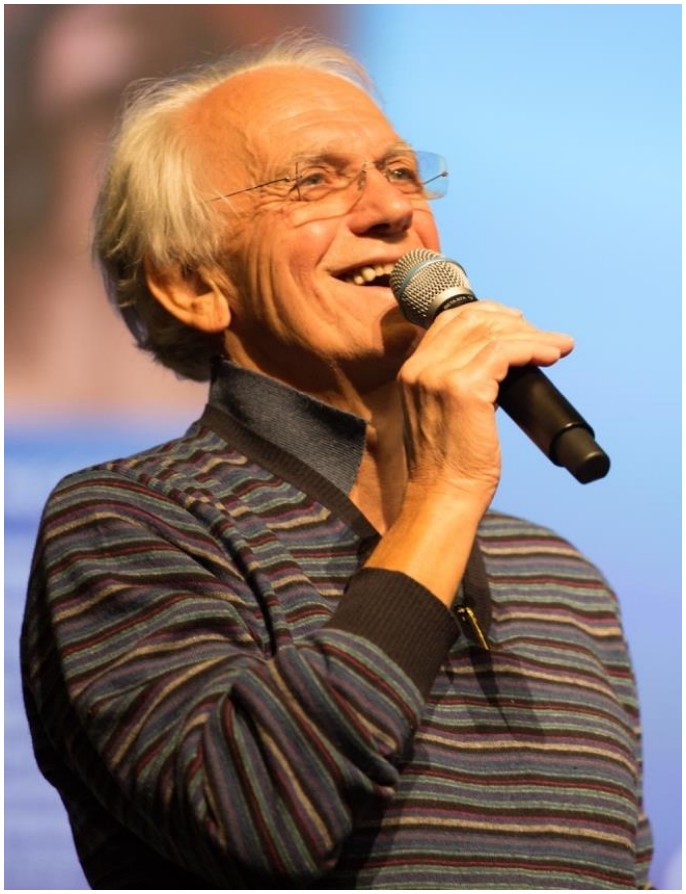
UNIVERSITATEA DE VEST DIN TIMIȘOARA

DOCTOR HONORIS CAUSA SCIENTIARUM

Prof. dr. GÉRARD A. MOUROU
Laureat al Premiului Nobel pentru Fizică



Timișoara, 31 mai 2019

Cuvânt
la deschiderea ceremoniei de acordare a titlului de
DOCTOR HONORIS CAUSA SCIENTIARUM
al Universității de Vest din Timișoara
domnului Prof. dr. Gérard Albert MOUROU

Stimate domnule profesor Gérard Albert MOUROU,
Stimați membri ai Comunității Academice,
Stimați invitați,
Dragi studenți,
Onorat auditoriu,

Comunitatea Academică a Universității de Vest din Timișoara este preocupată constant atât de promovarea celor mai remarcabile rezultate științifice, cât și de elogierea și recunoașterea meritelor marilor personalități ale lumii științifice care au lăsat o amprentă importantă asupra progresului cunoașterii umane. Nu poate fi nimic mai onorant pentru o universitate decât să primească în rândurile doctorilor săi onorifici o personalitate ca cea a domnului Profesor Gérard Albert MOUROU, laureat al Premiului Nobel pentru Fizică în anul 2018.

Profesorul Gérard A. Profesor Mourou este membru al Înaltului Colegiu al Școlii Politehnice (Haut Collège de l'École Polytechnique) și Profesor emerit A. D. Moore la Universitatea din Michigan, Ann Arbor, Michigan. În prezent este directorul noului centru IZEST-Centrul internațional pentru știință și Tehnologie Zetta-Exawatt, din cadrul Școlii Politehnice (École Polytechnique). S-a născut în Albertville, Savoia și a studiat fizica la Universitatea din Grenoble. Doctoratul în Fizică l-a obținut la Universitatea Paris VII în anul 1973.

