**Employer: Novartis Institutes for BioMedical Research, Inc.**

**Position: Investigator II  
Alien: Callum Dickson**

**Where you will work: 181 Massachusetts Ave Cambridge, MA 02139**

***PLEASE NOTIFY US IF THE LOCATION IS INCORRECT OR IF YOU HAVE AN ADDITIONAL LOCATION YOU WORK INCLUDING REMOTELY FROM HOME***

**IMPORTANT: Please indicate with which prior employers you gained the following experience:**

| **Specific Skills and Other Requirements:**  DO NOT ALTER THIS COLUMN | **PROVIDE: *1.* name(s) of prior employer(s), *2.* job title(s), *3.* indicate full-time or part-time employment, AND *4.* exact dates of employment (FROM/TO) (MM/DD/YYYY): DOES NOT INCLUDE CURRENT POSITION; Include all positions relative to each requirement in rows below.** |
| --- | --- |
| PhD Degree in chemistry, medicinal chemistry, computational chemistry, computational biology, computational chemical biology, chemical biology, or related field; | PhD in Computational Chemical Biology, Imperial College London, Oct 2010 – Sept 2014. (4 year PhD)  Masters of Research Bioimaging Science, Imperial College London, Sept 2009 – Oct 2010. (1 year Masters)  Masters Chemical Physics, University of Edinburgh, Sept 2004 – July 2009. (4 year Bachelor – included year in industry + 1 year Masters) |
| 2 years of work or research experience in job offered or related position; and | Novartis Institutes for Biomedical Research, Presidential Postdoctoral Research Fellow, Computer Aided Drug Discovery. Full time. 26th Sept 2014 – 1st June 2017 (2 years 8 months)  Pfizer, Industrial Trainee, Computer Aided Drug Discovery. Full time. 1st August 2007 – 1st August 2008 (1 year) |
| 2 years of experience working in a drug discovery environment; and | Novartis Institutes for Biomedical Research, Presidential Postdoctoral Research Fellow, Computer Aided Drug Discovery. Full time. 26th Sept 2014 – 1st June 2017 (2 years 8 months)  Pfizer, Industrial Trainee, Computer Aided Drug Discovery. Full time. 1st August 2007 – 1st August 2008 (1 year) |
| One or more publications in the peer-reviewed journals relevant to computational chemistry such as: JCIM, J.Phys.Chem, Proteins, or JCTC. | Callum J. Dickson, Viktor Hornak, Dallas Bednarczyk, Jose S. Duca, Using membrane partitioning simulations to predict permeability of forty-nine drug-like molecules, *JCIM*, 2019, **59** (1), 236–244.  Magd Badaoui, Adam Kells, Carla Molteni, Callum J. Dickson, Viktor Hornak, Edina Rosta, Calculating Kinetic Rates and Membrane Permeability from Biased Simulations, *J. Phys. Chem. B*, 2018, **122** (49), 11571–11578.  Callum J. Dickson, Viktor Hornak, Robert A. Pearlstein, Jose S. Duca, Structure-kinetic relationships of passive membrane permeation from multiscale modelling, *J. Am. Chem. Soc.,* 2017*,* **139** (1), 442–452.  Robert A. Pearlstein, Callum J. Dickson, Viktor Hornak, Contributions of the membrane dipole potential to the function of voltage-gated cation channels and modulation by small molecule potentiators, *BBA Biomembranes,* 2017, **1859** (2), 177-194.  Michael R. Dent, Ismael Lopez Duarte, Callum J. Dickson, Phoom Chairatana, Harry Laurence Anderson, Ian R. Gould, Douglas Wylie, Aurimas Vysniauskas, Nicholas Jan Brooks and Marina Konstantinovna Kuimova, Imaging plasma membrane phase behaviour in live cells using a thiophene-based molecular rotor, *Chemical Communications*, 2016, **52**, 13269-13272.  Callum J. Dickson, Viktor Hornak, Camilo Velez-Vega, Daniel J. J. McKay, John Reilly, David A. Sandham, Duncan Shaw, Robin A. Fairhurst, Steven J. Charlton, David A. Sykes, Robert A. Pearlstein, Jose S. Duca, Uncoupling the structure-activity relationships of β2 adrenergic receptor ligands from membrane binding, J*ournal of Medicinal Chemistry,* 2016, **59** (12), 5780-5789*.*  Åge A. Skjevik, Benjamin D. Madej, Callum J. Dickson, Charles Lin, Knut Teigen, Ross C. Walker, Ian R. Gould, Simulation of lipid bilayer self-assembly using all-atom lipid force fields, *Physical Chemistry Chemical Physics*, 2016, **18** (15), 10573-10584.  