

Curriculum Vitae of Majed CHERGUI

Laboratoire de Spectroscopie Ultrarapide (LSU) and Lausanne Centre for Ultrafast Science (LACUS), Ecole Polytechnique Fédérale de Lausanne (EPFL), Faculty of Basic Sciences, ISIC CH H1 625, Station 6, CH-1015 Lausanne, Switzerland.

Higher Education

1977 Chelsea College, University of London. BSc. in Physics and Mathematics
1978 Université Paris-Sud, Orsay. MSc in Atomic and Molecular Physics
1981 Université Paris-Sud, Orsay. PhD in Physics
1986 Université Paris-Nord, Villetaneuse. Doctorat d'État (Habilitation) in Physics

Professional experience

1980-1982 Assistant lecturer of Physics (Université Paris-Nord)
1982-1990 Research assistant at the National Centre for Scientific Research (C.N.R.S) at Univ. Paris-Nord, then Univ. Paris-sud
1987-1988 Fellow of the Alexander von Humboldt Foundation at the Freie Universität Berlin (Germany)
1990-1993 Senior research Assistant at the Inst. for Experimental Physics of the Freie Universität Berlin
1993-2003 Full Professor of Experimental Condensed Matter Physics at the Université de Lausanne (Switzerland)
1996 Guest Professor, National University of Quilmes-Buenos Aires (Argentina)
1999-2000 Research Associate, American University of Beirut (Lebanon)
2003- Professor of Physics and Chemistry, Ecole Polytechnique Fédérale de Lausanne, Switzerland
2009-2010 Guest Professor, Max-Born-Institut and Helmholtz-Zentrum (Berlin, Germany)
2016-2017 Guest Professor, Fritz-Haber-Institut der Max-Planck Gesellschaft (Berlin, Germany)

Honours

Studentship of the British Council for Best Results 1975-1977 (UK)
Lauréat de la Fondation de France 1979 (France)
Medal of the C.N.R.S. for Best Habilitation Thesis 1986 (France)
Fellow of the Alexander von Humboldt Foundation 1987-1988 (Germany)
The Miller Award 2002 (UC-Berkeley, USA)
Honorary Professor of the University of Lausanne since 2003 (Switzerland)
The Rammal Medal 2007 (Euroscience Foundation, Strasbourg)
The Kuwait Prize for Physics 2009 (Kuwait)
The Humboldt Research Award 2010 (Germany)
Fellow of the Royal Society of Chemistry since 2014 (UK)
Earle K. Plyler Award 2015 (American Physical Society)
Fellow of the European Physical Society (EPS) since 2015
Morino Lecturer 2015 (Morino Foundation, Japan)
The Edward Stern Prize for Lifetime achievements 2015 (International X-ray Absorption Society)
Fellow of the American Physical Society since 2015 (USA)
Fellow of the Optical Society of America since 2016 (USA)
Welch Lecturer 2016 (Welch Foundation, USA)
Winner of the 2016 European Research Council (ERC) Advanced Grant
The Sir Jesse Boot Foundation Lecturer 2017 (UK)
The Khawarizmi International Award-KIA 2018 (Iran)
Foreign Correspondent of the Spanish Royal Academy of Sciences since 2018 (Spain)
Fellow of the American Crystallographic Association-ACA since 2018 (USA)

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Selected Distinguished Lectures

50th Anniversary of the Swiss National Science Foundation (Lausanne, Oct. 2002); Université de Bordeaux Public Lecture (November 2006); The Kuwait Prize Lecture (2009); Société Neuchâteloise des Sciences Naturelles (Neuchâtel, March 2010); 10th Anniversary of the Swiss Light Source (Villigen, September 2011); The Fassberg Lecture 2011 (Max Planck Institute, Göttingen); Jean Perrin Reader 2014 (French Physical Society); Morino Lecturer 2015 (Morino Foundation for Molecular Sciences, Japan); The International Year of the Light (Toledo, Spain, April 2015); The International Year of the Light (UNESCO, Paris, Sept 2015); Leibniz Lecture (Potsdam, May 2016); Welch Lecturer (Houston, Oct. 2016); Société Chimique de Genève (Geneva, Feb. 2017); Inaugural Visionary Talk of the OSA Frontiers in Optics/Laser Science (FiO+LS) meeting (Washington DC, Sept. 2017); 75th Lecturer of the Sir Jesse Boot Foundation (Univ. Nottingham, Nov. 2017); Spanish Royal Academy of Sciences (Madrid, 2018); Inaugural talk of the George Porter Laboratory (University of Sheffield, March. 2018)