A petrecut o mare parte din cariera sa în SUA (30 de ani). A slujit în special la Universitatea din Rochester (NY) și Universitatea din Michigan, Ann Arbor (MI). La Universitatea din Michigan a fost fondatorul și directorul unui Centru de Excelență al Fundației Naționale pentru Știință (National Science Foundation) cunoscut sub numele de Centrul de Știință Optică Ultrarapidă (Ultrafast Optical Science) - CUOS.

Gérard Mourou este membru al Academiei Naționale de Inginerie a SUA, membru extern al Academiei de Științe a Rusiei, membru extern al Academiei de Științe a Austriei, membru extern al Academiei Lombarde de Științe și Arte (Italia) și membru de onoare al Academiei Române. Profesorul Gérard Mourou este recunoscut la nivel mondial pentru contribuțiile sale în știința și tehnologia ultra-rapidă, cu implicații majore în domeniile electronicii, optoelectronicii, arheologiei și medicinei.

Cea mai importantă contribuție a sa este cu siguranță invenția de la Universitatea din Rochester din anul 1985, realizată împreună cu studentul său, Donna Strickland, privind tehnica de amplificare laser utilizată universal astăzi și cunoscută sub numele de Amplificarea Pulsului Chirp (CPA). Această tehnică a făcut posibilă o creștere impresionantă a puterii de vârf a laserilor și a fost poarta de acces pentru regimul de atto-secundă și pentru interacțiunile neliniare relativiste. *Pentru aceste rezultate a fost distins în 2018 cu Premiul Nobel pentru Fizică.*

La întoarcerea sa în Franța, profesorul Gérard MOUROU a propus crearea unui centru european dedicat laserilor de mare putere ELI (Extreme Light Infrastructure). Cele trei componente ale centrului sunt în stadii avansate de finalizare în trei țări din Europa de Est: Republica Cehă, România și Ungaria. Ținta finală este obținerea celor mai puternice impulsuri laser produse vreodată.

Stimate domnule profesor Gérard Albert MOUROU,

Prin acordarea titlului de Doctor Honoris Causa Scientiarum, Universitatea de Vest din Timișoara recunoaște meritele dumneavoastră deosebite pe tărâmul științei și este convinsă că, prin alăturarea Domniei Voastre comunității academice pe care o reprezint, prestigiul intituției noastre, instituție din care acum faceți parte, se va consolida. Suntem convinși ca prezența dumneavoastră în rândul doctorilor noștri onorifici va fi un puternic catalizator pentru studenții noștri care au ales să învețe limbajul fizicii.

Vă urez multă sănătate și putere de muncă, pentru a putea continua cu aceeași pasiune și dăruire atât activitatea dumneavoastră remarcabilă în domeniul fizicii laserilor cât și cea de implicare în dezvoltarea unuia dintre ele mai ambițioase proiecte de infrastructură de cercetare din Europa.

Prof. univ. dr. Marilen-Gabriel Pirtea

Rectorul Universității de Vest din Timișoara

Address

at the opening of the ceremony for awarding the title of

DOCTOR HONORIS CAUSA SCIENTIARUM

of the West University of Timișoara

to Prof. Gérard Albert MOUROU, PhD

Dear Professor Gérard Albert MOUROU,
Distinguished members of the academic community,
Dear guests,
Dear students,
Ladies and gentlemen,

The Academic Community of the West University of Timișoara has been continuously preoccupied by the promotion of the most remarkable scientific results as well as by the recognition and praise of the merits of famous personalities in the world of science, who have left their important imprint on the progress of human knowledge. There is nothing more honorable for a university than to include among its honorary doctors a personality such as Professor Gérard Albert MOUROU, Nobel Prize laureate for Physics in 2018.

ProfessorGerard A. Mourou is member of the High College of the Polytechnic School (Haut Collège de l'École Polytechnique) and A.D. Moore Professor emeritusat the Universityof Michigan, Ann Arbor. At present, he is director of the new IZEST centre –the Zetta-Exawatt International Centre for Science and Technology of the Polytechnic School (École Polytechnique).

He was born in Albertville, Savoy and he studied Physics at the University of Grenoble. He obtained his PhD degree in Physicsat theUniversity Paris VII, in 1973.

