

# MICHAEL HODGSON

## PERSONAL INFORMATION

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**Address:** Guildford, UK      **Mobile Number:** +44 (0) xxxx 000 007  
**Nationality:** U.K. permanent resident      **E-mail Address:** [michael.hodgson@example.com](mailto:michael.hodgson@example.com)  
**LinkedIn:** [Michael Hodgson](#)      **Security Clearance:** SC (2012)

## SUMMARY

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Practical and hands-on physicist with appreciation of simulation and computer coding. Extensive experience in both commercial and academic research and development environment. Particularly enjoys the technical challenges of applying knowledge and skills to bring ideas to reality. Open communicator and team member, who is keen to convey knowledge to others. Experienced in presenting and communicating to both a range of skill levels and international cultures.

## PROFESSIONAL EXPERIENCE

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**Physics Consultant** **01/2012 - 01/2015**  
Providing technical advice on radiation sensor equipment and radiological management.

**PhD Researcher** **01/2012 - 01/2015**  
**University of Anywhere, Somewhere, U.K.**

PhD researcher in silicon carbide and diamond semiconductor neutron radiation detectors for security applications.

- Design, setup and conduct characterization and radiological testing of semiconductor radiation sensors, specifically silicon carbide, diamond and silicon.
- Identifying and arranging significant testing at external and independent test facilities.
- Analysis of complex data, including spectroscopic identification.
- Fabrication of semiconductor radiation detectors, including clean room work and practices.
- Wrote and implemented simulations C++ based code.
- Worked with international colleagues and presented at renowned international conferences.

**Physicist** **06/2009 - 12/2011**  
**Awesome Company, Reading, U.K.**

Research and development physicist for the Advanced Radiation Detection engineering team:

- Lead physicist and radiological design authority in main aspects of radiation sensing instrumentation product development, including: planning, design, simulations, prototyping, analysis, type testing, as well as the design, development and commissioning of advanced calibration equipment.
- Provided technical and quality assurance support to both the customers and the business (service and production).
- Researched and identified novel concepts or technologies that would add value to the business portfolio. Proactively developing links to external organizations, vendors and academic institutions for collaborations, knowledge transfer or intellectual input.
- Worked with national and international organizations in the development of standards.
- Lead Site Radiation Protection Supervisor (RPS) role has included: management of all site radioactive sources, development of site local rules, managing other site RPS, tritium remediation projects, site permitting, worked with external radiological contractors, Environment Agency and regional Counter Terrorism unit.

**Physics Technical Student** **01/2007 - 01/2008**  
**CERN, Geneva, Switzerland**

Part of the CERN technical student program in conjunction with University of Anywhere MPhys placement year:

- Researched, tested and optimized gas filled ionization chamber beam loss monitors for the Large Hadron Collider (LHC).

## EDUCATION

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<b>PhD</b> <b>University of Anywhere, Somewhere, U.K.</b> <i>Due for completion 01/2015. Research is on radiation hard semiconductor neutron detectors for security applications, in conjunction with A COMPANY. Key outcomes included.</i>	<b>01/2012 - 01/2015</b>
<b>MSc - Radiation Detection &amp; Instrumentation - Distinction</b> <b>University of Anywhere, Somewhere, U.K.</b> Award for best research dissertation.	<b>10/2010 - 09/2011</b>
<b>MPhys - Physics - 2.1,</b> <b>University of Anywhere, Somewhere, U.K.</b> One year research and work placement at CERN, Switzerland (2004 – 2005).	<b>10/2004 - 06/2009</b>
<b>A-levels - A (2), B (1)</b>	<b>09/2002 - 07/2004</b>

## ADDITIONAL TRAINING

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Software Carpentry Boot Camp	<b>01/2015</b>
Labview Certified LabView Associate Developer (CLAD)	<b>02/2014</b>
Begin programming: build your first mobile game - JAVA (MOOC)	<b>03/2013</b>
French - Global Graduate Award 2 & 3 (Uni. Anywhere)	<b>04/2012</b>
Semiconductor Fabrication & Clean Room Training (Uni. Anywhere)	<b>05/2011</b>
Radiation Protection Supervisor (RPS) (CERN)	<b>06/2010</b>
Geant4 Fundamentals	<b>07/2009</b>
C++ for Particle Physicist (CERN)	<b>08/2008</b>

