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Home address: 25 Avenue Reille Paris 75014 - France

Birth date: 22.06.1944 at Alberville, Savoie France

CITIZENSHIP: U.S. and FRANCE (Dual Citizenship)

- Directeur IZEST, International Center Zettawatt Exawatt Science and Technology
- Professor Haut College Ecole polytechnique
- A.D. Moore Distinguished University Professor University of Michigan
- Professor Physics University of Nizhny Novgorod

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EDUCATION

B.S., Physics, University of Grenoble, France, 1967

Thèse de 3eme cycle., ParisVI, France, 1970

Thèse d'Etat Physique, University of Paris VI France, 1973

PROFESSIONAL EXPERIENCE

- **Membre Etranger de l'Académie des Sciences Chinoise**
- **Membre de l'US National Academy of Engineering**
- **Membre Etranger de l'Académie des Sciences Russe**
- **Membre Etranger de l'Académie des Sciences Autrichienne**
- **Membre Etranger de l'Académie de Sciences et Lettres Lombarde, Italie**
- **Membre Etranger de l'Académie des Sciences Lithuanienne**
- **Fellow of the Optical Society of America**
- **Fellow of the IEEE**
- **Professeur Membre du Haut Collège de l'Ecole polytechnique 2010**
- **Professor Ecole polytechnique France 2005-2010**

- **Director Laboratoire d'Optique Appliquée** ENSTA/Ecole Polytechnique (France) 2005-2009
- **Director, Center for Ultrafast Optical Science, a National Science Foundation Science and Technology Center** located at the University of Michigan, 1991-2004 Literature, Science & Arts, College of Engineering University of Michigan.
- **A.D. Moore Distinguished University Professor**, Department of Electrical Engineering and Computer Sciences, College of Engineering, University of Michigan, Ultrafast Science Laboratory, 1006 IST Building, 2200 Bonisteel, Ann Arbor, Michigan, 48109-2099,
- **Professor**, Institute of Optics, University of Rochester, Rochester, New York, March 1987 - 1989.
- **Division Director**, Ultrafast Science Division, Laboratory for Laser Energetics, Rochester, New York, July 1986 - 1988.
- **Associate Professor**, Institute of Optics, University of Rochester, Rochester, New York, September 1983 - March 1987.
- **Senior Scientist**, Laboratory for Laser Energetics, University of Rochester, Rochester, New York, October 1981 - 1988.
- **Group Leader**, Picosecond Research Group, Laboratory for Laser Energetics, University of Rochester, Rochester, New York, 1979 - 1988.
- **Scientist**, Laboratory for Laser Energetics, University of Rochester, Rochester, New York, 1977 - 1979.
- **Scientist**, Ecole Polytechnique, Paris, France, 1974 - 1977.
- **Postdoctoral Fellowship**, San Diego State University, San Diego, California, 1973 - 1974.
- **Scientific Cooperant**, Université Laval, Quebec, Canada, 1970 - 1973.

AWARDS

- 2020 Officier de la Légion d'Honneur - République Française
- **2018 Physics Nobel Prize recipient**
- Recipient of the 2018 Arthur L. Schawlow Prize in Laser Science
- Recipient of the Berthold Leibinger 2016 Innovation Prize
- Recipient of the F. Ives/J. Quinn Award 2016 from the OSA
- Chevalier de la Legion d' Honneur République Française july 2012
- Recipient of the Chaire d' Excellence 2012 J. Beaulieu from Institut National Recherche Scientifique (Quebec)
- Recipient of the Einstein Chair 2010 from the Chinese Academy of Science
- Winner of the 2010 Open Grant Competition of the Russian Federation
- Recipient of the 2009 Charles H. Townes Award from the Optical Society of America
- Recipient of the 2007 Grand Prix Carnot from the French National Academy
- Recipient of the 2005 of the Physics of Quantum Electronics Lamb Medal
- Recipient of the 2004 Chaire d' Excellence from the French Minister of Research
- Recipient of the 2004 Quantum Electronic Award from IEEE-LEOS
- Recipient of the 2002 Russel Award from the University of Michigan (Highest Honor from the University)
- Recipient of the 2000 College of Engineering Stephen S. Attwood Excellence in Engineering award for the invention of the Chirped Pulse Amplification technique which opened up the field of Strong-field Physics and medical femtosecond surgery.