He spent much of his career in the US (30 years). He worked especially at the University ofRochester (NY) and the University of Michigan, Ann Arbor (MI). At the same university, he was the founder and director of a Centre of Excellence of the National ScienceFoundation, known as the Ultrafast Optical Science Centre (CUOS).

Gérard Mourou is a member of the US National Academy of Engineering, an associate member of the Russian Academy of Sciences, of the Austrian Academy of Sceinces, of the Lombard Academy of Sciences and Arts (Italy) and an honorary member of the Romanian Academy. ProfessorGérard Mourou is well-known globally for his contributions to high-speed science and technology,with major implications in the fields of electronics, optoelectronics, archeology and medicine.

His most important contribution is for sure his invention at the University of Rochester, in 1985, which he made together with his student, Donna Strickland – the laser amplification technique which is universally used today and is known under the name of Chirped Pulse Amplification (CPA). This technique made it possible for maximums to increase impressively and constituted the access gate to the atto-second regime and to non-linear relativist interactions. *For these results he was awarded the Nobel Prize in Physics in 2018.*

Upon his return to France, professorGérard MOUROUsuggested the setting up of European centre dedicated to the ELI (Extreme Light Infrastructure) high power lasers.The three branches of the centre are very close to being launched in three countries in Eastern Europe: the Czech Republic, Romania and Hungary. The aim of this centre is to obtain, in the end, the most powerful laser impulses ever produced.

Dear Professor Gérard Albert MOUROU,

By awarding the Doctor Honoris Causa Scientiarum title to you, the West University of Timișoara recognizes your outstanding merits in the field of science and it rests assured that, by your joining the academic community that I represent, the prestige of our institution, that you are now part of, will certainly increase. We are convinced that your presence among our honorary doctors will be a strong catalyst for our students who have chosen to study physics.

I wish you health and dedication so that you can passionately continue both your remarkable activity in the field of laser physics and your involvement in the development of one of the most ambitious research infrastructure projects in Europe.

Prof. Marilen-Gabriel Pirtea, PhD

Rector of the West University of Timișoara

LAUDATIO
în onoarea
domnului prof. dr. Gérard Albert MOUROU
cu ocazia acordării titlului de
DOCTOR HONORIS CAUSA SCIENTIARUM

Stimate domnule Rector,
Stimate domnule Președinte al Senatului UVT,
Stimaţi membri ai Comunităţii Academice,
Distinsă asistenţă,

Este o deosebită onoare pentru Comisia de Laudatio alcătuită în vederea acordării titlului de Doctor Honoris Causa Scientiarum să vă prezinte în această şedinţă solemnă a Senatului Universităţii de Vest din Timişoara, unul dintre cei mai importanţi fizicieni ai timpului nostru, Profesorul Gèrard Mourou, laureat al Premiului Nobel pentru fizică în 2018 alături de studentul său, Donna Strickland, pentru tehnica de amplificare laser utilizată universal astăzi și cunoscută sub numele de Amplificarea Pulsului Chirp (CPA).

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Domnul Profesor Gèrard Mourou s-a născut în Albertville, Savoia, Franţa, în anul 1944. Este licenţiat în Fizică al Universităţii din Grenoble, Franţa din anul 1967. În anul 1970 a primit diploma pentru absolvirea celui de al treilea ciclu de studii de la Universitatea din Orsay. A susţinut teza de doctorat în Fizică la Universitatea Paris VII în anul 1973. A petrecut o mare parte din cariera sa în SUA (30 de ani). A activat în special la Universitatea din Rochester (NY) și Universitatea din Michigan (MI). La Universitatea din Michigan a fost „A.D. Moore Distinguished University Professor" la Departamentul de Inginerie electrică şi Ştiinţa calculatoarelor din cadrul Colegiului de Inginerie al Universităţii din Michigan. La aceeași universitate a fost fondatorul şi directorul unui Centru de Excelenţă al Fundaţiei Naţionale pentru Ştiinţă (National Science Foundation) cunoscut sub numele de Centrul de Ştiinţă Optică Ultrarapidă (Ultrafast Optical Science) - CUOS. La intoarcerea în Franța din SUA, în perioada 2005-2009, Profesorul Gérard Albert MOUROU a fost Director al Laboratorului de Optică Aplicată al Şcolii Politehnice (ENSTA/École Polytechnique) şi Profesor la Şcoala Politehnică (École Polytechnique). Din anul 2009 este Profesor membru al Înaltului Colegiu al Şcolii Politehnice (Haut Collège de l'École Polytechnique). În prezent Gérard Albert MOUROU este director al Centrului internaţional pentru ştiinţă şi Tehnologie Zetta-Exawatt, din cadrul Şcolii Politehnice (École Polytechnique).

