

Theodor W. Hänsch (* 30. 10. 1941 in Heidelberg, Germany)

Director, Max-Planck-Institut für Quantenoptik,
Hans-Kopfermann-Str. 1, D-85748 Garching, and
Carl Friedrich von Siemens-Professor of Physics, Ludwig-Maximilians-Universität München,
Schellingstr. 4, D-80799 München, Germany

Focus of Research

Ultraprecise laser spectroscopy, quantum physics of ultracold atoms
(More than 460 Publications, more than 20 Patents)

Education

1952 - 61 Helmholtz-Gymnasium, Heidelberg (Abitur 1961)
1961 - 69 University of Heidelberg
(Physics Diploma 1966, Doctor degree „summa cum laude“ 1969)

Appointments

1969 - 70 Assistant Professor, University of Heidelberg, Institute of Applied Physics
1970 - 72 NATO Postdoctoral Fellow, Stanford University, with Arthur L. Schawlow
1972 - 75 Associate Professor of Physics, Stanford University
1975 - 86 Professor of Physics, Stanford University
1986 - Director at the Max-Planck-Institut für Quantenoptik, Garching, Germany
and Professor at the Ludwig-Maximilians-Universität München

Visiting Professorships

1978 College de France, Paris
1979 University of Kyoto, Japan
1979 University of Florence, Italy
1982 Fudan University, Shanghai, China
1988 - Stanford University, Consulting Professor
1992 Ecole Normale Supérieure, Paris
1995 - University of Florence, Italy
2001 Caltech, Pasadena, Gordon Moore Distinguished Scholar

Named Lectures

1994 University of California, Berkeley, Emilio Segré Distinguished Lecture
1996 Scuola Normale, Pisa, Adriano Gozzini Lecture
1999 Massachusetts Institute of Technology, Richard C. Lord Lecture
2000 Scuola Normale, Pisa, Enrico Fermi Lectures
2002 Northwestern University, Evanston, Walter and Christine Heilborn Lectures
 Austrian Academy of Sciences, Vienna, Erwin Schrödinger Lecture
2004 Niels Bohr Institute, Copenhagen, Niels Bohr Lecture
 University of Virginia, Charlottesville, Llewellyn G. Hoxton Lecture
2004 University of Toronto, Harry L. Welsh Lectures
 University of Uppsala, Angström Lecture
 Humboldt University, Berlin, Max von Laue Lecture

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Named Lectures

- 2004 University of Strathclyde, Glasgow, John Anderson Lecture
2006 University of Ulm, Willis Lamb Lecture
University of Lund, Rydberg Lecture
Free University, Berlin, Einstein Lecture
University of Oxford, Cherwell Simon Lecture
Czech Spectroscopic Society, Ioannes Marcus Marci Lecture
2007 Massachusetts Institute of Technology, David and Edith Harris Lecture
2008 University of Ottawa, New Horizons Lecture
2009 University of Bonn, Plücker Lecture
Technical University of Prague, Nobel Initiative, Honeywell Lecture
Texas A & M University at Doha, Qatar Foundation Distinguished Lecturer

Honors and Awards

- 1960 Munich Fellow, Helmholtz-Gymnasium, Heidelberg
1961 Scheffel-Prize, Helmholtz-Gymnasium, Heidelberg
Science Prize, Helmholtz-Gymnasium, Heidelberg
1973 California Scientist of the Year, Calif. Museum of Science and Industry
Alfred P. Sloane Research Fellow
1977 Alexander von Humboldt Senior U.S. Scientist Award
1980 Otto Klung Prize, Freie Universität Berlin
1983 Cyrus B. Comstock Prize, U.S. National Academy of Science
Herbert P. Broida Prize, American Physical Society
1985 William F. Meggers Award, Optical Society of America
1986 Michelson Medal, The Franklin Institute, Philadelphia
1987 Italgas Prize for Research and Innovation, Italgas, Torino
1988 Gottfried Wilhelm Leibniz Preis, Deutsche Forschungsgemeinschaft
1989 King Faisal International Prize for Science, Saudi Arabia
1995 Einstein Medal for Laser Science
1996 Arthur L. Schawlow Prize for Laser Science, American Physical Society
1998 Philip Morris Research Prize (atomic clock)
Bavarian of the Year, Bavarian Television
2000 Stern-Gerlach Medal, Deutsche Physikalische Gesellschaft
Arthur L. Schawlow Award, Laser Institute of America
Philip Morris Research Prize (atom laser)
2001 Quantum Electronics and Optics Prize, European Physical Society
SUNAMCO Medal, International Union of Pure and Applied Physics
2002 Matteucci-Medal, Italian National Academy of Sciences
Alfried Krupp Prize for Science
2003 Bundesverdienstkreuz 1. Klasse (Order of Merit, Germany)
Bayerischer Maximiliansorden (Order of Merit, Bavaria)
2005 I. I. Rabi Award, IEEE
Frederic Ives Medal, Optical Society of America
Otto-Hahn-Prize, DPG, GDCh, and City of Frankfurt/M
Bavarian of Year, Bavarian Television
Bambi Award, Burda Media
Nobel Prize in Physics, jointly with Prof. J. L. Hall and Prof. R. Glauber
2006 Honorary Citizen, City of Garching
Grand Officer Cross (Order of Merit, Republic of Italy)
Honorary Doctorate, Free University, Berlin (Dr. rer. nat. h.c.)

