

Dr Alexander Pollak

Curriculum Vitae

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Research Positions

- Since 2019 **Research Scientist at the Allen Telescope Array, SETI Institute, US.**
- 2018–2019 **Postdoctoral Research Assistant in Instrumentation for Radio Astronomy, Department of Physics, University of Oxford, UK.**

Education

- 2014–2018 **D.Phil. in Astrophysics, University of Oxford, United Kingdom.**
Thesis title: *Receiver Technology for Radio Astronomy and Deep Space Communications*
Supervisors: Prof. Michael Jones and Prof. Christian Holler
- 2011–2014 **Bachelor of Engineering in Mechatronics / Electrical Engineering, University of Applied Sciences Hochschule Esslingen, grade 1.4 (= 'very good').**
- 2008–2009 **Technical college, Schorndorf, grade 1.4 (= 'very good').**
- 2004–2008 **Vocational training as electrician, Elektrotechnik Hamler GmbH, Schwäbisch Gmünd Germany, grade 1.3 (= 'very good').**

Work Experience

- 01/2012–02/2013 **Student trainee in the department for product management, Festo Didactic GmbH & Co KG, Denkendorf Germany.**
- 07/2011–09/2011 **Student trainee in the department for asynchronous motor development, Andritz Ritz GmbH & Co KG, Schwäbisch Gmünd Germany.**
- 12/17–
12/20/2009 **Supervisor for electrical rebuilding by order of Elwema Automotive GmbH, Renault, Le Havre France.**
- 06/02–
06/16/2008 **Supervisor for electrical rebuilding by order of Elwema Automotive GmbH, General Motors, Spring Hill Tennessee, USA.**
- 03/2008–09/2008 **Employment as electrician for special machines, Beier + Seitz Elektrotechnik GmbH, Oberkochen Germany.**

Field Work Experience

- 07/15–
07/18/2018 **Feasibility Study and Structural Inspection of the 32-m Tulancingo Antenna, Tulancingo, Mexico.**
- 01/09–
01/27/2017 **Maintenance C-BASS South Telescope, Karoo desert, South Africa.**
- Since 2015 **Inspections of the 29-m GHY-3 Antenna, Goonhilly Earth Station, United Kingdom.**
(biannually)
- 06/20–
07/02/2013 **Maintenance C-BASS North Receiver, Owens Valley Radio Observatory, California.**

Awards

- 2014–2018 **Philip Wetton Graduate Scholarship**, *Christ Church College*, Oxford, United Kingdom.
- 2012–2014 **Louis Schuler Fonds for education and technical sciences**, *Schuler AG*, Göppingen, Germany.

National Service

- 05/2010–06/2010 **Vocational training as paramedic officer**, *German Red Cross*, Schwäbisch Gmünd Germany, *grade 1.3* (= 'very good').
- 10/2009–09/2010 **Voluntary year of social service in the department for accident ambulance**, *German Red Cross*, Schwäbisch Gmünd Germany.
- 08/2009–10/2009 **Vocational training as paramedic**, *German Red Cross*, Schwäbisch Gmünd Germany.

Teaching Experience

- 02/2018–07/2018 **Supervision of Bachelor Thesis**, *Jakob Wenninger*, Thesis title: Development and Commissioning of a 1.4 GHz Interferometer, University of Oxford, UK.
- Since 2017 **Senior Demonstrator in the Undergraduate Teaching Laboratory**, *University of Oxford*, Oxford, UK.
- 02/2017–06/2017 **Supervision of Internship student**, *Jakob Wenninger*, Report title: Telescope control software development and implementation on an 1.4 GHz interferometer, University of Oxford, UK.
- Since 10/2015 **Demonstrator in the Undergraduate Teaching Laboratory**, *University of Oxford*, Oxford, UK.
- Since 10/2014 **Delivering a series of lectures on Fast Fourier Analysis**, *Technische Akademie Esslingen*, Esslingen, Germany.
- 07/14–07/25/2014 **Delivered a practical course for the INFIERI (Intelligent Front-End Signal Processing for Frontier Exploitation in Research and Industry) Summer School**, *Paris Diderot University*, Paris, France.

