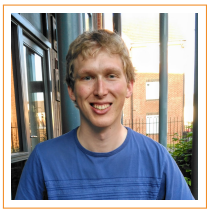

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Tom Farley

I am a plasma physicist specialising in surface negative ion production. I have experimental experience with a variety of plasma diagnostics, having performed experiments at a number of plasma physics labs...

Education

PhD

Fusion Doctoral Training Network, **2013–**
University of Liverpool.

- Received a broad grounding in fusion research through taught courses at The University of York
  - Courses included MCF and ICF relevant plasma physics, diagnostic techniques, data analysis, materials science, statistics, high performance computing and project management
  - Qualified to receive the FuseNet certificate of doctoral training

Integrated Masters

Masters in Physics with Industrial Experience, **2009–2013**
The University of Bristol, First Class Honours.

- Performed 12 month placement at the Culham Centre for Fusion Energy resulting in a publication
- Masters project in density functional theory resulted in a publication
- Received letters of commendation from the head of the School of Physics in 1st and 2nd years and a **project commendation**? for my MSci project.

Research Experience

PhD

Visual camera measurements of filamentary transport in MAST, **Jan 2015–**

Culham Centre for Fusion Energy.

- Developed the Elzar suite of analysis tools for the identification, measurement and tracking of plasma filaments in fast camera data.
- Applied pseudo Langmuir probe techniques to fast camera analysis for like with like comparison to large body of literature.
- Joined trip to the HL-2A tokamak in Chengdu, China performing reciprocating probe measurements of the effects of fueling on scrape-off layer profiles.

Measurements of negative ion surface production from diamond materials, **Jan–March 2014**

PIIM Loboratory, Aix-Marsielles Univeristy, Marsielles, France.

- Performed measurements...
- Contributed to publication [7].

Characterisation of Small Negative Ion Facility, **Sep–Dec 2014**

Culham Centre for Fusion Energy.

-
- Contributed to publication [8].

Langmuir probe and laser photodetachment measurements of electronegative plasmas, **March–Sep 2014**

University of Liverpool.

-

Masters Project

DFT calculations of the superconducting properties of the YIr2Si2 and LaIr2Si2 polymorphs, **Sep 2012–Sep 2013**

University of Bristol.

- Performed Density Functional Theory (DFT) ab. initio calculations of the superconducting properties of the YIr2Si2 and LaIr2Si2 polymorphs.
- Work resulted in a publication [4].

Undergraduate

Infra-red measuremnts of scrape-off layer power decay length in JET,

Culham Centre for Fusion Energy.

- Developed the tools required to measure the plasma scrape-off layer power decay length from infra-red images of the interior of the JET tokomak
- Results led to a publication in Nuclear Fusion [3] and were presented by supervisor at 2012 IAEA conference.
- Tools are now being used by others and have initiated similar measurements on the COMPASS tokamak

Publications

[1] G Arnoux, C Silva, M Brix, H Bufferand, S Devaux, T Farley, M Firdaouss, M Groth, J Gunn, J Horacek, S Jachmich, P J Lomas, and S Marsen. Scrape-off Layer Properties of ITER-like Limiter Start-up Plasmas at JET. In *Scrape-off Layer Prop. ITER-like Limiter Start-up Plasmas JET*, 2012.

[2] I Nunes, V Riccardo, P J Lomas, P De Vries, D Alves, G Arnoux, S Devaux, and T Farley. Be tile power handling and main wall protection. In *24th IAEA Fusion Energy Conf.*, pages CN–197, San Diego, USA, 2012.

[3] G. Arnoux, T. Farley, C. Silva, S. Devaux, M. Firdaouss, D. Frigione, R.J. Goldston, J. Gunn, J. Horacek, S. Jachmich, P.J. Lomas, S. Marsen, G.F. Matthews, R.A. Pitts, M. Stamp, and P.C. Stangeby. Scrape-off layer properties of ITER-like limiter start-up plasmas in JET. *Nucl. Fusion*, 53(7), 2013.

[4] David Billington, SAC Nickau, Tom Farley, and Jack Ward. ElectronâĂŞPhonon Coupling and Superconducting Critical Temperature of the YIr2Si2 and LaIr2Si2 High-Temperature Polymorphs from First-Principles. *J. Phys. Soc. Japan*, 83(4):1–5, 2014.

[5] F Militello, N R Walkden, T Farley, W A Gracias, J Olsen, F Riva, L Easy, N Fedorczak, I Lupelli, J Madsen, A H Nielsen, P Ricci, P Tamain, and J Young. Multi-code analysis of scrape-off layer filament dynamics in MAST. *Plasma Phys. Control. Fusion*, 58(10):105002, 2016.

