

# Dr. Ian Robinson

## *Curriculum Vitae*



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### DOCTORAL RESEARCH

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#### Computational Studies of Hydrogen in Palladium

Following a masters project developing computational simulations of novel superconductors I modelled crystallisation of hydrogen isotopes diffusing through palladium. Producing ab-initio computer models exploring the odd effect whereby heavier isotopes diffuse faster and studying the short-range ordering of this unusual lattice gas.

### EMPLOYMENT

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Prior Pursglove College  
**Teacher of Physics**

CURRENT, FROM FEB 2007 (FT)

Until re-organisation in 2012 Assistant Manager, Science

JAN 1996 – FEB 2007 (FT)

Blackburn College  
**Head of A-level Physics and Computing**

JUL 1992 – DEC 1995 (FT)

St. Albans RC High School, Manchester  
**Teacher of Physics**

SEP 99 – JUNE 03 (PT)

The Open University  
**Tutor - Computing**

JUN 01 – JAN 04 (PT)

A.E.B.  
**Coursework Moderator & Senior Examiner, A-Level Computing**

JAN 04 – AUG 07 (PT)

O.C.R.  
**Coursework Moderator & Senior Examiner, A-level Physics**

### EDUCATION

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2015 **Doctor of Philosophy**  
Computational Physics  
*Institute of Materials / University of Salford*

1995 **Master of Science**  
Computational Physics  
*University of Salford*

1992 **P.G.C.E. Physics**  
*The University of Manchester*

1986 **Bachelor of Physics**  
*The University of Aston*

1982 **9 O, 4 A Levels**  
*Bury Grammar School*

### WORK EXPERIENCES

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#### *A-level Physics*

I have predominantly been teaching A-level Physics since 2000 along with some private tuition. Boards include OCR-B (Advancing Physics), OCR-A, Nuffield & AQA, being instrumental in at least 3 major lab refits.

#### *Vocational Science*

For the last few years I have delivered L3 Applied Physics. Additionally I have taught L2 & L3 GNVQ Science and delivered science components of various vocational BTECs including Health & Social Care, Complementary Therapy and Hair & Beauty

#### *BTEC L3 Engineering*

In the last year I have been delivering L3 Engineering as an alternative to A-Level Physics. This has the potential to be a valuable course for higher level apprenticeships.

#### *Computer Science*

At Blackburn I was responsible for A-level Computing as well as Physics. At both Blackburn and Prior I developed enrichment courses in *scientific* computing and advanced mathematical document typesetting using  $\LaTeX$ .

#### *Science Enrichment*

At both Blackburn and Prior I developed an extensive range of science enrichment courses combining electronics, computing and physics. These included the designing and building solar-wind, solar-flare and lightning detectors. These were carried out with A-level students and pupils at two local secondary schools. At Prior I arranged hosting a HiSPARC cosmic ray detector and installed a seismometer. Other recent work includes delivering science courses to scouts and embedded computers/electronics at a local primary .

### RECENT SIGNIFICANT PROJECTS

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- 2018- development of school solar flare detector
- 2017- development of school infrasound monitor
- 2017- developing school nuclear resonance spectrometer
- 2017- developing archaeological gradiometer
- 2016- development of school aurora monitor
- 2016-18 Makerfaire, Newcastle  
public display of various school physics projects
- 2014 Int. Symp. on Metal-Hydrogen Systems
- 2012-16 various I.O.P. public outreach events

## COMPUTING SKILLS

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Fortran, Python, L<sup>A</sup>T<sub>E</sub>X, Linux, Assembly, Haskell,  
Pascal, (V)Basic, SQL, Java, Prolog, Modula, C,  
HTML, CSS, Raspberry Pi, Arduino.  
Developing networked embedded projects.

## LINKS

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YouTube – <https://bit.ly/2mmxN89>  
Projects – <https://bit.ly/2mnWukv>  
Github – <https://github.com/starfishprime101>  
Orcid – <https://orcid.org/0000-0002-3663-2873>

## PUBLICATIONS

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Solar wind monitor—a school geophysics project.  
*Physics education* *v53, n3*,  
2018 doi:10.1088/1361-6552/aaacb2

Computational Studies of Hydrogen in Palladium.  
*University of Salford Institutional Repository*,  
2016 <http://usir.salford.ac.uk/id/eprint/45237>

## REFERENCES

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*References available on request*