Ca o recunoaştere a contribuţiilor de excepţie aduse ştiinţei şi tehnologiei laserilor, Profesorul Gérard Albert MOUROU a fost ales membru al Academiei Naţionale de Inginerie a SUA. Este membru extern al Academiei de Ştiinţe a Rusiei, membru extern al Academiei de Ştiinţe a Austriei, membru extern al Academiei Lombarde de Ştiinţe şi Arte (Italia) şi membru de onoare al Academiei Române. De asemenea a primit premiul Wood al Societăţii de Optică, Premiul Edgerton – din partea SPIE, Premiul Sarnoff din partea IEEE, Premiul IEEE / LEOS pentru electronică cuantică în anul 2004, Premiul Willis E. Lamb pentru știința laserului și optica cuantică, în 2005, Premiul Charles Hardes Townes, în 2009, Premiul Berthold Leibinger și Premiul Frederic Ives Meda / Jarus Quinn, în 2016.

Profesorul Gérard Mourou este recunoscut la nivel mondial pentru contribuţiile sale din domeniul ştiinţei câmpului ultra-înalt (ultrahigh field science) . Contribuţiile sale de excepţie ating multe domenii ale științei și tehnologiei care se extind de la electronica de mare viteză la chirurgia oftalmologica cu pulsuri laser de femtosecundă și mai nou la știința optică relativistă și ultrarelativistă. Împreună cu colegii de la CUOS, a realizat lucrări de pionierat în:

a) optica relativistă neliniară, cu demonstrarea auto-focalizării relativiste,
b) Accelerarea cu laser a plasmelor electronice,
c) Accelerarea cu laser a plasmei ionilor,
d) Reacția nucleară cu ionii produși de laser.
e) generarea de raze X

Cea mai importantă contribuție a sa este cu siguranță invenția de la Universitatea din Rochester din anul 1985, realizată împreună cu studentul său, Donna Strickland, privind tehnica de amplificare laser utilizată universal astăzi și cunoscută sub numele de Amplificarea Pulsului Chirp (CPA). Pentru această invenţie a fost distins în 2018 cu Premiul Nobel pentru Fizică. Această tehnică face posibilă atât obţinerea de maxime mari de putere, cât şi miniaturizarea sistemelor laser.

În domeniul aplicaţiilor, trebuie menţionată activitatea de pionerat în oftalmologia de femtosecunde, activitate desfăşurată alături de colegi din domeniul medicinii la Universitatea din Michigan. Astfel a fost dezvoltată tehnologia IntraLASIK, unde laserul de femtosecunde este folosit pentru realizarea de tăieri foarte precise în transplantul de cornee sau în corectarea miopiei. De aceste tratamente au beneficiat milioane de pacienţi.

În 2006 a propus construirea în Europa a unui centru dedicat laserilor de mare putere ELI (Extreme Light Infrastructure - Infrastructură de Lumină Extremă) şi a condus un program ELI-Preparatory Phase, finanţat de Comisia Europeană, din care au făcut parte cercetători din 14 ţări europene inclusiv România. Patru ani mai târziu, în 2010, s-a decis încredințarea construirii acestui proiect României, Ungariei și Republicii Cehe. Cel mai complex dintre acești trei piloni ELI, ELI-NP, pilonul Fizicii Nucleare, cu o contribuție esențială a profesorului Gerard Mourou, se construiește la Măgurele.

