Tim Green

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I am a recent Ph.D. graduate in computational physics and quantum chemistry looking to take on technical and analytic roles. I am comfortable using a range of technical, statistical and scientific methods to perform research, architect systems and build products. As an undergraduate, I built and sold one of the most popular initial Facebook applications, and since then I have been involved in a number of groundbreaking online democracy projects.

Education

2010–2014 *Lincoln College, University of Oxford* – D. Phil.

- ➢ Developed, and implemented in a successful commercial software package, computational quantum chemical methods for predicting NMR J-coupling, helping researchers develop new chemicals, drugs and materials
- ➢ Finished in four years with thesis '*Prediction of NMR J-coupling in condensed matter*'
- ➢ Published a number of papers in good journals
- ➢ Released and continue to maintain an open source Python library used by several research groups
- ➢ Tutoring mathematics to groups of undergraduates

2006–2010 *Queens' College, University of Cambridge* – M. A. / M. Sci. (Hons) Natural Sciences, 1st Class

- ➢ Specialised in Experimental and Theoretical Physics
- ➢ Achieved 1st Class in Computer Science option in first year
- ➢ Ranked 1st in the year in third year computational project
- ➢ Ranked 1st in fourth year atomic and optical physics paper

1999–2006 *Royal Grammar School, Newcastle upon Tyne*

- ➢ A-levels: 5 As in Maths (×3), Physics and Chemistry. Distinctions in AEA Physics and Maths
- ➢ GCSEs: 8 A*s and 1 A

Skills

My strongest technical specialities are *Python, Data analysis, Mathematical Methods, Linux, HTML, CSS*. I have non-trivial experience in *C++, PHP, Javascript, Fortran, Django, Flask, OpenMPI, MongoDB, PostgreSQL, MySQL*.

Work and experience

2014–now Postdoctoral research assistant, Department of Materials, University of Oxford as a 'Durham Emergence project' fellow

- ▸ Developing and implementing novel quantum methods for the calculation of NMR J-coupling in crystals

2010–now Co-founder, *Democracy Club*, a non-partisan online democracy project

- ▸ 2015
  - ○ Gathered data on political candidates for our premier project *YourNextMP.com*, moderated volunteer contributions, helped to set policy and manage communications
  - ○ Helped to build the static public-facing website that went on to receive over 1 million visitors

- Data used by Google to power an election widget shown in UK search results, and was used by a number of national newspapers such as The Guardian and The Telegraph
- Personally created *ElectionMentions.com*, a website for monitoring what the press is saying about any electoral candidates

- 2014, 2012 — *YourNextMEP.com, YourNextPCC.com*
  - Created openly licensed databases of national election candidates in the 2014 European Parliament election and the 2012 Police and Crime Commissioner election
- 2010
  - Developed novel crowdsourcing participation site to gather information for 2010 General Election
  - Recruited 6,000+ volunteers by polling day
  - 100,000+ users of innovative election quiz, 25% self-reported it affecting their vote
  - 5,000+ election leaflets uploaded by volunteers

2010 Delegate, UK PM's Trade & Investment trip to India

- Invited by the government to meet Indian 'civic hackers' as part of a trade trip due to involvement in Democracy Club
- Spent time in New Delhi and Bangalore, meeting the prime minister and other ministers

2007 Founder, '*X Me*' Facebook application

- Acquired by RockYou, California, with 400,000+ users
- Eventually grew to 11+ million users

2007–2010 Queens' College JCR Computer Officer

- Developed website and internal software tools for undergraduate community

Publications

In preparation Long ranged nuclear spin–spin couplings in crystal systems

In preparation Visualization and Processing of Computed Solid-State NMR Parameters: MagresView and MagresPython

2015 Unusual Intermolecular "Through-Space" J Couplings in P–Se Heterocycles

Journal of the American Chemical Society

2014 Relativistic nuclear magnetic resonance J-coupling with ultrasoft pseudopotentials and the zeroth-order regular approximation

Journal of Chemical Physics, American Institute of Physics

2012 Elucidation of the Al/Si ordering in Gehlenite $Ca_2Al_2SiO_7$ by combined ^{29}Si and ^{27}Al NMR spectroscopy/quantum chemical calculations

Chemistry of Materials, American Chemical Society