[6] N.R. Walkden, F. Militello, J. Harrison, T. Farley, S. Silburn, and J. Young. Identification of intermittent transport in the scrape-off layer of MAST through high speed imaging. *Nucl. Mater. Energy*, 0:1–6, 2016.

[7] Gilles Cartry, Dmitry Kogut, Kostiantyn Achkasov, Jean-Marc Layet, Thomas Farley, Alix Gicquel, Jocelyn Achard, Ovidiu Brinza, Thomas Bieber, Hocine Khemliche, Philippe Roncin, and Achard Simonin. Alternative solutions to caesium in negative-ion sources: a study of negative-ion surface production on diamond in H 2 /D 2 plasmas. *New J. Phys.*, 19(4):25010, aug 2017.

[8] J. Zacks, U. Fantz, T. Farley, I. Turner, R. McAdams, and D. Wünderlich. Characterisation of the SNIF ion source. 030047:030047, 2017.

Conferences and Workshops

Oral

Fusion Frontiers and Interfaces Workshop), *York*, **May? 2017**
Title.

Posters

59th Annual Meeting of the APS Division of Plasma Physics), *Milwaukee, Wisconsin, USA*, **Oct 2017**
Fast Camera Analusis of Plasma Filaments.

44th IOP Plasma Physics Conference, *Oxford, UK*, **April 2017**
An Algorithm for the Analysis of Filaments in Fast Camera Data.

Fusion Frontiers and Interfaces Workshop, *York, UK*, **May? 2015**
Title?.

FuseNet PhD Workshop, *Lisbon, Portugal*, **Nov 2014**
The SNIFF Caesium Free Negative Ion Source.

4th International Symposium on Negative Ions, Beams and Sources, *IPP Garching, Germany*, **Oct 2014**
Caesium Free Negative Ion Sources.

Fusion Frontiers and Interfaces Workshop, *York, UK*, **May? 2014**
Title?.

Responcibilities

Groups

Software Developers Working Group, *Member of the Culham Software Developers Working Group (SDWG).* **2017–**
Sitewide body responsible for coordinating resources for software developers

Meetings

Coding Discssion Group, *Founded and coordinate the Culham Coding Discssion Group (CDG).* **2017–**
Fortnightly meetings with online resources to share programming knowledge, expertese and resources.

Supervision

Masters student, Supervised masters student from University of Rome, Italy working on filament tracking for masters project. **4 months**

Undergraduate project, Supervised 3rd year undergraduate student from University of ???, Italy working on filament detection for BSc project . **3 months**

Outreach

MAST-U tours: Frequenty lead MAST-U tours for visitors, open evening and open day attendees

GCSE work experience: Supervised GCSE work experience student on placement at CCFE

Sun dome: Helped with sun dome science workshop at local primary school

Key Competencies

- **Experimental experience**
  - Experience working with r.f. paslam sources, compressed gas, vacuum systems and pumps and lasers
  - Experience making plasma measurements with langmuir probes, mass spectrometers and visible spectrometers
  - Experience developing analysis tools to process data
- **Programming experience**
  - Experienced python programmer, applying object orrientated principals
  - Experience with C, MATLAB and IDL
  - Familiarity with Bash scripting, Perl, Visual Basic and Fortran.
  - Familiar with high performance computing concepts and techniques.
  - Regular user of the LaTeX typesetting language
- **Organisational skills**
  - Planning...
- **Communication skills**
  - Able to communicate technical information in a competent and accessible manner

Affiliations

Member of the **Institute of Physics**. **2013–**

Member of the **Americal Physical Society**. **2017–**

References

Professor Antony Carrington
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Dr Gilles Arnoux
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UKAEA recruitment team
Culham Centre for Fusion Energy
Culham Science Centre
Abingdon
OX14 3EB

January 25, 2018

Dear Sir or Madam,

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Duis ullamcorper neque sit amet lectus facilisis sed luctus nisl iaculis. Vivamus at neque arcu, sed tempor quam. Curabitur pharetra tincidunt tincidunt. Morbi volutpat feugiat mauris, quis tempor neque vehicula volutpat. Duis tristique justo vel massa fermentum accumsan. Mauris ante elit, feugiat vestibulum tempor eget, eleifend ac ipsum. Donec scelerisque lobortis ipsum eu vestibulum. Pellentesque vel massa at felis accumsan rhoncus.

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Albert Einstein discovered that $e = mc^2$ in 1905.

$$e = \lim_{n \to \infty} \left(1 + \frac{1}{n}\right)^n$$

Yours faithfully,

Tom Farley

Attached: curriculum vitæ