Ferenc Krausz

date of birth: 17 May 1962
place of birth: Mór (Hungary)
nationality: Hungarian, Austrian

Max Planck Institute of Quantum Optics
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Ludwig-Maximilians-Universität München
Chair of Experimental Physics – Laser Physics
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appointments

since 2019	director // Center for Molecular Fingerprinting (CMF)
since 2015	director // Centre for Advanced Laser Applications (CALA)
2010–2019	director // Munich-Centre for Advanced Photonics (MAP)
2007–2009	managing director // Max Planck Institute of Quantum Optics (MPQ)
since 2006	director // International Max Planck Research School of Advanced Photon Science (IMPRS-APS)
2006–2009	deputy director // Munich-Centre for Advanced Photonics (MAP)
since 2004	full professor // Chair of Experimental Physics – Laser Physics, Ludwig-Maximilians-Universität München (LMU)
since 2004	director // Max Planck Institute of Quantum Optics (MPQ)
1999–2004	full professor // Technische Universität Wien (TUW), Department of Electrical Engineering
1996–1998	assistant professor // Technische Universität Wien (TUW), Department of Electrical Engineering

academic education

1993	habilitation with distinction // Technische Universität Wien, Department of Electrical Engineering
1991–1993	postdoctoral fellow // Technische Universität Wien, Department of Electrical Engineering
1991	Ph.D. with distinction in laser physics // Technische Universität Wien, Department of Electrical Engineering
1988–1991	Ph.D. studies // Technische Universität Wien, Department of Electrical Engineering
1985–1987	Ph.D. studies // Budapest University of Technology, Institute of Physics
1985	diploma with distinction in electrical engineering // Budapest University of Technology
1981–1985	undergraduate studies in electrical engineering // Budapest University of Technology
	undergraduate studies in theoretical physics // Eötvös Loránd University, Budapest

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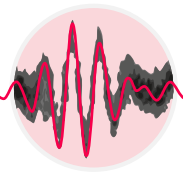

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scientific interest

main fields // laser physics, nonlinear optics, attosecond metrology, biomedical applications

research focus
// synthesis of infrared/visible/ultraviolet transients of multi-octave laser light
// sampling of the electromagnetic fields from THz to PHz frequencies
// exploring light-matter interactions for ultra-sensitive light field probing
// advancing electric-field molecular fingerprinting and exploring its potential for health monitoring and disease detection

major achievements

// co-invention of chirped multilayer mirrors and their use for the routine generation of few-cycle light
// generation and measurement of controlled light waveforms and isolated attosecond pulses, the use of these tools for real-time observation of the atomic-scale motion of electrons, including the first time-resolved measurement of the photo effect, inner-shell decay, optical-field-induced tunneling, valence electron motion, charge transport through atomic layers, and optical-field-induced changes in the physical properties of solids
// these breakthroughs heralded the emergence of a new field: attophysics

responsibilities

since 2009
// initiating and coordinating the creation of the Laboratory of Extreme Photonics (LEX) at the LMU for the advancement of the technology of few-cycle light
// initiating and coordinating the creation of the Centre for Advanced Laser Applications (CALA) for the development of laser-driven brilliant X-ray and particle sources and their use for early cancer detection and therapy

since 2006
// establishing and directing the International Max Planck Research School of Advanced Photon Science, offering a world-class graduate training and education program for some 50 Ph.D. students from all over the world (www.mpq.mpg.de/APS)
// establishing, coordinating, and (since 2010) directing the cross-disciplinary research activities of some 40 groups from 9 departments at the LMU and the Technical University of Munich, and the MPQ, in the areas of physics, chemistry, biology and medicine (www.cala-laser.de)

since 2004
// coordinating and directing the research of some hundred researchers and technical staff at the LMU-MPQ Laboratory for Attosecond Physics (www.attoworld.de)

first electric field trace of visible light, measured in 2004

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honors

2019	Vladilen Letokhov Medal, the European Physical Society & the Russian Academy of Sciences
2018	János Arany Award for Outstanding Scientific Performance, the Hungarian Academy of Sciences
2016	Member of Leopoldina, the National Academy of Germany
2015	Thomson Reuters Citation Laureate in Physics
2014	Listed in The World's Most Influential Scientific Minds 2014, Thomson Reuters, USA
2013	Otto-Hahn-Preis of the DPG, GDCh and the City of Frankfurt/M, Germany
2013	King Faisal International Prize for Science, Saudi Arabia
2012	Knight's Cross of the Order of Merit of Hungary
2012	Member of the Academia Europaea, United Kingdom
2012	Member of the European Academy of Sciences (EURASC), Belgium
2011	Bundesverdienstkreuz am Bande (Order of Merit of the Federal Government), Germany
2011	Member of the Russian Academy of Sciences, Russia
2011	Falling-Walls Lecturer, falling-walls.com/lectures/ferenc-krausz, Germany
2010	Honorary Professorship at the Shanghai Institute of Optics and Fine Mechanics, China
2010	Visiting Professorship, King Saud University, Saudi Arabia
2010	Distinguished Visiting Professorship, POSTECH, Korea
2009	Fellow, Optical Society of America, USA
2009	Honorary Professorship, Xian Institute of Optics, Chinese Academy of Sciences, China
2009	Honorary Citizen, City of Mór, Hungary
2009	ERC Advanced Investigator Grant, European Union
2007	Member of the European Academy of Sciences and Arts, Austria
2007	Member of the Hungarian Academy of Sciences, Hungary
2006	Gottfried Wilhelm Leibniz-Prize, Deutsche Forschungsgemeinschaft, Germany
2006	Prize of the City of Vienna for Natural and Technical Sciences, Austria
2006	Progress Medal of the Royal Photographic Society, United Kingdom
2006	Manne Siegbahn Memorial Lecture, Royal Swedish Academy of Sciences, Sweden
2006	Max von Laue Memorial Lecture, Physikalische Gesellschaft zu Berlin, Germany
2006	James Frank Memorial Lecture, Israel Academy of Sciences, Israel
2006	Quantum Electronics Award, IEEE Laser and Electro-Optics Society, USA
2005	Honorary Doctorate Degree from the Budapest University of Technology, Hungary
2005	Honorary Professorship at the Vienna University of Technology, Austria
2003	Member of the Austrian Academy of Science, Austria
2003	Julius Springer Award in Applied Physics, Springer, Germany, USA

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2002	Wittgenstein Award, Federal Ministry of Science and Education, Austria, 2002
1998	Carl Zeiss Award, Ernst Abbe Foundation, Germany, 1998
1996	START Award, Federal Ministry of Science & Education, Austria, 1996
1994	Fritz Kohlrausch Award, Austrian Physical Society, Austria, 1994

list of publications

www.attoworld.de/publications/ferenc-krausz.html

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