Michael R. Dent, Ismael López-Duarte, Callum J. Dickson, Niall D. Geoghegan, Jonathan M. Cooper, Ian R. Gould, Rob Krams, James A. Bull, Nicholas J. Brooks and Marina K. Kuimova, Imaging phase separation in model lipid membranes through the use of BODIPY based molecular rotors, *Physical Chemistry Chemical Physics,* 2015, **17**, 18393-18402.  Åge A. Skjevik, Benjamin D. Madej, Callum J. Dickson, Knut Teigen, Ross C. Walker and Ian R. Gould, All-atom lipid bilayer self-assembly with the AMBER and CHARMM lipid force fields, *Chemical Communications*, 2015, **51**, 4402-4405.  Callum J. Dickson, Benjamin D. Madej, Åge A. Skjevik, Robin M. Betz, Knut Teigen, Ian R. Gould and Ross C. Walker, Lipid14: The Amber Lipid Force Field, *Journal of Chemical Theory and Computation*, 2014, **10**, 865-879.  Callum J. Dickson, Lula Rosso, Robin M. Betz, Ross C. Walker and Ian R. Gould, GAFFlipid: a General Amber Force Field for the accurate molecular dynamics simulation of phospholipid, *Soft Matter*, 2012, **8**, 9617-9627.  Callum J. Dickson, Antony D. Gee, Idriss Bennacef, Ian R. Gould and Lula Rosso, Further evaluation of quantum chemical methods for the prediction of non-specific binding of positron emission tomography tracers, *Physical Chemistry Chemical Physics*, 2011, **13**, 21552-21557. |
| Experience with the following: | |
| computational/theoretical chemistry (thermodynamics, biophysics, and quantum chemistry); | Novartis Institutes for Biomedical Research, Presidential Postdoctoral Research Fellow, Computer Aided Drug Discovery. Full time. 26th Sept 2014 – 1st June 2017 (2 years 8 months). **Quantum chemistry, thermodynamics, biophysics.**  PhD in Computational Chemical Biology, Imperial College London, Oct 2010 – Sept 2014. (4 year PhD). **Quantum chemistry, thermodynamics, biophysics.**  MChemPhys Chemical Physics, University of Edinburgh, Sept 2004 – July 2009. (4 year Bachelor – included year in industry + 1 year Masters). **Thermodynamics, Biophysics.** |
| Open source or commercial packages for computational chemistry; | Novartis Institutes for Biomedical Research, Presidential Postdoctoral Research Fellow, Computer Aided Drug Discovery. Full time. 26th Sept 2014 – 1st June 2017 (2 years 8 months). **Both open source and commercial.**  Pfizer, Industrial Trainee, Computer Aided Drug Discovery. Full time. 1st August 2007 – 1st August 2008 (1 year). **Commercial only.**  PhD in Computational Chemical Biology, Imperial College London, Oct 2010 – Sept 2014. (4 year PhD). **Both open source and commercial.** |
| Experience with at least one of the following: Gaussian, Amber, CCG/Schrodinger/OpenEye; modeling packages, RDKit; and | Novartis Institutes for Biomedical Research, Presidential Postdoctoral Research Fellow, Computer Aided Drug Discovery. Full time. 26th Sept 2014 – 1st June 2017 (2 years 8 months). **Experience with all.**   * Gaussian, AMBER, CCG, Schrodinger, OpenEye, RDKit, Cresset, BioSolveIT,   Pfizer, Industrial Trainee, Computer Aided Drug Discovery. Full time. 1st August 2007 – 1st August 2008 (1 year). **Only with:**   * Schrodinger, OpenEye   PhD in Computational Chemical Biology, Imperial College London, Oct 2010 – Sept 2014. (4 year PhD). **Only with:**   * Gaussian, AMBER |
| Working with complex data using programming languages or workflow environments. | Novartis Institutes for Biomedical Research, Presidential Postdoctoral Research Fellow, Computer Aided Drug Discovery. Full time. 26th Sept 2014 – 1st June 2017 (2 years 8 months). **Programming and workflow:**   * Python, C++, Knime, RDKit   Pfizer, Industrial Trainee, Computer Aided Drug Discovery. Full time. 1st August 2007 – 1st August 2008 (1 year). **Programming and workflow:**   * Fortran, Pipeline Pilot   PhD in Computational Chemical Biology, Imperial College London, Oct 2010 – Sept 2014. (4 year PhD). **Programming only:**   * Fortran, C++, CUDA |

