Curriculum Vitae of Gerard Meijer

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Date of birth: April 6, 1962
Nationality: Dutch

1980-1985: Study of physics, University of Nijmegen, Nijmegen (NL)

1985-1988: PhD research at the University of Nijmegen, Nijmegen (NL) and at the MPI für Strömungsforschung, Göttingen (D)
Research: optical spectroscopy of molecules in the gas phase; combustion diagnostics (at Volkswagen AG, Wolfsburg (D))

1989-1990: Post-doc at IBM Almaden Research Center, San José, CA (USA)
Research: laser desorption mass spectrometry; fullerene studies

1991-1992: Fellow of the Royal Dutch Academy of Arts and Sciences (KNAW) at the Free University of Amsterdam, Amsterdam (NL)
Research: imaging photo-dissociation of oriented molecules

1992-1994: University Lecturer, University of Nijmegen, Nijmegen (NL)
Research: cavity ring down spectroscopy; studies on fullerene crystals; dynamics of CO intercalated in C_{60} crystals

1995-1999: Professor in physics, University of Nijmegen, Nijmegen (NL)
Research: laser based spectroscopic detection techniques; cold molecules; molecular physics studies with IR-FEL radiation

2000-2003: Director, FOM-Institute for Plasmaphysics, Nieuwegein (NL)
Management: future planning and reorganization of the institute
Research: cold molecules; studies with IR-FEL radiation

2003-2012: Director, Fritz Haber Institute of the Max Planck Society, Berlin (D)
Research: gas-phase molecular physics; cold molecules; clusters
Management: overall institute director 2006-2007; 2010-2011

2012-2016: President of the Executive Board, Radboud University, Nijmegen (NL)
Management: strategic planning of research and infrastructure; coordinating efforts of Dutch Universities on OA publishing

2017-present: Director, Fritz Haber Institute of the Max Planck Society, Berlin (D)
Research: gas-phase molecular physics; gas-liquid interfaces
Management: overall institute director 2020-2021; coordinating the MP - RU Research Center on FEL research (2021-2026)

Elected memberships: DEAL-consortium (2017-now)
German Council of Science and Humanities (2018-2023)
Advisory Board of the Max Planck Digital Library (2020-now)
Hochschulrat Ruhr-Universität Bochum (2023-now)

Gerard Meijer has co-authored over 450 articles in refereed scientific journals that have received a total of about 30.000 citations; his *h*-index is 87 (*ISI Web of Science; April 2026*). Sixty PhD students have completed their PhD research under his supervision. More than 30 of his former scholars now hold positions as independent researchers in academic institutions worldwide.

web-site: http://www.fhi.mpg.de/mp/meijer/

Scientific achievements of Gerard Meijer

Gerard Meijer is an experimental physicist who has made contributions to several areas of research throughout his career.

(i) During his PhD research he performed pioneering experiments on the use of tuneable excimer lasers in combustion diagnostics. This research resulted in the starting up of the - still flourishing - company *LaVision GmbH* by several of his colleagues.

(ii) During his post-doctoral years at IBM he was among the first to study and characterize the physical properties of fullerenes. He was involved in recording the first Raman and infrared spectra of C_{60} and C_{70}. In NMR studies he confirmed the molecular geometry proposed for these molecules, he characterized the rotational dynamics in the solid and he recorded the first STM images of individual fullerenes on a surface. Several of the spectra he measured are now used in textbooks. For his work on fullerenes, Gerard Meijer received an IBM Outstanding Innovation Award. Back in Nijmegen, he received an NWO PIONIER grant to study endohedral fullerenes.

(iii) Throughout his stay at the University in Nijmegen, he has made important contributions to the development of sensitive laser-based absorption detection methods, establishing several variants of cavity enhanced absorption spectroscopy. He demonstrated these methods, for instance, for trace gas detection and for quantitative optical rotation spectroscopy on gaseous samples and solids.

(iv) In the late nineties, he started to pioneer the use of the infrared radiation of free electron lasers (IR-FELs) in the study of the structure and dynamics of gas-phase molecules and clusters. Employing a variety of novel experimental detection schemes, infrared spectra of, for instance, neutral and ionized polycyclic aromatic hydrocarbons, fullerenes and of metal-carbide clusters were measured. These experiments have established a large, new user community for IR-FELs and have triggered the setting up of IR-FELs at various other locations. With the IR-FEL that has been set up at the Fritz Haber Institute (FHI), he has recently obtained two-colour operation, a worldwide first.

