foreign-born, making it one of the most culturally diverse cities in the country. This is reflected in both the restaurant and the food retail experience. The city is crisscrossed by recreational trails making an active outdoor lifestyle easy; although we lack hills. It is very flat. Great for biking.

Contact: Interested individuals, please send a current CV (including contacts of three references) and a cover letter stating your research interest and career plan, and how your skill set matches that of the requirements, to Dr. John Trant at j.trant@uwindsor.ca with the term "Protein Computational PDR" in the subject line. Generic emails will not be responded to. Competitive candidates will receive a rapid response for additional screening.