

Prof. Dr. Klaus Blaum



Curriculum Vitae

Prof. Dr. habil. rer. nat. Klaus Blaum
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Vita

27.12.1971 born in Sobernheim, now Bad Sobernheim
27.05.1991 Abitur at the Göttenbach-Gymnasium Idar-Oberstein
01.07.1991 - 30.06.1992 military service, Klotzbergkaserne Idar-Oberstein
Married, 2 children

University study and PhD

01.10.1992 - 09.10.1997	Physics study, Johannes Gutenberg-University Mainz
23.08.1994	Physics PreDiploma – magna cum laude
Oct. 1996 – Oct. 1997	Diploma thesis in experimental physics (Prof. Dr. E.W. Otten): <i>„Optimization of a quadrupole mass spectrometer for isotopic selective ultratrace determination“</i>
09.10.1997	Physics Diploma – summa cum laude
01.11.1997 – 30.11.2000	Research Assistant, Institute of Physics, Johannes Gutenberg-University Mainz
Dec. 1997 – Nov. 2000	Dissertation in experimental physics (Prof. Dr. E.W. Otten): <i>„Resonance laser ionization mass spectrometry on gadolinium for ultra-trace isotope ratio determinations“</i>
20.11.2000	Doctor rerum naturalium in Physics – summa cum laude

PostDoc and habilitation

- 01.12.2000 – 30.09.2004 Project Leader “Mass spectrometry of exotic nuclides with ISOLTRAP” at ISOLDE/CERN, Geneva, Switzerland
- 01.12.2000 – 30.09.2002 Postdoctoral Research Associate from GSI Darmstadt (Prof. Dr. H.-J. Kluge) at CERN (Geneva); ISOLTRAP/ISOLDE
- 01.10.2002 – 30.09.2004 Research Associate (Fellow) at the European Organization for Nuclear Research CERN (Division PH-IS) in Geneva, Switzerland
- 01.10.2004 – 30.09.2008 Project Leader (Tenure Track) of a “Helmholtz Research Group for Young Investigators” on “Experiments with Stored and Cooled Ions” at the Johannes Gutenberg-University Mainz
- 22.02.2006 Habilitation in experimental physics at the Johannes Gutenberg-University Mainz (Mentors Prof. Dr. I. Bloch and Prof. Dr. H. Backe)

Professorship

- 01.10.2007 Appointment as director at the Max Planck Institute for Nuclear Physics in Heidelberg, Germany
- 01.04.2008 Appointment as honorary professor at the Ruprecht-Karls-University Heidelberg, Germany

Scholarships and Awards

- 01.11.1996 - 30.04.1997 Scholastic Scholarship from the Johannes Gutenberg-University Mainz
- 01.12.1997 – 30.11.2000 DFG Scholarship in the interdisciplinary Graduiertenkolleg of the Johannes Gutenberg-Universität Mainz: „*Kreisläufe, Austauschprozesse und Wirkungen von Stoffen in der Umwelt*“
- 04.06.1998 *Wolfgang-Paul-Prize for Student Research*, presented by the German Mass Spectrometry Society (DGMS)
- 01.10.1998 *Award for Best Student Presentation at the ICP-MS users Meeting 1998*
- 12.10.2000 *Award for Best PhD Thesis at the 10th International Symposium on Resonance Ionization Spectroscopy and its Applications*, presented by the Institute of RIS
- April - Mai 2002 Visiting Scientist Fellowship at Pacific Northwest National Laboratory (PNNL), Richland, WA, USA

01.10.2002 – 30.09.2003	Fellowship at the European Organization for Nuclear Research CERN in Geneva, Switzerland
24.03.2004	<i>Gustav-Hertz-Prize 2004</i> of the German Physical Society(DPG)
08.03.2005	<i>Mattauch-Herzog-Prize 2005</i> of the German Society for Mass Spectrometry (DGMS)
19.04.2007	<i>Teaching Award of Rheinland-Pfalz 2006</i>
17.11.2008	<i>American Physical Society (APS) Fellowship 2008</i>
04.03.2010	<i>GSI Exotic Nuclei Community Membership Award (GENCO)</i>
Oct. 2011	<i>ERC Advanced Grant</i>
March 2012	<i>Helmholtz Price of the PTB</i> (together with Anke Wagner und Sven Sturm)
May 2013	Flerov-Prize of the Flerov Laboratory of Nuclear Reactions, Dubna, together with H.-J. Kluge and Y. Novikov
September 2016	<i>Gothenburg Lise Meitner Award 2016</i>
Since January 2019	Foreign Member of the Physics Class of the Royal Swedish Academy of Sciences
March 2019	<i>ERC Advanced Grant</i>

Publications

470 in refereed journals h-index 57 (Web of Science)