Committees and Services

1994-2000 Deputy Director of the Institute of Experimental Physics, Université de Lausanne
1999-2003 Scientific Commission of the Swiss Academy of Natural Sciences
2000-2003 Steering committee of the ESF-ULTRA programme
2000 Auditor of the Physics Department of the University of Cyprus.
2001 Government of Cyprus consultant on the SESAME synchrotron project.
2001-2003 Director of the Institut de Physique de la Matière Condensée (Univ. de Lausanne)
2002-2008 Chairman of the GPD-European Physical Society
2003-2006 Laser Science Facility Panel at the Rutherford Appleton Laboratory (UK)
2006-2010 Chairman of the DYNA-Network of the European Science Foundation 'Ultrafast Structural Dynamics in Physics, Chemistry, Biology and Material Science'
2006-2008 Science Advisory Committee of the European Synchrotron Radiation Facility (ESRF-Grenoble)
2008-2011 Programme Committee of the X-ray Free electron source Linear Collider Light Source (LCLS-Stanford)
2008- Jury of the UNESCO-L'Oréal Prize "Women in Science"
2009-2016 Jury of the Paul Ewald Fellowship (Volkswagen Foundation, Hannover, Germany)
2012- Programme committee of the Free Electron Laser FERMI@Elettra (Trieste, Italy)
2014- External Advisory Board of the Stanford PULSE Institute (USA)
2015 Jury of the Earle Plyler Prize (American Physical Society)
2015- Director of the Lausanne Centre for Ultrafast Science (LACUS)
Science Advisory Board of the LabEX "Physique: Atomes, Lumière, Molécules" (Paris-Saclay)
2017- Science Advisory Board of the Max-Born-Institut, Berlin.
Programme committee of the European X-ray Free Electron Laser E-XFEL (Hamburg, Germany)
2018 Review panel of the Deutsches Elektronen-Synchrotron DESY (Hamburg, Germany)
2018- Science Advisory Committee of the SOLEIL synchrotron (Saclay, France)
League of European Accelerator-based Photon Sources (LEAPS) Strategy Group on Free Electron Lasers
Swiss representative at Laser Lab Europe (LLE)

Chairmanship and advisory boards of meetings

1995 "Femtochemistry: The Lausanne Conference" (Lausanne, September 1995)
1997 Meeting on "Condensed Phase Quantum Dynamics: Applications to Chemical and Biological Systems" (Lausanne, August 1997)
1999 Workshop on "Electronic and structural Dynamics of Light-induced Processes in Bacteriorhodopsin" (Lausanne, April 1999)
2003 Workshop on Ultrafast Science with Electrons and X-rays (Montreux, April 2003)
2006-2013 International Advisory committee of the X-ray Absorption Fine Structure (XAFS) conferences

Curriculum Vitae of Prof. Majed Chergui

- 2008 Co-Chair, Workshop on Theory of X-ray Spectroscopies (Lausanne, February)
2010 Programme Chair of the Ultrafast Phenomena Conference (Snowmass, USA)
Chairman of the 1st International Conference on Ultrafast Structural Dynamics
ICUSD'10 (Lausanne, June 2010)
Since 2010 International Advisory committee of the VUVX conferences
International Advisory committee of the Ultrafast Phenomena Conferences
2012 Co-chair of the 2nd ICUSD (Berlin)
General Chair of the 18th Ultrafast Phenomena Conference (Lausanne, July 2012)
2017 Co-chair of the 4th ICUSD (Trieste, December 2017)
2018 Chairman of the “International Symposium on Ultrafast Science: From the Infrared to the X-rays” (Lausanne, November 2018)