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Honors and Awards

- 2006 Honorary Doctorate, University of St. Andrews (Doctor of Science)
Ioannes Marcus Marci Medal, Czech Spectroscopic Society
Grosses Bundesverdienstkreuz mit Stern (Order of Merit, Germany)
Garbsen Ring, City of Garbsen
Rudolf Diesel Gold Medal, German Institute of Interventions
Carl Friedrich von Siemens Prize and Chair
Honorary Citizen, City of Florence, Italy
- 2007 Medal “De Scientia et Humanitate Meritis”, Acad. Sci., Czech Republic
- 2008 Honorary Doctorate, Bar-Ilan-University, Tel Aviv, Israel
Orden Pour Le Mérite f. Scientists & Arts, Germany
- 2009 James Joyce Award, University College, Dublin, Ireland

Memberships

- 1973 American Physical Society, Fellow
Optical Society of America, Fellow
- 1983 American Academy of Arts and Sciences, Member
- 1986 The Franklin Institute, Philadelphia, Life Member
- 1991 Bavarian Academy of Arts and Sciences, Member
- 2000 Laser Institute of America, Life Member
- 2002 U.S. National Academy of Science, Foreign Associate
Accademia Nazionale dei Lincei, Italy, Foreign Associate
- 2005 Berlin-Brandenburg Academy of Sciences, Member
Académie des Sciences, Institut de France, Foreign Associate
The Society of Sigma Xi, Life Member
- 2006 German Academy of Natural Scientists Leopoldina, Member
Pontifical Academy of Science, Member
Physikalischer Verein, Frankfurt/Main, Honorary Member
Leibniz Society, Zwickau, Honorary Member
- 2007 European Academy of Sciences and Arts, Austria, Honorary Member
- 2008 Intl. Raoul Wallenberg Foundation, (IRWF), NY, USA, Honorary Member
- 2009 Optical Society of America, Honorary Member
German University Association (DHV), Germany, Honorary Member
Academia Europea, Member

Editorial Boards

- 1975 - 83 Metrologia
- 1975 - Optics Communications, Advisory Editor
- 1981 - 84 Journal of the OSA, Associate Editor
- 1983 - Applied Physics B (Springer Verlag), Board of Editors
- 1985 - 95 Physics Today, Advisory Committee
- 1997 - 06 Physics in Perspective, Board of Editors
- 1998 - Springer Series in Optical Sciences, Editorial Board
- 2007- Laser & Photonics Review, Editorial Board

Committees, Boards, and Advisory Panels

- 1976 William F. Meggers Award Committee (OSA)
- 1976 - 78 Board of Directors, Optical Society of Northern California
- 1977 R. W. Woods Prize Committee (OSA)
- 1977 - 79 Numerical Data Advisory Board, U.S. National Research Council
- 1977 - 83 Evaluation Panel, Optical Physics Division, National Bureau of Standards

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- 1977 – 85 Joint Council of Quantum Electronics (Representative of OSA)
1978 - 84 Executive Committee, Center for Materials Research, Stanford University
1979 R. W. Woods Prize Committee (OSA)