## AWARDS

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Final - Institute of Physics Early Career Physics Communicator Award	<b>11/2014</b>
Winner - Researcher Competition	<b>09/2014</b>
IEEE NSS/MIC/RTSD Trainee Grant Award	<b>08/2014</b>
Highly Commended for SEPnet Public Engagement Newcomer Award	<b>06/2014</b>
Prize for best research dissertations	<b>09/2011</b>
Golden Crest Award	<b>08/2007</b>
Smallpiece Trust Award for Innovation and Design	<b>08/2008</b>

## PUBLIC ENGAGEMENT

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<b>Famelab</b> (Regional Heats)	<b>12/2013</b>
<b>SEPnet Outreach Demonstrator</b>	<b>01/2012 - 01/2015</b>

## COMPUTING SKILLS

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<b>O/S</b>	<b>Analysis</b>	<b>Programing</b>	<b>Simulation</b>	<b>Visual</b>	<b>Other</b>
-Windows	-Excel	-Fortran	-Garfield	-MGI Photosuite	-LabView
-Mac OS	-Origin	-C++	-FLUKA	-Corel Draw	-LaTeX
-Linux	-MatLab	-Java	-Geant4	-Solid Edge	-Word

## PROFESSIONAL AFFILIATIONS

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Member - Institute of Physics  
Member - IEEE

## VOLUNTARY

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GRADnet Panel Representative ( <i>University of Anywhere</i> )	<b>12/2013 - 12/2014</b>
Mentoring	<b>12/2013 - 12/2014</b>

## PERSONAL INTERESTS

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Football, skiing, cooking, sky diving, rock climbing, motor racing.

## PAPERS - MAIN AUTHOR (TOP 5)

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**11/2014** - "Characterisation of Silicon Carbide and Diamond Neutron Detectors for Active Interrogation Security Applications.", *IEEE NSS/MIC/RTSD*.

**04/2014** - "Assessing the Suitability of Silicon, Silicon Carbide and Diamond Semiconductor Neutron Detectors for Security Applications", *Nature*.

**01/2014** - "Silicon Neutron Detectors", *Nuc. Inst. Meth.*

**01/2013** - "Overview of Security Applications", *Nuc. Inst. Meth.*

**09/2012** - "Radiation Hard Neutron Semiconductor Detectors for Security Applications ", *SEPnet Grand Challenge Conference, Conference Proceedings*.

## PAPERS - CO-AUTHOR (TOP 5)

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**05/2014** - "Joint project on investigating something interesting", *IoP Journal of Physics*, international conference paper.

**01/2014** - "Unrelated work by your supervisor", *Journal of Applied Physics*, Seminar.

**02/2013** - "Collaboration with multiple partners", *Nuc. Inst. Meth.*, Poster.

**04/2013** - "Work you can't remember even doing" *Radiation Protection and Dosimetry*.

**11/2012** - "Radiation Hard Neutron Semiconductor Detectors for Security Applications ", *International Journal of Physics*.

## CONFERENCE PROCEEDINGS - MAIN AUTHOR (TOP 5)

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**11/2014** - "Characterisation of Silicon Carbide and Diamond Neutron Detectors for Active Interrogation Security Applications.", *IEEE NSS/MIC/RTSD*, international conference paper.

**01/2014** - "A brand new discovery in Silicon", *University of Somewhere Else (Australia)*, Seminar.

**11/2013** - "A poster about proving something wrong", *PGR conference (Uni. Anywhere)*, Poster.

**02/2013** - "A poster about work I did" *Nuclear Instruments Conference*, Poster.

**10/2012** - "Radiation Hard Neutron Semiconductor Detectors for Security Applications ", *SEPnet Conference*, Presentation.

## FUNDING

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**11/2014** - "Investigation into Novel Technology", STFC, BND2030, £500k

**01/2012** - "Bursary for additional equipment", Named Contributor, Levehulme, FPT30202, £15k

## INDUSTRIAL DEVELOPMENTS

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New Product-X (*Awesome Company*)

Redevelop Machine-Y (*Awesome Company*)

Spin-out Tech-Z calibration device (*CERN*)

## PATENTS

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A clever new instrument                      **US 8783200 B2**                      - 25 Mar 2014

Smart phone with rounded corners        **EP 2399495 A2**                      - 12 Oct 2011

Smart phone with rounded corners        **WO2010067068 A3**                  - 19 May 2011

## TEACHING

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**Student Led Online Learning Module** (*SEPnet*)    **09/2014 - 01/2015**

**Demonstrator** (*University of Anywhere*)    **01/2012 - 01/2015**

**Outreach Officer** (*SEPnet*)    **01/2012 - 01/2015**