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PERSONAL INFORMATION

Date of birth: 20 May 1968 | Place of birth: Kassel, Germany | Nationality: German

ACADEMIC APPOINTMENTS

ALEXANDER VON HUMBOLDT PROFESSOR
DIRECTOR OF THE INSTITUTE OF THEORETICAL PHYSICS, ULM UNIVERSITY
FROM OCTOBER 2009

PROFESSOR (PART TIME 10%) THE BLACKETT LABORATORY, IMPERIAL COLLEGE LONDON
OCTOBER 2009 – SEPTEMBER 2015

DIRECTOR, QUANTUM INFORMATION SCIENCE PROGRAMME OF THE INSTITUTE FOR MATHEMATICAL SCIENCES IMPERIAL COLLEGE LONDON
APRIL 2005 – SEPTEMBER 2009

PROFESSOR OF QUANTUM PHYSICS (CHAIR) IMPERIAL COLLEGE LONDON
OCTOBER 2003 – SEPTEMBER 2009

SENIOR LECTURER (ASSOCIATE PROFESSOR) IMPERIAL COLLEGE LONDON
OCTOBER 2001 – SEPTEMBER 2003

LECTURER (ASSISTANT PROFESSOR WITH TENURE) IMPERIAL COLLEGE LONDON
JANUARY 1998 – SEPTEMBER 2001

FEDOR-LYNEN FELLOW (POSTDOC) IMPERIAL COLLEGE LONDON
JANUARY 1995 – DECEMBER 1997

HIGHER EDUCATION

1994 **GÖTTINGEN UNIVERSITY, GERMANY**
DR. RER. NAT.

Thesis: “Novel Structures in the emission spectrum of laser driven atoms”. Advisor: Prof. Dr. G.C. Hegerfeldt. Grade Thesis: Magna Cum Laude. Grade Viva: Summa Cum Laude

1992 **GÖTTINGEN UNIVERSITY, GERMANY**
DIPL. PHYS.

Thesis: “Coherence effects in the photon statistics of single atoms”. Advisor: Prof. Dr. G.C. Hegerfeldt. Thesis and Viva were awarded a special distinction for highest achievement

PERSONAL PRIZES & RECOGNITIONS

2019 Reinhart Koselleck Project
2018 Thomson Reuters (Web of Science) ISI Highly Cited Researcher
2017 Thomson Reuters (Web of Science) ISI Highly Cited Researcher
2015 Visiting Professor, Faculty of Natural Sciences, Imperial College London, London, UK
2015 Guest Professor, Faculty of Natural Sciences, Huazhong University of Science and Technology, Wuhan, China
2015 Institute of Physics in Ireland Prestige Speaker
2014 Award of Research Building & Center for Quantum-BioSciences (Founder & Managing Director)

2012 ERC Synergy Grant (Corresponding PI)
 2012 The Max Born Medal and Prize (Bilateral Award of the DFG and the IOP)
 2011 Outstanding Referee (American Physical Society)
 2009 Alexander von Humboldt Professor (Alexander von Humboldt Foundation)
 2008 Offer of Chair, Karlsruhe University (Declined)
 2008 Clifford Paterson Medal and Lecture (The Royal Society)
 2006 Royal Society Wolfson Research Merit Award (The Royal Society)
 2004 The Maxwell Medal and Prize (The UK Institute of Physics)
 2004 Fellow of the UK Institute of Physics
 2003 The Royal Society Leverhulme Trust Senior Research Fellowship
 1995 Feodor-Lynen Fellowship (Alexander von Humboldt Foundation)
 1992 PhD Fellowship (The State of Lower Saxony)

RESEARCH PROGRAMME

My group conducts cutting edge research in a wide variety of areas spanning Quantum Information Science, Quantum Optics, Entanglement Theory, Quantum Sensing & Metrology and Quantum Effects in Biology. In this work we carry out fundamental theory, explore its implications for experimental physics and collaborate extensively with experimental teams to achieve realisations of our theories.

PUBLICATIONS & PRESENTATIONS

Published 353 papers in international refereed journals, including more than 100 in Science, Nature & Nature family, Physical Review Letters and 3 Reviews of Modern Physics. Editor of first monograph in the field of Quantum Effects in Biology. ISI Highly Cited Researcher.

25332 citations, H-Index 78 (Source: Web of Science Core Collection, 21st June 2019).
 38951 citations, H-Index 94 (Source: Google Scholar, 21st June 2019)

Personally presented 235 invited and plenary lectures at international conferences, 173 seminars and colloquia and 24 summer schools and postgraduate courses abroad.