- Recipient of the 1999 D. Sarnoff Award from IEEE, for Pioneering contributions to high speed, high intensity optoelectronic measurement techniques, including electro-optic sampling and femtosecond high-voltage introducing the concept of Chirped Pulse Amplification for laser systems to boost optical power peaks to switching
- Recipient of the 1997 H. Edgerton Award from the SPIE, in Recognition of many significant contributions, both scientific and technical, to the Field Ultrafast Phenomena, foremost among these is the invention of Chirped Pulse Amplification, now used throughout the world in Ultrafast Laboratories.
- Recipient of the 1995 R. W. Wood Prize, from the OSA, for Contributions to the field of Ultrafast Optics in particular for bringing the peak power to unprecedented levels
- Honoris Causa Doctorate from the University of Bucharest 2012
- Honoris Causa Doctorate, University Laval 2005
- Honoris causa doctorate, University de Quebec, 1998
- Recipient of the 1991 Research Excellence Award, College of Engineering, University of Michigan
- Named the A. D. Moore Distinguished University Professor of Electrical Engineering and Computer Science, 1995
- Visiting Professor, Technical University of Vienna (Summer) 1996
- Honorary Professor, Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Sciences, Xi'an, China, 1997
- Academic Advisor, State Key Laboratory of Transient Optics Technology, Xi'an, China, 1997
- Advisory Board Member of the Laboratoire d'Utilization des Lasers Intenses, Ecole Polytechnique, France, 1997
- Advisory Board Member for the Mathematical and Physical Sciences Directorate of the National Science Foundation, 1997
- Advisory Board Member for the NSF Nuclear/High Energy Physics, National Science Foundation Center of Excellence, 1997
- Advisory Board Member for the Center of Theoretical Optics
- Member of Editorial Board of *Laser Focus*
- Member of the Board of Editors for Applied Physics B
- Professor, Institut National de Recherche Scientifique, Université du Québec, Québec, Canada, 1990
- Visiting Professor, Sept. - Dec. 1994 (sabbatical), University of Tokyo, Japan
- Professor of Physics - Chaire Municipale, 1994, Université Joseph Fourier at Grenoble, France
- Chevalier de l'ordre des Palmes Académiques

PUBLICATIONS; Publications 387, H index 91 (Google Scholar)

P. Chen and G. Mourou Physical, Phys. Rev. Lett. 118, 045001 (2017) Accelerating Plasma Mirrors to Investigate the Black Hole Information Loss Paradox

M.L. Zhou, X.Q. Yan, G. Mourou, J.A. Wheeler, J.H. Bin, J. Schreiber and T. Tajima, Phys. Plasmas **23**, 0431129, (2016) Proton acceleration by single cycle laser pulses offers a novel mono energetic and stable operating regime

Demonstration designs for the remediation of space debris from the International Space Station, T. Ebisuzaki, M. Quinn, G. Mourou, Acta Astronautica 112. 2015