(v) He has made seminal contributions to the manipulation of the motion of molecules with electric fields. He demonstrated that well-known tools to manipulate charged particles can be adapted such that they can be used for neutral polar molecules. The demonstration of the Stark decelerator for neutral molecules and of electrostatic trapping of Stark-decelerated molecules at mK temperatures are classics in the field. Since then, he has demonstrated a molecular synchrotron for neutral molecules, he has applied Stark-decelerated beams in crossed-beam collision studies and samples of trapped molecules have been used to measure the radiative lifetimes of metastable states, for instance. With an ERC Advanced Grant, he has explored the miniaturization of the electric field structures, to create a molecular physics laboratory on a chip. The approach pioneered by Gerard Meijer and his group has been followed by many others.

Gerard Meijer has received various awards for his scientific work and for his service to academia. In 2009 he received the Bourke Award from the Royal Society of Chemistry (UK) for his research into the formation and spectroscopy of ultra-cold molecules. In 2012, he was awarded the Van 't Hoff Prize of the Deutsche Bunsen-Gesellschaft for his outstanding contributions to physical chemistry. In 2013 he has been elected as a member of the Academia Europaea and in 2017 he received a royal decoration and became Knight in the Order of the Netherlands' Lion. He has been awarded honorary doctorate degrees by the Hebrew University in Jerusalem, Israel, and by the University of Waterloo, Canada, in recognition of his molecular physics research and of his academic leadership, *e.g.*, in fostering Open Access of scientific publications.

Managerial experience of Gerard Meijer

Gerard Meijer started on a full professor position at the University of Nijmegen at a relatively early age (32) and he has had managerial responsibilities ever since. At first, this mainly concerned the (under-) graduate students, post-docs and the technical staff in his own research group. At age 37, he became director of the FOM-Institute for Plasmaphysics, and thereby responsible for an institute with about 150 employees. He had accepted this position to secure the future use of its IR-FEL ("FELIX") for molecular physics research, as well as to strengthen his newly started research line on Cold Molecules, for which the technical infrastructure of a FOM-institute is highly advantageous. However, not only due to financial constraints, the FOM-Institute - at a beautiful but rather isolated location in Nieuwegein (NL) - needed to be reorganized. About 20% of the employees were successfully brought to new positions, and Gerard Meijer initiated a discussion to reallocate the various branches of research of the FOM-Institute to different Universities in The Netherlands. This reallocation has been implemented since then, resulting in the founding of the NWO-Institutes DIFFER in Eindhoven and, since January 2025, HFML-FELIX in Nijmegen.
As director of the Molecular Physics department at the Fritz Haber Institute in Berlin, his managerial responsibility mainly concerned his own department (~60 coworkers). In 2006-2007 and 2010-2011 he had the overall responsibility for the FHI as a whole (~400 employees) and organized several major events with high level participation, *i.e.* to celebrate the award of the Nobel Prize in Chemistry to his colleague director Gerhard Ertl in 2007 and the 100th anniversary of the FHI (formerly the Kaiser Wilhelm Institute for Physical Chemistry and Electrochemistry), the oldest institute of the Max Planck Society, in 2011.
By taking upon him the position as President of the Executive Board of his *alma mater* in 2012, a function that he considered "a call of duty", he got to know the Dutch academic system in much more detail. At the Radboud University (RU), he initiated new programs to foster excellence in teaching and research, he strengthened the ties with the Max Planck Society (not only with the MPI for Psycholinguistics, that is housed on the University campus in Nijmegen), and he coordinated the activities of the Dutch Universities concerning Open Access of scientific publications in negotiations with the major academic publishers. He sought and enjoyed the interactions with the opinionated students and employees, and he established a good working atmosphere on the campus, contributing to the recognition of the RU as the Best Traditional University in The Netherlands during the years 2013 through 2016.
After having served one term as president, he returned to the FHI and to active research, while at the same time staying active in academic consulting and management activities. He has been vice-speaker of the DEAL consortium in Germany since 2017, negotiating contracts on behalf of all German academic institutions with the major scientific publishers. He served the maximum of two terms (2018-2023) as elected member of the German Council of Science and Humanities ("Wissenschaftsrat"), advising the central government and the governments of the states ("Bundesländer") on issues concerning research and the higher education system. From 2020-2024 he has been chairing the advisory board of the Max Planck Digital Library. Since 2023, he has been member of the Hochschulrat of the Ruhr-Universität Bochum.

Gerard Meijer holds a professor position at the Radboud University (since 1995), an honorary professor position at the Freie-Universität Berlin (since 2004) and honorary doctorate degrees of the Hebrew University in Jerusalem, Israel, and of the University of Waterloo, Canada. He is scientific member of the Max Planck Society since 2002.