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 7 years of school education
Russian	third language, second foreign lingo 5 years of school education

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)

Higher Education

10/2012 – 09/2015	**Bachelors Degree in Physics** *Ernst-Moritz-Arndt University*, Greifswald Bachelor of Sciences (Certificate and course overview included)

10/2012 – 10/2017 **Master's Degree in Physics**
Ernst-Moritz-Arndt University, Greifswald
Master of Sciences (Certificate and course overview included)

11/2017 – now **Doctor of Philosophy - Physics**
Max-Planck Institute for Plasma Physics, Greifswald
Submission, defense pending early 2024

Professional Experience

07/2021 – now **Software Developer**
Krauss-Maffei Wegmann Nexter Defense Systems, Munich
AI, computer generated forces, dynamics & simulator logic

Training

02/2022 **Advanced C++ (for Embedded Systems)**
MicroConsult Microelectronics Consulting & Training GmbH, Munich
basics, patterns, idioms, 'modern style' C++

Research Experience

10/2012 – 04/2014 **Basic Practical Laboratory Course**
Basic experiments in all research fields at the 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

10/2015 – 07/2016 **Intership in the Group of Prof. Dr. Melzer**
Complex Plasma Systems, Experiment Setup
Institute of Physics, University of Greifswald

10/2015 – 04/2016 **Advanced Practical Laboratory Course**
Advanced experimental methodology
Institute of Physics, University Greifswald

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

10/2016 – 10/2017 **Master Thesis: 'Kinetic Effects in RF Discharges'**
Research Group of Prof. Dr. Ralf Schneider
Institute of Physics, University of Greifswald
C++ 2d3v PIC simulation of ccrf discharges

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

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

Lecturing Experiences

2014 – 2018 **Assistant Associate in the Practical Course - Physics**
in: Study Programme of Humane Medicine
Institute of Physics, University of Greifswald

Publications

May 2018 **'PIC Simulation of electronegative CCRF discharges'**
Authors: P. Matthias, R. Schneider, J. Meichsner, G. Bandelow, J. Duras, K. Matyash, K.-F. Lüskow, D. Kahnfeld, S. Kemnitz, L. Lewerentz and P. Hacker, doi: 10.1140/epjd/e2017-80565-y

Dec. 2019 **'Measurement of edge ion temperature in W7-X with island divertor by retarding field analyzer'**
Authors: Y. Li, T. Henkel, Y. Liang, A. Knieps, P. Drews, C. Killer, D. Nicolai, J. Cosfeld, J. Geiger, Y. Feng, F. Effenberg, D. Zhang, P. Hacker, D. Höschen, G. Satheeswaran, S. Liu, O. Grulke, M. Jakubowski, S. Brezinsek, M. Otte, O. Neubauer, B. Schweer1, G. S. Xu, J. Cai, Z. Huang, and the W7-X Team, doi: 10.1088/1741-4326/ab3a79

Jul. 2019 **'The influence of impurity radiation locations on the plasma performance in stellarator Wendelstein 7-X'**
Authors: D. Zhang, R. Burhenn, F. Reimold, P. Hacker, L. Giannone, K. J. Brunner, B. Buttenschön, G. Fuchert, H. P. Laqua, K. Rahbarnia, C. D. Beidler, S. Brezinsek, Y. Feng, M. Jakubowski, R. König

Feb. 2020 **'Absence of Non-Local Electron Heat Transport in ASDEX Upgrade and Wendelstein 7-X and Modelling with the Transport Code ASTRA'**
Authors: K. Höfler, T. Happel, P. Hennequin, U. Höfel, F. Ryter, U. Stroth, A. Bock, P. David, S. Denk, A. Dinklage, G. Fuchert, P. Hacker, M. Hirsch, P. A. Schneider, J. Schilling, T. Stange, G. Tardini, T. Andreeva, M. Beurskens, S. Bozhenkov, K. J. Brunner, N. Chaudhary, H. Damm, U. Neuner, J. W. Oosterbeek, E. Pasch, K. Rahbarnia, H. Thomsen, M. Zanini, D. Zhang, the ASDEX Upgrade Team, the Wendelstein 7-X Team

Feb. 2020 **'Large wetted areas of divertor power loads at Wendelstein 7-X'**
Authors: H. Niemann, P. Drewelow, M. Jakubowski, A. Puig Sitjes, B. Cannas, Y. Gao, F. Pisano, R. König, R. Burhenn, P. Hacker, F. Reimold, D. Zhang, K. J. Brunner, J. Knauer, T. Sunn Pedersen, doi: 10.1088/1741-4326/ab937a

