Application Form

Philipp Scholl

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Curriculum Vitae

Personal Information

Name	Philipp Scholl
Address	5 Merchants Place, Stephen Street
	W91 C3Y6, Dunlavin, Co. Wicklow, Ireland
Telephone	+353 87 1922755
eMail	rayleighsjeans@gmail.com
Date of Birth	15th of June 1994 in Demmin
Nationality	Germany
Family Status	married
Sex	Male

Languages

German	first language, mother tongue
English	second language, first foreign lingo, C2 certificate
	7 years of school education
Russian	third language, second foreign lingo
	5 years of school education

Professional Experience

12/2024 – now	**Software Development - Kernel/NCOS**
	IBM Research Lab; Hybrid Data Management, Dublin
	Agile development in object storage projects with cloud functionality for DB2; C/C++, Python, unit and stress testing
07/2021 – 04/2024	**Software Developer - C/C++**
	Krauss-Maffei Wegmann Nexter Defense Systems, Munich
	Advanced C/C++, embedded development, frameworks, APIs, AI, computer generated forces, dynamics & simulator logic
11/2017 – 05/2021	**Researcher/Scientist, Ph.D. - Plasma Fusion**
	Max-Planck Institute for Plasma Physics, Greifswald
	Project management, large scale data analysis, science, modelling, simulation, embedded development, international collaboration, professional documentation

Higher Education

10/2012 – 09/2015	**Bachelors Degree in Physics**
	Ernst-Moritz-Arndt University, Greifswald
	Bachelor of Sciences

10/2012 – 10/2017	**Master's Degree in Physics** *Ernst-Moritz-Arndt University*, Greifswald Master of Sciences
11/2017 – now	**Doctor of Philosophy - Physics** *Max-Planck Institute for Plasma Physics*, Greifswald Thesis submitted, defense pending

Additional Training

02/2022	**Advanced C++ (for Embedded Systems)** *MicroConsult Microelectronics Consulting & Training GmbH*, Munich basics, patterns, idioms, paradigms, 'modern style' C++
Jun. 2019	**Plan, Motivate, Achieve: Time and Self-Management** *Transferable Skills Seminar*, R. Thompson International Helmholtz Graduate School for Plasma Physics
Jun. 2019	**Presentation Skill Workshop** *Transferable Skills Seminar*, B. Hey International Helmholtz Graduate School for Plasma Physics

School

08/2000 – 03/2004	**Elementary School** *Grundschule Jarmen* *Jarmen*
08/2004 – 08/2010	**Middle School** *Regionale Schule Jarmen* *Jarmen*
08/2010 – 06/2012	**Academic High School** *Schlossgymnasium Gützkow, Gützkow* Higher Education Entrance Qualification (Certificate included)

Technical & Software Development Experience

2021-24	**Software Engineering** *Krauss-Maffei Wegmann; Software Architecture & Components*, Munich advanced C/C++; Scrum/agile development and design; extended unit, component and regression testing; embedded development; (physics) simulation and AI; CI/CD, Jira, Git/SVN; CMake & CTest/GTest; Havok Engine & Unreal Engine 5; GTC 2023 attendance
2017-21	**Data Acquisition Development** *Max-Planck Institute for Plasma physics*, Greifswald embedded C/C++ development for data acquisition, LabVIEW; (near) real-time software development; data center API for research purposes; Python: large scale data generation, modelling, evaluation and visualization, stereoscopic tomography and simulation; IDL & Fortran; Git; documentation and presentation of technical content

2016-17	**HPC C/C++ Particle-In-Cell Simulation** *Ernst-Moritz-Arndt University; Computational Sciences*, Greifswald HPC C/C++ development for particle physics simulation of low-temperature gaseous discharges; Open/MPI & Slurm; multithreading
2016	**Neural Networks and Large Linear Optimizations** *Ernst-Moritz-Arndt University; Advanced Numerics*, Greifswald introduction to and development of neural networks, MATLAB
2015	**Stereoscopic Particle Tracking and Video Processing** *Ernst-Moritz-Arndt University; Complex Plasmas*, Greifswald multi-camera system video analysis, stereoscopic 3D tracking of microscopic particles; development and construction of in-situ microelectronics; MATLAB
2012-15	**Computational Sciences** *Ernst-Moritz-Arndt University*, Greifswald C/C# numerical simulation (electrostatic Poisson); Linux development; Assembler programming for custom built electronics

Research Experience (Excerpt)