Editorship and Editorial boards

- 1996 “Femtochemistry, Ultrafast Chemical and Physical Processes in Molecular Systems”,
(World Scientific, Singapore-London 1996)
1996-2013 Editorial Board member of *Chemical Physics Letters* (Elsevier)
2000-2003 Editorial Board member of *PhysChemComm*
2004 Guest Editor, Special Issue of *Chemical Physics* on “Ultrafast Science with Electrons
and X-rays”.
Guest Editor, Special Issue of *Europhysics News* on “Physics and Development”.
2009-2013 Editor-in-chief of *Chemical Physics* (Elsevier)
2010 Co-editor of “Ultrafast Phenomena XVII” (Oxford University Press, 2010)
2012 Co-editor of “Ultrafast Phenomena XVIII” (EDPSciences, 2013)
2013- Founding Editor-in-chief of *Structural Dynamics* (AIP Publishing/ACA)
2014- Editorial Board member of *Chemical Physics* (Elsevier) and *The Journal of Chemical
Physics* (AIP Publishing)
2017 co-editor of the Book “*Personal and scientific reminiscences: A tribute to Ahmed
Zewail*” with R. Marcus, J. M. Thomas and D.P. Zhong (World Scientific, London
2017)
Guest editor of the Special Issue of *Structural Dynamics*: “Ultrafast Structural Dynamics
- a Tribute to Ahmed H. Zewail”, Volume 4 (2017)
Guest editor of the Special Issue of *Chimia*: “*The Lausanne Centre for Ultrafast Science
(LACUS)*” Volume 5 (2017)

Professional Affiliations

American Chemical Society (ACS); American Crystallographic Association (ACA); American Physical Society (APS); Deutsche Bunsen-Gesellschaft für Physikalische Chemie e. V. (DBG); European Physical Society (EPS); European Photochemistry Association (EPA); Royal Society of Chemistry (UK); Swiss Chemical Society (SCS); Swiss Physical Society (SPS); Foreign Member of the Spanish Royal Academy of Sciences.

Languages

Arabic, English, French, German, Italian, Portuguese, Spanish

Former students and postdocs

Boris SOROKIN (2018)
Muhammed ASIF (2016)
Ingalena Zarah Stina BUCHER (2016)
Mario GUTIERREZ TOVAR (2016)
Giacomo ROSSI (2016)
Wilhelm FRISCH (2016)
Andrès BURGOS (2015)
Clelia VECCHI-MIDDLETON (2014)
Marine BOUDUBAN (2014)
Patric ZIMMERMANN (2014)
Lars MEWES (2013-2014)
Ahmed EL ZOHRY (2012)
Mariateresa SCARONGELLA (2012)
Aghiad GHAZAL (2012)
Roberto MONNI (2010)
Mirabelle PRÉMONT-SCHWARTZ (2008)

Olivier BRAEM (2007)
Laurent HEINEN (2004)
Kislon VOITCHOVSKY (2003)^o
Marie-Noelle KAMPF (2001)
Sergio VINZANI (2000)
Nicolas ATALLAH (2000)
Ashraf AL AMOUDI (1999)
Victoria CIULIN (1999)
Michel ROCHAT (1999)

Distinguished and Plenary Lectures

Annual Meeting of the German Physical Society; (Münster, March 1994): SOLVENT EFFECTS ON THE ENERGETICS AND PHOTO-INDUCED DYNAMICS OF MOLECULAR EXCITED STATES, **Keynote Lecture**

56th Okazaki Conference “Quantum Dynamics in Condensed Phases: Application to Chemical Systems” (Japan, September 1996): ULTRAFAST DYNAMICS INVOLVING RYDBERG STATES AND REACTIVE SURFACES OF SMALL MOLECULES IN THE CONDENSED PHASE, **Plenary Lecture**

Annual Meeting of the Japanese Physical Society (Yamagouchi, October 1996): SPECTROSCOPY AND DYNAMICS OF RYDBERG STATES IN THE CONDENSED PHASE, **Plenary Lecture**

International Conference on Chemistry and Physics in Matrices (Spital am Pyhrn, Austria, August 1997): CONDENSED PHASE SPECTROSCOPY AND DYNAMICS FROM MATRIX STUDIES, **Plenary Lecture**

Femtochemistry Conference IV (Leuven, July 1999): THE COHERENT MEDIUM RESPONSE TO AN IMPULSIVE CHARGE REDISTRIBUTION, **Plenary Lecture**