Aceasta provocare majora pentru sistemele de cercetare atât la nivelul Comunității Europene cât şi la nivel naţional a avut o contribuţie pozitivă şi la dezvoltarea învăţământului de fizică la Universitatea de Vest. Astfel, încă din anul 2013, la masterele din cadrul Facultăţii de

Fizică sunt organizate cursuri pe tematica laserelor de mare putere, predate de cercetători de la ELI-NP. De asemenea, în ultimii ani au fost derulate mai multe proiecte de cercetare în colaborare cu ELI-NP şi s-a pus bazele unui grup în domeniul modelării interacţiunii laser-plasmă în strânsă legătură cu Universitatea din Bordeaux.

Contribuţiile esenţiale aduse la dezvoltarea Fizicii laserilor, bazate pe o înţelegere profundă a conceptelor teoretice, o abilitate experimentală excepţională şi o intuiţie aplicativă remarcabilă ne îndeptăţesc să susţinem fără nici o rezervă acordarea titlului de Doctor Honoris Causa Scientiarum al Universităţii de Vest din Timişoara domnului Profesor Gérard Albert MOUROU. Suntem onoraţi să urăm „Bun venit" în comunitatea noastră Domniei Sale, ca o recunoaştere simbolică a remarcabilelor sale merite ştiinţifice şi a impulsului semnificativ pe care l-a dat dezvoltării unei structuri europene de cercetare în domeniul laserilor de mare putere.

COMISIA DE EVALUARE ȘI DE ELABORARE A LAUDATIO

Preşedinte:
Prof. univ. dr. Marilen Gabriel PIRTEA, *Rectorul Universităţii de Vest din Timişoara*

Membri:
Prof. univ. dr. Viorel Negru, *Președintele Senatului Universităţii de Vest din Timişoara*
Prof. univ. dr. Nicolae Zamfir, *Membru al Academiei Române, Director general al Institutului Național de Fizică și Inginerie Nucleară „Horia Hulubei", Directorul proiectului Extreme-Light Infrastructure - Nuclear Physics (ELI-NP)*
Conf. univ. dr. Octavian Mădalin Bunoiu, *Prorector al Universităţii de Vest din Timişoara*
Prof. univ. dr. Daniel Vizman, *Decan al Facultăţii de Fizică a Universităţii de Vest din Timişoara*
Dr. Daniel Petru Funeriu
Prof. dr. Emmanuel d'Humières, *cadru didactic universitar la Universitatea Bordeaux, Franța*
Prof. univ. dr. habil. ing. Titus Vlase, *cadru didactic al Facultăţii de Chimie, Biologie, Geografie a Universităţii de Vest din Timişoara*

LAUDATIO
In honour of
Prof. Dr. Gérard Albert MOUROU
Upon awarding the title of
DOCTOR HONORIS CAUSA SCIENTIARUM

Honourable Rector,
Mr. President of the WUT Senate,
Members of the Academic Community,
Distinguished guests,

It is a great honour for the Laudatio Committee, set up for awarding the title of Doctor Honoris Causa Scientiarum, to introduce you in this formal sitting held by the Senate of the West University of Timișoara, to one of the most important physicists of our time, Professor Gèrard Mourou, Nobel Laureate in Physics in 2018 alongside his student, Donna Strickland, for the laser amplification technique used worldwide nowadays and known as Chirped Pulse Amplification (CPA).

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Professor Gèrard Mourou was born in Albertville, Savoy, France, in 1944. He has been the holder of a Bachelor's degree in Physics from the University of Grenoble, France since 1967. In 1970, he received a diploma for graduating from the third course/level of study at the University of Orsay. He defended his PhDthesis in Physics at Paris VII University in 1973. He spent much of his career in the USA (30 years). He worked at the University of Rochester (NY) and at the University of Michigan (MI). At the University of Michigan, he was "A.D. Moore Distinguished University Professor" at the Department of Electrical Engineering and Computer Science within the College of Engineering. At the same university, he became the founder and director of a Centre of Excellence of the National Science Foundation, known as the Ultrafast Optical Science Centre (CUOS). On his return to France from the US, during 2005-2009, Professor Gérard Albert Mourou was Director of the Applied Optics Laboratory of the Polytechnic School (ENSTA/École Polytechnique) and Professor at the Polytechnic School (École Polytechnique). Since 2009, he has been a Professor of the High School of the Polytechnic School (Haut Collège de l'École Polytechnique). Gérard Albert Mourou is currently the director of the Zetta-Exawatt International Centre for Science and Technology, of the Polytechnic School (École Polytechnique).