PLEASE NOTE IF YOU DID RECEIVE ANY COURSE CREDIT FOR EMPLOYMENT

**Please use exact dates**

**EXAMPLE:**

| **Specific Skills and Other Requirements:** | **PROVIDE: *1.* name(s) of prior employer(s), *2.* job title(s), *3.* indicate full-time or part-time employment, AND *4.* exact dates of employment (FROM/TO) (MM/DD/YYYY): DOES NOT INCLUDE CURRENT POSITION** |
| --- | --- |
| PhD Degree in chemistry, medicinal chemistry, computational chemistry, computational biology, computational chemical biology, chemical biology, or related field; | Bachelor’s Degree from Georgia College and State University in Psychology 2007 (4 year degree) |
| 2 years of work or research experience in job offered or related position; and | Greenberg Traurig LLP, Paralegal, Full Time 01/06/2000 to 01/09/2007 (7 years 3 days)  Google, Paralegal, Full Time 01/03/1999 to 01/04/2000 (1 year 1 day) |
| 2 years of experience working in a drug discovery environment; and | Google, Paralegal, Full Time 01/03/1999 to 01/04/2000 (1 year 1 day)  **Do not have 2 years only the 1 year and 1 day** |
| One or more publications in the peer-reviewed journals relevant to computational chemistry such as: JCIM, J.Phys.Chem, Proteins, or JCTC. | Have 1 publication within JCIM. Please see attached article |
| Experience with the following: | |
| computational/theoretical chemistry (thermodynamics, biophysics, and quantum chemistry); | Greenberg Traurig LLP, Paralegal, Full Time 01/06/2000 to 01/09/2007 (7 years 3 days)  Google, Paralegal, Full Time 01/03/1999 to 01/04/2000 (1 year 1 day) |
| Open source or commercial packages for computational chemistry; | Greenberg Traurig LLP, Paralegal, Full Time 01/06/2000 to 01/09/2007 (7 years 3 days) **Open Source**  Google, Paralegal, Full Time 01/03/1999 to 01/04/2000 (1 year 1 day) **Open Source Packages not Commercial packages.** |
| Experience with at least one of the following: Gaussian, Amber, CCG/Schrodinger/OpenEye; modeling packages, RDKit; and | Greenberg Traurig LLP, Paralegal, Full Time 01/06/2000 to 01/09/2007 (7 years 3 days) **Only with RDKit** |
| Working with complex data using programming languages or workflow environments. | Greenberg Traurig LLP, Paralegal, Full Time 01/06/2000 to 01/09/2007 (7 years 3 days) **using workflow environment only** |