Books

“Trapped charged particles and fundamental interactions” by K. Blaum and F. Herfurth, 200 pp. Springer, Berlin (2008) ISBN: 978-3-540-77816-5

Research activities

Main field: Atomic and nuclear physics, metrology, high-precision mass spectrometry, high-resolution laser spectroscopy, high-precision g -factor measurements

Other fields: Nuclear astrophysics, neutrino physics

Current interest: Precision Penning trap and laser experiments with short-lived radionuclides; highly charged ions and antiprotons; nuclear structure studies; physics in strong fields; precision storage-ring experiments; fundamental studies with trapped charged particles

Committee and Services (selections)

Advisory Committees, Review Panels and Program Committees

April 2006 – March 2012	German representative in the ISOLDE/CERN Collaboration (ISCC)
June 2007 – Sept. 2008	Member of the Gutenberg-Excellence-Forschungskolleg (GFK), Johannes Gutenberg-University Mainz
July 2007 – June 2010	Physics Advisory Committee Member of IGISOL, Jyväskylä, FIN
April 2008 – March 2014	Member of the Scientific Council of the ExtreMe Matter Institute, EMMI, GSI Darmstadt
since Oct. 2008	Member of the Standing group for the upgrade of ISOLDE
April 2009 – March 2012	Chairman of the Mass Spectrometry Association within the German Physical Society
April 2009 – March 2012	Member of the Executive Board of the German Society for Mass Spectrometry (DGMS)
May 2010 – March 2020	Representative of the section <i>Nuclear Structure and Nuclear Probes</i> within the <i>Committee for Hadrons and Nuclides</i> , an advisory board of the BMBF (Ministry of Education and Research)
2012-2014	Representative chairman of the BMBF- Advisory Committee for Hadrons and Nuclei
2012-2019	Member of the DFG Fachgutachterausschuss
2012-2015	Managing Director of the Max Planck Institute for Nuclear Physics
Jan 2013 - Dec 2016	Chairman of the ISOLDE and Neutron Time-of-Flight Experiments Committee (INTC) at CERN, Geneva, Switzerland
2015-2020	Member of the BMBF Advisory Committee “Physics of the smallest particles”
2015-2016	Member of the FAIR/GSI Strategy Board

Since July 2015	Member of the Editorial/Advisory Board of “Advances in Physics: X”
Since January 2016	Advisory Board member of FRIB, Michigan State University
June 2016 – Dec 2019	Deputy Chairman of the FAIR/GSI Joint Scientific Council, Chairman of the Scientific Committee of GSI and Member of the Supervisory Board of GSI
2018 - 2021	Member of the Board of the German Physical Society (DPG)
Jan 2018 – Dec 2022	Member of the Board of Trustees of the “Physik Journal”
2018 – March 2020	Representative chairman of the BMBF- Advisory Committee for Hadrons and Nuclei
April 2018 – March 2024	Member of the bi-national prize committee of the “Deutsche Physikalische Gesellschaft e.V”
Jan 2020 – Dec 2024	Member of the Scientific Advisory Board of the Faculty of Physics of the University of Vienna
Jan 2020 - Dec 2022	Member of the CERN Scientific Policy Committee (SPC)
Since July 2020	Vice-President of the Max Planck Society Chemistry, Physics and Technology Section

International Collaborations

2002-2010	Spokesperson and member of the MATS Collaboration Boards at FAIR (80 members from 12 countries)
Since 2006	Spokesperson of the COLLAPS Collaboration at ISOLDE/CERN (21 members from 4 countries)
Since 2008	Spokesperson of the ISOLTRAP Collaboration at ISOLDE/CERN (28 members from 5 countries)
since Dec. 2009	Member of the ILIMA Collaboration Board
2010-2014	Co-Spokesperson and member of the MATS Collaboration Boards
2012-2014	Spokesperson of the FLAIR Collaboration at FAIR (126 members from 18 countries)

Miscellaneous

Aug. – Sep. 1999 Oct. – Nov. 2000	Visiting research scientist at Pacific Northwest National Laboratory, Richland, WA, USA
Talks since 2002	>300 invited talks for seminars, colloquia, and international conferences
Memberships	Deutsche Physikalische Gesellschaft, Deutsche Gesellschaft für Massenspektrometrie, European Physical Society, American Physical Society
9 Oct. 2009	Patent No. 08716002.4 2208 PCT/EP2008001454 „Feldemissionsquelle für Elektronen als Feldemissionskathode“(Field emission source for electrons as field emission cathode)
3 Dec. 2009	Invention report: Power supply Utility patent no. 202008009497.6

Organisation (chair, co-chair) of many national as well as international workshops and conferences.

Editor of several scientific journals.