In recognition of the extraordinary contributions to laser science and technology, Professor Gérard Albert Mourou was elected a member of the US National Academy of Engineering. He is an associate member of the Academy of Sciences of Russia, of the Academy of Sciences of

Austria, of the Lombard Academy of Sciences and Arts (Italy) and honorary member of the Romanian Academy. He also received the Wood Award of the Optics Society, the Edgerton Prize from SPIE, the Sarnoff Prize from IEEE, the IEEE / LEOS Quantum Electronics Prize in 2004, the Willis E. Lamb Award for Laser Science and Quantum Optics in 2005, the Charles Hardes Townes Prize in 2009, the Berthold Leibinger Prize and the Frederick Ives Meda / Jarus Quinn Prize in 2016.

Professor Gérard Mourou is world-renowned for his contributions to the ultra-high field science.His exceptional contributions cover many areas of science and technology ranging from high-speed electronics to ophthalmic surgery with femtosecond laser pulses and, more recently, relativistic and ultra-relativistic optical science. Together with his colleagues from CUOS, he performed pioneering works in:

a) Relativistic nonlinear optics, with the demonstration of relativistic self-focusing;
b) Laser acceleration of electronic plasma;
c) Laser acceleration of ions plasma;
d) Nuclear reaction with laser-produced ions;
e) X-ray generation

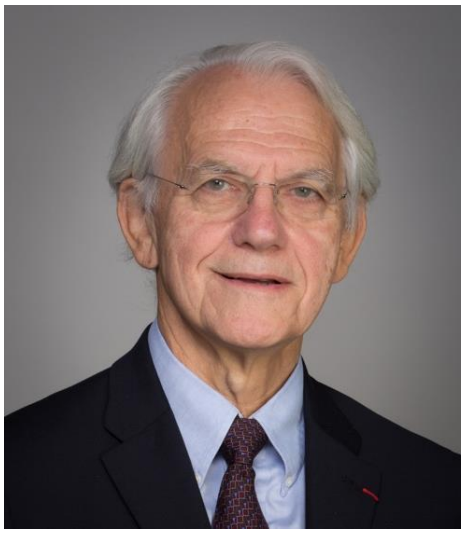
His most significant contribution is undoubtedly the invention ofthe laser amplification technique used worldwidenowadays and known as Chirped Pulse Amplification (CPA), jointly conducted with his student, Donna Strickland, at the University of Rochester in 1985.For this invention he was awarded the Nobel Prize in Physics in 2018.This technique makes it possible to obtain both high power maximums and miniaturization of laser systems.

In the field of applications, pioneering activity in femtosecond ophthalmology must be noted, this being carried out jointly, with colleagues in the field of medicine at the University of Michigan.As a result, Intra LASIK technology has been developed, where the femtosecond laser is used to make very precise cuts in corneal transplantation or to cure myopia. These treatments have benefited millions of patients.

In 2006, he suggested the construction of a European centre dedicated to ELI (Extreme Light Infrastructure) high-power lasers and conducted an ELI-Preparatory Phase program, funded by the European Commission, with researchers from 14 countries including Romania.Four years later, in 2010, it was decided to entrust the construction of this project to Romania, Hungary and the Czech Republic. The most complex of these three ELI pillars, ELI-NP, the pillar of Nuclear Physics, is being built at Măgurele, relying on the essential contribution of Professor Gerard Mourou.

This major challenge for research systems at both the European Community and national level has also made a positive contribution to the development of education in the field ofphysics at the West University. As a matter of fact, Master's programmes at the Faculty of Physics have provided lectures on the topic of high power laserstaught by ELI-NP researcherssince 2013.Similarly, several research projects have been carried out in recent years in collaboration with ELI-NPand a group was established in the field of laser-plasma interaction modelling in conjunction with the University of Bordeaux.