Conferences

- 09/18–09/21/2017 **YERAC, Young European Radioastronomers Conference**, *University of Bologna*, Italy .
- 01/25–01/29/2016 **CASPER/HPSPSA, Collaboration for Astronomy Signal Processing and Electronics Research**, *University of Cape Town*, Cape Town, South Africa .
- 07/05–07/14/2015 **NAIC/NRAO Single-Dish & NAASC Interferometry Schools**, *National Radio Astronomy Observatory Green Bank*, West Virginia, USA.
- 10/28–10/31/2014 **HPSP, High Performance Signal Processing**, *University of Malta*, Valletta, Malta.
- 06/09–06/13/2014 **CASPER, Collaboration for Astronomy Signal Processing and Electronics Research**, *University of California*, Berkeley, USA.
- 09/02–09/10/2013 **CASPER, Collaboration for Astronomy Signal Processing and Electronics Research**, *Jodrell Bank Observatory*, Manchester, United Kingdom.
- 07/10–07/16/2013 **INFIERI, Intelligent Front-End Signal Processing for Frontier Exploitation in Research and Industry**, *University of Oxford*, United Kingdom.

Languages

German **Native**

English **Fluent**

Computer Skills

Intermediate C, C++, C#, VHDL, Python

Expert Matlab, Simulink

Tools HFSS, Xilinx, Visual Studio 2013, Eagle, Vivado, GRASP, CHAMP

Miscellaneous Windows, Office, Linux

Public Outreach

2016–2017 **Blue Dot Festival, Jodrell Bank Observatory, Cheshire, UK**, *stand about* (annually) *Square Kilometre Array*.

2015–2017 **Stargazing Oxford**, *stand about radio astronomy, polarisation, CMB and syn-* (annually) *chrotron radiation*.

2019 **Stargazing Oxford**, *Project leader/coordinator, with over 100 volunteers and over* 1000 visitors .

Refereed Publications

- (5.) **2019** **A. W. Pollak** and H. M. Holler and M. E. Jones and A. C. Taylor, Monthly Notices of the Royal Astronomical Society, vol. 489, no. 1, pp. 548–554, *Gain stabilization for radio intensity mapping using a continuous-wave reference signal*.
- (4.) **2019** J. D. Garrett and **A. W. Pollak** and G. Yassin and M. Henry, IEEE Microwave and Wireless Components Letters, vol. 29, no. 8, pp. 529–531, *A Compact and Easy to Fabricate E-Plane Waveguide Bend*.
- (3.) **2018** **Alexander W. Pollak** and M. E. Jones, IEEE Antennas and Wireless Propagation Letters, vol. 17, no. 3, pp. 422–425, *A Compact Quad-Ridge Orthogonal Mode Transducer With Wide Operational Bandwidth*.
- (2.) **2016** Copley, C. J. and Thondikulam, V. and Loots, A. and Bangani, S. and Cloete, K. and Combrinck, L. and Gioio, S. and Ludick, J. and Nicolson, G. and **Pollak, A. W.** and Pretorius, P. and Quick, J. F. H. and Taylor, G. and Ebrahim, F. and Humphreys, C. and Maake, K. and Maganane, R. and Majinjiva, R. and Mapunda, A. and Manzini, M. and Mogakwe, N. and Moseki, A. and Qwabe, N. and Royi, N. and Rosie, K. and Smith, J. and Schietekat, S. and Toruvanda, O. and Tong, C. and van Niekerk, B. and Walbrugh, W. and Zeeman, W., Astrophysics - Instrumentation and Methods for Astrophysics, *The African Very Long Baseline Interferometry Network: The Ghana Antenna Conversion*.
- (1.) **2015** **A. W. Pollak**, Journal of Instrumentation, 10, C08012, *An example of using CASPER tutorials for teaching knowledge of firmware development for FPGAs*.

Oxford, 03/05/2019