4 patents filed, 1 patent granted (US and Japan) and sold to Element Six Ltd in October 2016. Filed patents licensed to NVision Imaging Technologies.

PHD SUPERVISION & POSTDOCS

I have completed the supervision of 33 PhD theses as principal or as co-supervisor and I have employed and mentored 45 postdocs (contracts completed).

32 former PhD students (6) and postdoctoral researchers (30) from my group are now holding permanent academic appointments (Full Professor, Associate Professor, Assistant Professor with tenure).

OTHER ACTIVITIES & ACHIEVEMENTS

Leadership of major collaborative research projects

Since start of career responsible for successful individual and Cooperative Grant applications with a total volume of approx. € 70 Million.

Since 2017 Deputy-Coordinator of the CRC-1279 "Exploiting the Human Peptidome for Novel Antimicrobial and Anticancer Agents"

Since 2016 Coordinator of EU Project HYPERDIAMOND with a budget of €5,073,550

Since 2015 Co-Founder of NVision Imaging Technologies GmbH

Since 2014 Principal applicant, Founder and Managing Director for the Center of Quantum-Biosciences and the associated research building with funding of €26.96 Million.

- 2013 – 2019 Corresponding PI of ERC Synergy grant Diamond Quantum Devices and Biology (BioQ) at Ulm University with funding of €10.3 Million.
- 2009 – 2009 Founder and first Director, Doctoral Training Center on Controlled Quantum Dynamics at Imperial College with funding of £7 Million.
- 2005 – 2010 Co-coordinator (with I. Walmsley) of EU Integrating project “Qubit Applications” (QAP) with funding volume of €9.9 Million.
- 2004 – 2005 Co-proposer and Theory Director of the EPSRC Interdisciplinary Research Collaboration on Quantum Information Processing with funding of £10 Million.
- 1999 – 2003 Founder and Chair, European Science Foundation Programme “Quantum Information Theory and Quantum Computation” with funding of €500,000.

Advisory Boards & Steering Committees

- 2018 - Member of the Strategic Advisory Agenda Working Group, Quantum Technologies Flagship
- 2019 – 2023 Member of the Senate, Ulm University
- 2016- Member, ESF College of Expert Reviewers
- 2014- Member, Advisory Board, EU Coordinating Action QUTE
- 2014 Chair, ESF FarQBio Forward Look on Quantum Biology
- 2010 – Member, International Advisory Board, Doctoral Training Center on Controlled Quantum Dynamics, Imperial College London
- 2009 – 2014 Member, Advisory Board, EU Coordinated Action QUIE2T
- 2009 – 2010 Member, International Advisory Board, Institute for Mathematical Sciences, Imperial College
- 2009 – 2013 Member, Steering Committee, EU Integrating Project Q-Essence
- 2005 – 2009 Newton Institute Correspondent, Cambridge, UK
- 2004 – Krzyzowa Initiative for a European Quantum Information Research Network
- 2001 Chair, Focus Group for the Forward Look at Opportunities in Atomic & Molecular Physics in the UK
- 2000 – 2002 Member, Steering Committee, EU Project EQUIP

Scientific Journals

- 2017 – Board of Reviewing Editors, Member, Science
- 2016 – Editorial Board Member, Quantum Science and Technology
- 2015 – 2017 Editorial Board Member, Reports on Mathematical Physics
- 2014 – 2017 Editorial Board Member, Advances in Physics: X
- 2014 – 2016 Divisional Associate Editor, Physical Review Letters
- 2014 – Editorial Board Member, Contemporary Physics
- 2006 – 2012 Editorial Board Member, Proceedings of the Royal Society
- 2005 – 2007 Editorial Board Member, Physical Review A
- 2003 – 2013 Associate Editor, Contemporary Physics
- 2001 – 2011 Editorial Board Member, New Journal of Physics

Conferences

- Co-Founder of the annual QION conference series in 2009
- Co-Founder of the annual QDIAMOND conference series in 2012
- Founding Member of the conference board of the QuEBs conference series in 2009
- Organizer/Co-organizer of 30 international conferences
- Member/Chair of programme committee of 61 international conferences

Visiting Professorships

- 2015 – Visiting Professor, Imperial College London, London, UK.
- 2015 – 2018 Guest Professor, Faculty of Natural Sciences, Huazhong University of Science and Technology, Wuhan, China
- 2010 – 2011 Senior Research Visitor, Keeble College, University of Oxford, UK
- 2004 – 2009 Visiting Professor at the School of Physics, Astronomy and Mathematics, University of Hertfordshire, UK