The major contributions to the development of Laser Physics, based on a deep insight of the theoretical concepts, an exceptional experimental skill and a remarkable applicative intuition, lead us to strongly support the awarding of the title of Doctor Honoris Causa Scientiarum of the West University of Timișoara to Professor Gérard Albert Mourou.We are honored to welcome him to our community, as a symbolic acknowledgment of his remarkable scientific merits and the significant impetus that hehas added to the development of a European research structure in the field of high power lasers.



CURRICULUM VITAE

Prof. dr. Gérard Albert MOUROU

Director
International Center for Zetta-Exawatt Science and Technology
Ecole Polytehnique
91128 Palaiseau Cedex

EDUCATION

- B.S., Physics, University of Grenoble, France, 1967
- Thèse de 3eme cycle., Physics, University of Orsay, France, 1970
- Thèse d'Etat Physique, University of Paris VII, France, 1973

PROFESSIONAL EXPERIENCE

- **Membre de l'US National Academy of Engineering**
- **Membre Etranger de l Académie de Sciences Russe**
- **Membre Etranger de l'Académie des Sciences Autrichienne**
- **Membre Etranger de l'Académie de Sciences et Lettres Lombarde, Italie**
- **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 2005-2009**
- **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,
- **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

- Nobel Prize in Physics, 2018
- 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, for Contributions to the field of Ultrafast Optics in particular for unprecedented levels
- 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, Universite du Quebec, Quebec, 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 Academiquesstricland

Kungl. Vetenskapsakademien
har den 2 oktober 2018
beslutat att med det

NOBELPRIS

som detta år tillerkännes den
som inom fysikens område gjort
den viktigaste upptäckten
eller uppfinningen med ena hälften
gemensamt belöna

GÉRARD MOUROU

DONNA STRICKLAND

för deras metod att alstra
högintensiva ultrakorta
optiska pulser

STOCKHOLM DEN 10 DECEMBER 2018

PUBLICATIONS

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PATENTS HELD

Patent No. 4,218,618 "Apparatus for Switching High Voltage Pulses"

Patent No. 4,301,362 "Light Activated Solid State Switch"

Patent No. 4,347,437 "Avalanche Effect Light Activated Solid State Switching"

Patent No. 4,329,686 "Microwave Pulse Generation with Light Activated Semiconductor Switch and Control of Transmission of Microwaves Using Light Activated Semiconductors"

Patent No. 4,425,652 "Laser System Using Organic Dye Laser and Laser Amplifier for Generation of Picosecond Laser Pulses"

Patent No. 4,413,178 "Sweep Drive Circuit for Streak Camera Image Converter

Patent No. 4,431,914 "Photoelectron Switching in Semiconductors in the Picosecond Domain"

Patent No. 4,446,425 "Measurement of Electrical Signal with Ps Resolution"

Patent No. 4,434,399 "Electro-optical Wide Band Signal Measurement System"
Patent No. 4,896,119 "CW Pumped Variable Repetition Rate Regenerative Laser Amplifier"
Patent No. 5,235,606 "Amplification of Ultrashort Pulses with Nd:Glass Amplifiers Pumped by Alexandrite Free Running Laser"
Patent No. 5,353,291 "Laser Synchrotron Source"
Patent No. 5,726,855 "Apparatus and Method for Enabling the Creation of Multiple Extended Conduction Paths in the Atmosphere"
European Patent No. 754103 "Method for Controlling Configuration of Laser Induced Breakdown and Ablation"
Patent No. 5,757,839 "Optical Pumping Method and Apparatus"
Patent No. 5,844,288 "Photoconductive Step-function Sampler and Detector"
Patent No. 6,146,375 "Device and Method for Internal Surface Sclerostomy"
Patent No. 6,160,252 "Photoconductive Element and Method for Measuring High Frequency Signals"
Patent No 6,995,336 "Method for Forming Nanoscale Features"

PATENT APPLICATIONS

Hybrid Grating/Prism Negative and Positive Group Velocity Dispersion Systems (Kane, Squier, Mourou, Rudd)