XIIth Conference on Ultrafast Processes in Spectroscopy (Florence, November 2001): STRUCTURAL DYNAMICS IN QUANTUM SOLIDS, **Plenary Lecture**

From Solid State to Biophysics (Dubrovnik, June 2002): ULTRAFAST PROCESSES IN COMPLEX MEDIA: THE ORIGIN OF CHEMICAL REACTIVITY AND BIOLOGICAL FUNCTIONS, **Plenary Lecture**

50th Anniversary of the Swiss National Science Foundation (Lausanne, Oct. 2002): MATTER IN ACTION, **Public Lecture**

Protein dynamics and structure, Ponce Puerto Rico (Feb. 2003): TIME RESOLVED X-RAY ABSORPTION TO PROBE DYNAMICS IN COMPLEX MOLECULAR SYSTEMS, **Plenary Lecture**

Biannual Conference on Chemistry, CHEM03, Cairo (March 2004): ULTRAFAST ELECTRONIC AND STRUCTURAL CHANGES IN CONDENSED PHASES AND BIOSYSTEMS, **Plenary Lecture**

First International Conference on Modern Trends in Physics Research (MTPR-04, Cairo April 2004): ULTRAFAST PROCESSES IN CHEMISTRY, BIOLOGY AND CONDENSED MATTER PHYSICS, **Plenary Lecture**

Danish Chemical Society Meeting (Aarhus, Jan. 2005): NEW TRENDS IN STRUCTURAL DYNAMICS BASED ON ULTRASHORT X-RAY PULSES, **Plenary Lecture**

X-Ray Absorption Fine Structure Conference (XAFS13, Stanford, July 2006): CAPTURING TRANSIENT ELECTRONIC AND MOLECULAR STRUCTURES IN LIQUIDS BY PICOSECOND X-RAY ABSORPTION SPECTROSCOPY, **Plenary Lecture**

Conference of the Società Italiana di Biofisica Pura e Applicata (Palermo, Italy, September 2006): ELECTRIC FIELDS EFFECTS AND STRUCTURAL DYNAMICS IN CHEMICAL AND BIOLOGICAL SYSTEMS, **Plenary Lecture**

European Conference on Dynamics of Molecular Systems (MOLEC XVI, Trento, Italy, September 2006): ELECTRIC FIELDS EFFECTS AND STRUCTURAL DYNAMICS IN CHEMICAL AND BIOLOGICAL SYSTEMS, **Plenary Lecture**

International Symposium on Stereodynamics (SD 2006, Arcachon, France, November 2006): ELECTRIC FIELDS AND ULTRAFAST STRUCTURAL DYNAMICS IN BIOLOGICAL SYSTEMS, **Plenary Lecture**

Université de Bordeaux (November 2006): DETERMINATION DES STRUCTURES TRANSITOIRES PAR SPECTROSCOPIE ULTRARAPIDE D'ABSORPTION X, **Public Lecture**

Distinguished and Plenary Lectures

First European XFEL User's meeting (Hamburg, Germany, January 2007): TIME RESOLVED MOLECULAR REACTIONS, **Plenary Lecture**

Annual Meeting of the Theoretical Chemists and Spectroscopists in the Netherlands (Lunteren, The Netherlands, January 2007): ULTRAFAST PROCESSES IN COMPLEX MOLECULAR SYSTEMS: FROM ELECTRIC FIELDS TO STRUCTURAL DYNAMICS, **Special Guest Lecture**

Young Chemists Workshop (Göttingen, Germany, April 2007): NOVEL METHODS FOR PROBING THE DYNAMICS OF CHEMICAL REACTIONS, **Plenary Lecture**

Conference Femtochemistry and Femtobiology 8 (Oxford, England, July 2007): ULTRAFAST MOLECULAR PROCESSES INVESTIGATED BY OPTICAL AND X-RAY SPECTROSCOPIES, **Plenary Lecture**

8th Nordic Femtochemistry Meeting (Aarhus, Denmark, October 2008): ELECTRONIC AND STRUCTURAL DYNAMICS IN MOLECULAR SYSTEMS PROBED BY ULTRAFAST LASER AND X-RAY SPECTROSCOPIES, **Opening Lecture**