Design and properties of a coherent amplifying network laser,

- R. Soulard, M. Quinn, G. Mourou, *Applied Optics* 54 15. 2015
- A. Gonoskov, A. Bashinov, I. Gonoskov, C. Harvey, A. Ilderton, A. Kim, M. Marklund, G. Mourou, and A. Sergeev, *Anomalous Radiative Trapping in Laser Fields of Extreme Intensity*, *Phys. Rev. Lett.* **113**, 014801 – July 2014
- R. Soulard, M. Quinn, G. Mourou, ICAN: A novel laser architecture for space debris removal, *Acta Astronautica* 105. 2014
- M. Quinn et al, The IZEST Framework, *Euro. Phys. J. Spec. Top.* 223, 6. 2014
- G. Mourou, T. Tajima, M. Quinn, J. Wheeler (eds), Zetta-Exawatt Science and Technology, *Euro. Phys. J. Spec. Top.* 223, 6. 2014
- V.YU. Bychenkov, A.V. Brantov and G. Mourou, Tc-99m production with ultrashort Intense laser pulses, *Laser and Particle Beams* 32, 605 (2014)
- B.M Hegelich, G. Mourou and J. Rafelski, Probing the Quantum Vacuum with ultra intense laser Pulse, *Eur. Phys. J. Special Topics*, 223, 1105 (2014)
- I.V. Sokolov, G.A. Mourou and N.M. Naumova, Effect of radiation reaction on Particle motion and production in IZEST-Strong Field *Eur. Phys. J. Special Topics*, 223, 1045(2014)
- G. Mourou, S. Mironov, E. Khazanov and A. Sergeev, Single cycle thin film compressor opening the door to Zeptosecond-Exawatt Physics, *Eur. Phys. J. Special Topics*, 223, 1181(2014)
- T. Seggebrock, I. Donmair, T. Tajima, G. Mourou and F. Gruner The pulse Intensity-duration Conjecture:Evidence from free-electron lasers, *Prog. Theor. Exp.Phys.* 2014, 013A062
- C. Riconda, S. Weber, L. Lancia, J.-R. Marques, G. A. Mourou, and J. Fuchs, Spectral characteristics of ultra-short laser pulses in plasma amplifiers, *PHYSICS OF PLASMAS* 20, 083115 (2013)
- Gerard Mourou, Bill Brocklesby, Toshiki Tajima, and Jens Limpert, The future is Fiber Accelerators, *Nature Photonics*, Vol.7, 258-261 (2013)
- Antonin Borot, Arnaud Malvache, Xiaowei Chen, Aurelie Jullien, Jean-Paul Geindre, Parick Audebert, Gérard Mourou, Fabien Quéré, and Rodrigo Lopez-Martens, Attosecond control of collective electron motion in plasmas, *Nature Physics*, 8, 416-421 (2012)
- Naumova N.M., Sokolov I.V., Nees J.A., Mourou G.A., Radiation back-reaction and pair creation in the interaction of QED-strong laser fields with electron beams, *Proc SPIE* 7994, 799424 (2010).
Published: 2011.
- Sokolov I.V., Naumova N.M., Nees J.A., Mourou G.A., Pair creation in QED-strong pulsed laser fields, *KEK Proceedings* 2010-13, p. 93 (2011).
- G.A. Mourou and T. Tajima, More intense Shorter Pulse, *SCIENCE* VOL 331, 7, p 41, JANUARY (2011)
- Mourou, G. A, Fisch, N. J. Malkin, V. M. ; Toroker, Z.; Khazanov, E. A. ; Sergeev ;Tajima, T, Le Garrec, B. •Exawatt-Zettawatt pulse generation and applications, *OPTICS*

Sergey Mironov, Vladimir V. Lozhkarev, Vladislav N. Ginzburg, Ivan V. Yakovlev, Grigory Luchinin, Andrey Shaykin, Efim A. Khazanov, Alexey Babin, Eugeny Novikov, Sergey Fadeev, Alexander M. Sergeev, and Gerard A. Mourou, Second-Harmonic Generation of Super Powerful, Femtosecond Pulses Under Strong Influence of Cubic Nonlinearity, IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS, 99, 1 (2010)

Igor V. Sokolov, Natalia M. Naumova, John A. Nees, and Gérard A. Mourou, Pair Creation in QED-Strong Pulsed Laser Fields Interacting with Electron Beams Phys. Rev. Lett. 105, 195005 (2010)

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V. Sokolov, N. M. Naumova, J. A. Nees, G. A. Mourou, V. P. Yanovsky, Dynamics of Emitting Electrons in Strong Electromagnetic Fields, Phys. Plasmas (2009); arXiv:0904.0405.

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N. M. Naumova, I. V. Sokolov, V. T. Tikhonchuk, T. Schlegel, J. A. Nees, C. Labaune, V. P. Yanovsky, and G. A. Mourou, Electron Radiation Self-Force and Ion Acceleration at Super-High Laser Intensities, AIP Conf. Proc. 1153 (2009).

N. Naumova, T. Schlegel, V. T. Tikhonchuk, C. Labaune, I. V. Sokolov, G. Mourou, Hole boring in a DT pellet and fast ion ignition with ultraintense laser pulses, Phys. Rev. Lett. 102, 025002 (2009).

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- N. Naumova, I. Sokolov, J. Nees, A. Maksimchuk, V. Yanovsky, and G. Mourou, Attosecond Electron Bunches, *Phys. Rev. Lett.* 93, 195003 (2004).
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Electrical signals are measured (analyzed and displayed) with picosecond resolution by the electro-optic sampling of the signal being analyzed in a traveling wave Pockels cell (32). Sampling pulses, from an optical pulse generator (10) such as a colliding pulse mode-locked laser, of subpicosecond...

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A semiconductor body, having deep lying charge carrier trapping centers, as by being doped with a deep-lying impurity to a concentration such that, at cryogenic temperature, the body is capable of holding off a multi-kilovolt DC bias without thermal instability and of switching the bias with...

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In one aspect the invention provides a method for laser induced breakdown of a material with a pulsed laser beam where the material is characterized by a relationship of fluence breakdown threshold (F_{th}) versus laser beam pulse width (T) that exhibits an abrupt, rapid, and distinct change or...

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