11/2017 – now	**PhD: 'Impurity radiation and transport at the stellarator Wendelstein 7-X'** *Division of Stellarator Dynamics and Transport, Prof. Dr. T. Klinger* Max-Planck Institute for Plasma Physics, Greifswald real time feedback on plasma radiation, evaluation of local radiation sensitivity, Python & LabVIEW (C++) embedded software development
11/2017 – 05/2021	**International Helmholtz Graduate School for Plasma Physics** *Graduate School for Doctoral Candidates at the MPI for Plasma Physics* MPI for Plasma Physics, Greifswald; University of Greifswald presentations and participation in colloquia, workshops and conferences
10/2016 – 10/2017	**Master Thesis: 'Kinetic Effects in RF Discharges'** *Research Group of Prof. Dr. Ralf Schneider* Institute of Physics, University of Greifswald C/C++ particle simulation code development - C++ 2d3v PIC simulation of ccrf discharges
04/2016 – 10/2016	**Research Group Internship** *'Electric field strength spectroscopy in dielectric barrier discharges'* Research Group of Prof. Dr. Jürgen Meichsner Institute of Physics, University of Greifswald
10/2015 – 04/2016	**Advanced Practical Laboratory Course** *Advanced experimental methodology* Institute of Physics, University Greifswald
10/2015 – 07/2016	**Intership in the Group of Prof. Dr. Melzer** *Complex Plasma Systems, Experiment Setup* Institute of Physics, University of Greifswald
05/2015 – 09/2015	**Bachelor Thesis: 'Modenanregung in Yukawa-Bällen'** *Research Group of Prof. Dr. Andre Melzer* University of Greifswald Stereoscopic particle diagnostics with MATLAB

10/2012 – 04/2014   **Basic Practical Laboratory Course**
Basic experiments in all research fields at the Institute of Physics
University of Greifswald

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Publications (Excerpt)

May 2018	**'PIC Simulation of electronegative CCRF discharges'** *doi: 10.1140/epjd/e2017-80565-y*
Dec. 2019	**'Measurement of edge ion temperature in W7-X with island divertor by retarding field analyzer'** *doi: 10.1088/1741-4326/ab3a79*
Sep. 2020	**'Stellarator-Tokamak Energy Confinement Comparison based on ASDEX Upgrade and Wendelstein 7-X Hydrogen Plasmas'** *doi: 0.1088/1741-4326/abbc4a*
Jan. 2023	**'First feedback-controlled divertor detachment in W7-X: Experience from TDU operation, prospects for operation with actively cooled divertor'** *doi: 10.1016/j.nme.2023.101363*
Sep. 2021	**'Plasma radiation behavior approaching high-radiation scenarios in W7-X'** *doi: 10.1088/1741-4326/ac2b75*
Oct. 2021	**'2D measurements of parallel counter-streaming flows in the W7-X scrape-off layer for attached, detached plasmas'** *doi: 10.1088/1741-4326/ac277a*
Oct. 2021	**'Bolometer tomography on W7-X for study of radiation asymmetry'** *doi: 10.1088/1741-4326/ac2778*
Jul. 2020	**'Large wetted areas of divertor power loads at Wendelstein 7-X'** *doi: 10.1088/1741-4326/ab937a*

Extra-Curriculars & Extramural Activities

2007 – 2010	**Participation in the** **'Baltic Sea School Exchange Program'** *Finnvedens Gymnasium 'Figy'; Värnamo, Sweden*
2011	**Qualification for the German Dragon Boat National Team 'Junior A'** *Participation in the 10th IDBF World Dragon Boat Racing Championships* Tampa Bay, FL; United States of America 9 Gold Medals, 2 Silver Medals
2012	**Entering of the 'Hochschul-Sportgemeinschaft Greifswald e.V'** *Department of Canoe/Dragonboat* *2015-2016 Trainer of the Dragon Boat Team 'Greifendrachen'*
2017	**Qualification for the German Dragon Boat National Team 'U24'** *Participation in the 13th IDBF World Nations Championships* Divonne-Les-Baines, France
2021 – now	**(Olympic) Weightlifting Team Participation** **ESV München Neuaubing – Local League and Individual Competitions** *County Oberbayern and Bavarian League 2021/22, 22/23, 23/24* 1st place Munich Championships '23, 2nd place Oberbayern Championships '23

Conferences & Workshops

May 2019   **Consistently calculating the radiated power in near real time at the stellarator Wendelstein 7-X**
P. Hacker, F. Reimold, D. Zhang, M. Krychowiak, R. Burhenn, T. Klinger, DPG-Frühjahrstagung der Sektion Materie und Kosmos (SMuK), Munich, Germany, 2019

May 2019   **Plasma Terminating Events in Large Stellarators**
D. Maier, A. Dinklage, J. Baldzuhn, R. Burhenn, R. Bussiahn, B. Buttenschön, P. Hacker, [...], the W7-X Team, DPG-Frühjahrstagung der Sektion Materie und Kosmos (SMuK), Munich, Germany, 2019

Jul. 2019   **The influence of impurity radiation locations on the plasma performance in stellarator Wendelstein 7-X**
D. Zhang, R. Burhenn, F. Reimold, P. Hacker, [...], the W7-X Team, 46th European Physical Society Conference on Plasma Physics, Milan, Italy, July 2019

Jul. 2019   **The bolometer diagnostic at the stellarator Wendelstein 7-X**
P. Hacker, D. Zhang, R. Burhenn, B. Buttenschön, T. Klinger, W7-X. Team, DPG-Frühjahrstagung der Sektion AMOP (DPG 2018), Erlangen, Germany, March 2018