Committees, Boards, and Advisory Panels

- 1981 Herbert P. Broida Prize Committee (APS)
1982 - 86 IUPAP, Commission on Quantum Electronics
1983 - 85 Steering Committee, Physics Survey, U.S. National Research Council
Panel on Atomic, Molecular, and Optical Physics, U.S. Natl. Res. Council
1984 Frederic Ives Medal Committee (OSA)
1985 Herbert P. Broida Prize Committee (APS)
1986 Davisson Germer Prize Committee (APS), Chairman
1988 Italgas Prize Committee
1989 - 90 BMFT Referee Board, BESSY II - Project, Berlin
1990 - 97 Rudolf-Kaiser-Preis-Komitee (DPG)
1991 Ecole Normale Supérieure, Paris, Physics Department, Scientific Board
1992 - 93 NSF Review Panel, LIGO Gravitational Wave Observatory
1993 - Executive Council, LENS, Florence, Italy
1994 - 96 STAC Committee, VIRGO Gravitational Wave Observatory
1994 - 97 Stern-Gerlach-Preis-Komitee (DPG)
1993 - King Faisal International Prize Committee
1996 - Scientific Advisory Board, Max-Born-Institut, Berlin
1997 Arthur L. Schawlow Prize Committee (APS)
1999 - Advisory Board, Physikalisch-Technische Bundesanstalt
2004- Advisory Board, Center for Quantum Optics and Quantum Information,
Austrian Academy of Sciences, Innsbruck
2004 Assessment Committee, Physics Research,
Universiteit van Amsterdam and Vrije Universiteit Amsterdam
2005- SUPA Advisory Committee, Scottish Universities Physics Alliance
2006- Directive Council (Kuratorium), Deutsches Museum, München
Directive Council (Kuratorium), 850th Birthday of the City of Munich
2007- Advisory Board, Dahlem Conferences, Free University of Berlin
Member of Jury, Berthold Leibinger Innovation Award
Research Council (Forschungsausschuß), LMU, Munich
2009 IQOQI, Innsbruck & Wien, Austria, Scientific Advisory Board Member
2009 King Abdullah Institute of Nanotechnology, Chairman, Intl. Science Council

Organization of Conferences

- 1973 - Steering Committee, International Conference on Laser Spectroscopy,
(since 1987 Co-Chairman)
1975 2nd Intl. Conf. on Laser Spectroscopy, Megève, Co-Chairman
1983 Industrial Affiliates Symposium, Stanford University, Organizer
1983 International Conference on Lasers, Canton, China, Steering Committee
1985 7th Intl. Conf. on Laser Spectroscopy, Maui, Hawaii, Co-Chairman
1986 14th Intl. Conf. on Quant. Electronics, San Francisco, Program Co-Chair
1987 15th Intl. Conf. on Quant. Electronics, Baltimore, Co-Chairman
1988 Intl. Conference „Hydrogen Atom“, Pisa, Co-Organizer
1992 12th Intl. Conference on Atomic Physics, München, Co-Organizer

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- 1994 Intl. School of Physics „Enrico Fermi“,
„Frontiers in Laser Spectroscopy“, Varenna, Co-Director
- 1997 DPG-Schule für Physik, „Diodenlaser“, Bad Honnef, Co-Director
- 2000 Intl. Conf. „Hydrogen Atom II“, Castiglione della Pescaia, Co-Organizer
- 2006 Intl. School of Physics “Enrico Fermi”, “Metrology and Fundamental
Constants”, Varenna, Co-Director
Intl. Workshop on Precision Physics of Simple Atomic Systems (PSAS),
Venice Intl. University, Chairman

Consulting

- 1976 - 80 IBM Research Laboratories, Almaden, USA
- 1985 - 92 Melles Griot Inc., USA, Scientific Advisory Board
- 1985 - 95 American Healthcare Fund, USA, Scientific Advisory Board
- 1987 - 93 Siemens AG, Munich, Germany, Central Research Laboratory
- 1997 - Nanophotonics AG, Mainz, Germany, Board of Directors
- 1999 - TUI Optics GmbH, Martinsried, Germany, Scientific Advisory Board
- 2001- Menlo Systems GmbH, Martinsried, Germany, Co-Founder
- 2006- Imprimatur Capital, London, UK, Scientific Advisory Board
Zett Optics, Göttingen, Germany, Scientific Advisory Board
Optical Comb, Inc., Tokyo, Japan, Scientific Advisory Board
- 2007 Cold Quanta Inc., Boulder, CO, USA, Scientific Advisory Board