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): „*Optimization of a quadrupole mass spectrometer for isotopic selective ultratrace determination*“
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): „*Resonance laser ionization mass spectrometry on gadolinium for ultra-trace isotope ratio determinations*“
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 – May 2002	Visiting Scientist Fellowship at Pacific Northwest National Laboratory (PNNL), Richland, WA, USA

01.10.2002 – 30.09.2004	Fellowship at the European Organization for Nuclear Research CERN in Geneva, Switzerland
24.03.2004	*Gustav-Hertz-Prize 2004* of the German Physical Society (DPG)
08.03.2005	*Mattauch-Herzog-Prize 2005* of the German Society for Mass Spectrometry (DGMS)
19.04.2007	*Teaching Award of Rheinland-Pfalz 2006*
17.11.2008	*American Physical Society (APS) Fellowship 2008*
04.03.2010	*GSI Exotic Nuclei Community Membership Award (GENCO)*
Oct 2011	*ERC Advanced Grant*
March 2012	*Helmholtz Price of the PTB* (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	*Gothenburg Lise Meitner Award 2016*
Since January 2019	Foreign Member of the Physics Class of the Royal Swedish Academy of Sciences
March 2019	*ERC Advanced Grant*
November 2020	*Lise Meitner Prize 2020* of the European Physical Society (EPS)
November 2021	*Otto Hahn Prize 2021* of the City of Frankfurt am Main, the German Chemical Society (GDCh) and the German Physical Society (DPG)
Since September 2022	Member of the Heidelberg Academy of Sciences and Humanities
Since November 2022	Honorary Member of the Physikalischer Verein (Frankfurt am Main)
20.11.2023	Boltzmann Lecture 2023 at the University of Vienna
Since February 2024	Member of the Physics Section of the German National Academy of Sciences Leopoldina
March 2025	Stern–Gerlach Medal of the German Physical Society (DPG)
March 2026	Gottfried Wilhelm Leibniz Prize of the German Research Foundation (DFG)

May 2026	Hendrik de Waard Lecture 2026 at the University of Groningen
June 2026	Inclusion in the "Power List 2026" of the top 50 people shaping the future of Germany (Politico/Welt/Business Insider)

Publications

599 in refereed journals	h-index 75 (Web of Science), 97 (Google Scholar)

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 – Sep 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 October 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 *Nuclear Structure and Nuclear Probes* within the *Committee for Hadrons and Nuclides*, 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 Fachgutachterauschuss
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”
2016 – 2021	Member of the Science Advisory Committee 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 – 2025	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 2025	Member of the CERN Scientific Policy Committee (SPC)
Jan 2020 - Dec 2025	Member of the Senate Committee and Grants Committee on Research Training Groups of the German Research Foundation (DFG)
July 2020 – June 2023	Vice-President of the Max Planck Society Chemistry, Physics and Technology Section
Jan 2022 – Dec 2025	Member of the Scientific Advisory Board of the Wilhelm and Else Heraeus Foundation
Jan 2024 – Dec 2026	Member of the Fermilab Physics Advisory Committee
Jan 2025 – Dec 2025	Vice-Chair of the CERN Scientific Policy Committee (SPC)
April 2026 – April 2031	Member of the Supervisory Board of the German Center for Astrophysics gGmbH (Deutsches Zentrum für Astrophysik gGmbH, DZA)
July 2026 – Nov 2029	Chairman of the Fermilab Physics Advisory Committee (PAC)

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.