Sep. 2020 **'Stellarator-Tokamak Energy Confinement Comparison based on ASDEX Upgrade and Wendelstein 7-X Hydrogen Plasmas'**
Authors: U. Stroth, G. Fuchert, M. N.A. Beurskens, G. Birkenmeier, P. Schneider, E.R. Scott, K.J. Brunner, F. Günzkofer, P. Hacker, O. Kardaun, J. Knauer, K. Rahbarnia, D. Zhang, 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'**
Authors: M. Krychowiak, R. König, T. Barbui, S. Brezinsek, J. Brunner, F. Effenberg, M. Endler, Y. Feng, E. Flom, Y. Gao, D. Gradic, P. Hacker, J.H. Harris, M. Hirsch, U. Höfel, M. Jakubowski, P. Kornejew, M. Otte, A. Pandey, T.S. Pedersen, A. Puig, F. Reimold, O. Schmitz, T. Schröder, V. Winters, D. Zhang, doi: 10.1016/j.nme.2023.101363

Sep. 2021 **'Plasma radiation behavior approaching high-radiation scenarios in W7-X'**
Authors: D. Zhang, R. Burhenn, Y. Feng, R. König, B. Buttenschön, C.D. Beidler, P. Hacker, F. Reimold, H. Thomsen, R. Laube, T. Klinger, [...], the W7-X Team, 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'**
Authors: V. Perseo, V. Winters, Y. Feng, F. Reimold, O.P. Ford, R. König, S.A. Bozhenkov, K.J. Brunner, R. Burhenn, P. Drewelow, D.A. Ennis, Y. Gao, D. Gradic, P. Hacker [...]and the W7-X Team, doi: 10.1088/1741-4326/ac277a

Oct. 2021 **'Bolometer tomography on W7-X for study of radiation asymmetry'**
Authors: D. Zhang, R. Burhenn, C.D. Beidler, Y. Feng, H. Thomsen, C. Brandt, S. Buller, F. Reimold, P. Hacker [...]and the W7-X Team, doi: 10.1088/1741-4326/ac2778

Jul. 2020 **'Large wetted areas of divertor power loads at Wendelstein 7-X'**
Authors: H. Niemann, P. Drewelow, M. W. Jakubowski, A. Puig Sitjes, B. Cannas, Y. Gao, F. Pisano, R. König, R. Burhenn, P. Hacker, F. Reimold, D. Zhang, K. J. Brunner, J. Knauer, T. Sunn Pedersen and the W7-X Team, doi: 10.1088/1741-4326/ab937a

Research Interests

plasmaphysics, low-temperature plasmaphysics,
high-temperature plasmaphysics, numerical simulation, computational science,
diagnostics, data evaluation, machine learning, diagnostic control

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

May 2019 D. Maier, A. Dinklage, J. Baldzuhn, R. Burhenn, R. Bussiahn, B. Buttenschön, P. Hacker, M. Hirsch, U. Höfel, T. Wegner, D. Zhang, the W7-X Team: **Plasma Terminating Events in Large Stellarators**; In *DPG-Frühjahrstagung der Sektion Materie und Kosmos (SMuK)*, Munich, Germany, 2019

Jun. 2019 Transferable Skills Seminar, R. Thompson: **Plan, Motivate, Achieve: Time and Self-Management**; In *International Helmholtz Graduate School for Plasma Physics*

Jun. 2019 Transferable Skills Seminar, B. Hey: **Presentation Skill Workshop**; In *International Helmholtz Graduate School for Plasma Physics*

Jul. 2019 D. Zhang, R. Burhenn, F. Reimold, P. Hacker, L. Giannone, K. J. Brunner, B. Buttenschön, G. Fuchert, H. P. Laqua, K. Rahbarnia, C. D. Beidler, S. Brezinsek, Y. Feng, M. Jakubowski, R. König: **The influence of impurity radiation locations on the plasma performance in stellarator Wendelstein 7-X**; In *46th European Physical Society Conference on Plasma Physics*, Milan, Italy, July 2019

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

Lectures and Classes

Oct. 2020 Prof. Dr. Per Helander, *Max Planck Institute for Plasmaphysics, Greifswald*: **Introduction to astrophysics**

Oct. 2019 Prof. Dr. M. Stanke, *Institute of Mathematics, University of Greifswald*: **Machine Learning**

Oct. 2019 Prof. Dr. T. Sunn Pedersen, E. Stenson, Prof. Dr. L. Schweikhard, M. Stoneking, C. Surko, *Max Planck Institute for Plasmaphysics, Greifswald*: **Non-Neutral Plasmas & Trapped Charged Particles**