

DR ROBIN CARTER

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CAREER

10/2010 – present: Senior Postdoctoral research assistant, Oxford Silk Group, University of Oxford

- I plan and deliver the Open Innovation Strategy for the Silk Group.
- I have identified, vetted and initiated over 10 productive (commercial and academic) collaborations.
- I lead development and delivery of a Life Cycle Analysis Service with 5 global partners.

11/2007 – 09/2010: Intermediary, IXC UK Ltd. (www.ixc-uk.com)

- Planned and Facilitated the Open Innovation process in client organisations. Client satisfaction demonstrated by 80% repeat business.
- Personally researched, wrote and delivered over 100 technical reports for over 15 client organisations. These reports formed the backbone of the client's technical strategy meetings held on a weekly/biweekly basis with clients.
- Identified, vetted and initiated communication with over 50 collaborative organisations on behalf of over 15 clients. This involved technology scouting, due diligence, initiating contact and then setting up and facilitating senior managerial meetings between clients organisations and potential collaborators.
- Proven ability to fit into varied corporate cultures and assimilate a variety of technology concepts speedily – my clients were small businesses, multinationals and academic institutions for varied industry sectors.

04/2006-10/2007 : Post-doctoral Researcher, University of Witwatersrand, South Africa.

- Set-up and participating in a collaborative research project between the Chemistry Department and the Medical school with the aim of developing silicon nano-particles for use in *in vivo* biological imaging systems. I won £10000 grant funding for the above project.
- Investigated a new catalyst/support system for CO-oxidation in automotive exhausts. This work was published.
- Advised post-doc researchers and PhD students on nano-materials and the technical and theoretical aspects of Transmission Electron Microscopy.
- Lectured to undergraduate Chemistry students.

03/2005-03/2006: Toshiba Research Fellow, Toshiba Co., Kawasaki, Japan.

- Developed innovative designs for next-generation data storage devices.
- Used PVD, CVD, TEM and SEM to develop and test novel data-storage materials.
- Patented this work in Japan and the US
- Learnt basic spoken Japanese

EDUCATION

10/2001-02/2005 : DPhil Materials Science, Exeter College, Oxford University, UK

- Thesis title: '*Structural analysis of Semiconductor Compounds in Single-walled carbon nanotubes*'.
- The project required a unique combination of a background knowledge in chemistry, analytical tools of materials science and an understanding of solid state physics.
- Responsibilities included: writing regular progress reports for supervisors and department heads, presenting posters at scientific conferences, writing articles for publication in scientific journals and assisting in supervision of final year chemistry students in the lab and electron microscopy unit.
- Experienced in TEM, HRTEM, HRTEM modelling, SEM and high temperature synthesis techniques.

01/1997-12/2000: BSc. Hons. Chemistry, University of Witswatersrand, South Africa

- Won National Mintek Science Quiz – awarded full academic scholarship for undergraduate degree.
- Whilst in 3rd year I was awarded departmental scholarship to attend the Cambridge Winter School in Superconductivity for post-graduate students, January 2000.
- Whilst in 3rd and 4th year, I was lab demonstrator and tutor to 1st year Chemistry Students

1992-1996: Redhill High School, Johannesburg, South Africa

- Full academic scholarship
- Academic Honours - for winning a National General Knowledge Science Quiz
- Drama colours - for winning directing and acting in House plays
- Matric pass with Exemption

OTHER PROFESSIONAL AND PERSONAL ACHIEVEMENTS

- Founder and co-partner of the profitable image capture and analysis company *Shape Dynamics Ltd.* (www.shapedynamics.com).
- Lead singer and founding member of an alternative band which competed in the Oxford University Battle of the Bands
- Designed, built and piloted an aluminium street-luge (gravity-driven, high speed vehicle). Qualified for the quarterfinals in the international competition of *Downhill Extreme* in Cape Town, South Africa
- Organised and led two successful expeditions involving five people to climb Spitzkoppe Mountain, Namibia. Involved training team members in technical mountaineering.
- Organised and led an expedition involving four people to climb Mount Kenya.
- Awarded black belt in Gojo-ryu karate.

SELECTED PATENTS, PUBLICATIONS AND PAPER PRESENTATIONS

- Koichi Kubo, Takahiro Hirai, Shinya Aoki, Robin Carter and Chikayoshi Kamata, **Data Read/Write device**, US Patent 7,733,684, 2010
- Sabelo D. Mhlanga, Kartick C. Mondal, Robin Carter, Michael J. Witcomb and Neil J. Coville, **The Effect of Synthesis Parameters on the Catalytic Synthesis of Multiwalled Carbon Nanotubes using Fe-Co/CaCO₃ Catalysts**, *South African Journal of Chemistry*, 2009, **62**, pg 67–76.
- J. Sloan, R. Carter, R. R. Meyer, A. Vlandas, A. I. Kirkland, P. J. D. Lindan, G. Lin, J. Harding, J. L. Hutchison, **Structural correlation of band-gap modifications induced in mercury telluride by dimensional constraint in single walled carbon nanotubes**, *Physica status solidi (b)*, 2006, **243**, pg 3257-3262
- R. Carter, J. Sloan, A. I. Kirkland, R. R. Meyer, A. Vlandas, M. L. H. Green, J. L. Hutchison, J. D. Lindan, G. Lin and J. Harding, **Correlation of structural and electronic properties in a new low dimensional form of mercury telluride**, *Physical Review Letters*, 2006, **96**, pg 215501.
- J. Sloan, R. Carter, R. R. Meyer, A. Vlandas, A. I. Kirkland, M. L. H. Green, J. L. Hutchison, **Image Restoration of One-dimensional HgTe Crystal formed within Single Walled Carbon Nanotubes**, *Materials Science Forum*, 2005, **514-516**, pg 1131-1134.
- G. Brown, S.R. Bailey, M. Novotny, R. Carter, E. Flahaut, K.S. Coleman, J.L. Hutchison, M.L.H. Green and J. Sloan, **High yield incorporation and washing properties of halides incorporated into single walled carbon nanotubes**, *Applied Physics A*, 2003, vol 74 no 6, pg 457 – 462.
- J. Sloan, A. I. Kirkland, R. Carter, R. Meyer, A. Vlandas and J. L. Hutchison, **Image Restoration of One-dimensional HgTe Crystals Formed within walled Carbon Nanotubes**, *Microscopy and Microanalysis*, 2005, 11, pg 198 – 199.
- R. Carter, J. Sloan, A. I. Kirkland, R. R. Meyer, J. L. Hutchison, and M. L. H. Green, **A one-dimensional semiconductor crystal with differentially rotating atomic layers formed within a single-walled carbon nanotube**, *Proceedings of the 13th Electron Microscopy Conference. Antwerp, Belgium, 2004* 2: 351.
- J. Sloan, R. Carter, E. Philp, A. I. Kirkland, R. R. Meyer, J. L. Hutchison, and M. L. H. Green, **Super-resolved imaging of twisted 1D crystals formed within single walled carbon nanotubes**. *Proceedings of the 13th Electron Microscopy Conference. Antwerp, Belgium. 2004*, 2: 321.
- A. Vlandas, R. Carter, S. Sorsa, E. Flahaut, J. Sloan, A. I. Kirkland, J. L. Hutchison, and M. L. H. Green, **Encapsulation of semiconductors in double wall carbon nanotubes.** *Proceedings of the 13th Electron Microscopy Conference. Antwerp, Belgium. 2004*, 2: 345.