ICP 2009, XXIV International Conference on Photochemistry (Toledo, Spain, July 2009): SPECTROSCOPIC X-RAY AND OPTICAL STUDIES OF ULTRAFAST MOLECULAR PROCESSES IN SOLUTIONS, **Plenary Lecture**

Femtochemistry and Femtobiology conference IX (Beijing, China, August 2009): X-RAY AND OPTICAL STUDIES OF ULTRAFAST MOLECULAR PROCESSES IN SOLUTIONS, **Plenary Lecture**

The Future of Ultrafast Soft X-ray Science (Berkeley, USA, December 2009): SPECTROSCOPIC X-RAY AND OPTICAL STUDIES OF ULTRAFAST MOLECULAR PROCESSES IN CONDENSED PHASES, **Plenary Lecture**

Société Neuchâteloise des Sciences Naturelles (Neuchâtel, Switzerland, March 2010) : LA MATIERE EN ACTION, **Public Lecture**

37th International Conference on Vacuum Ultraviolet and X-ray Physics (Vancouver, Canada, July 2010): ULTRAFAST MOLECULAR DYNAMICS IN SOLUTIONS FROM THE UV TO THE X-RAYS, **Plenary Lecture**

University of Kuwait (Kuwait City, Kuwait, December 2010): THE DANSE OF MOLECULES, **Kuwait Prize Public Lecture**

17th National Congress of Physical and Inorganic Chemistry (Cordoba, Argentina, May 2011): DINAMICA INTRA-E INTERMOLECULAR EN FASE LIQUIDA: ESTUDIOS CON ESPECTROSCOPIAS ULTRARAPIDAS OPTICAS y X, **Plenary Lecture**

19th Symposium of Photophysics and Photochemistry in Coordination Chemistry - ISPPCC (Strasbourg, France, July 2011): INTERPLAY OF CHARGE, SPIN AND STRUCTURAL DYNAMICS IN TRANSITION METAL COMPLEXES, **Plenary Lecture**

32nd International Conference on Solution Chemistry (Montpellier, France, August 2011): ULTRAFAST OPTICAL AND X-RAY STUDIES OF CHEMICAL PROCESSES IN SOLUTION, **Opening Lecture**

10th Anniversary of the SLS, Paul Scherrer Institut (Villigen, Switzerland, September 2011): ULTRAFAST RESEARCH AT THE SWISS LIGHT SOURCE (2005-2011), **Public Lecture**

The Fassberg Lecture, Max Planck Institute (Göttingen, Germany, November 2011): ULTRAFAST STRUCTURAL DYNAMICS IN SOLUTIONS: VIEWING IT WITH LIGHT FROM THE VISIBLE TO THE X-RAY DOMAIN, **Named Lecture**

Distinguished and Plenary Lectures

Black Forest Focus meeting of the Freiburg Institute of Advanced Studies (Freiburg-Germany, March 2012): STRUCTURAL DYNAMICS: FROM THE ATOM TO THE SCAFFOLD, **Named Lecture**

Annual meeting of the Swiss Physical Society (Zurich, June 2012): CHARGE, SPIN AND STRUCTURAL DYNAMICS OF MOLECULAR SYSTEMS: ULTRAFAST OPTICAL AND X-RAY STUDIES, **Plenary Lecture**

Second SFB-Conference “Molecular Switches: Elementary Processes and Applications” (Plön, Germany, August 2012): ULTRAFAST SWITCHING OF SPIN AND STRUCTURE, **Opening Lecture**

Dalton Discussion 13 “Inorganic Photophysics and Photochemistry – Fundamentals and Applications” (Sheffield, September 2012): ON THE INTERPLAY BETWEEN THE CHARGE, THE SPIN AND THE STRUCTURAL DYNAMICS IN TRANSITION METAL COMPLEXES, **Keynote Lecture**

ACS Topical Meeting (University of Puerto Rico, November 2012): NOVEL APPROACHES TO PROTEIN DYNAMICS: ULTRAFAST X-RAY AND MULTIDIMENSIONAL SPECTROSCOPIES, **Plenary Lecture**

The Copenhagen Conference on Femtochemistry (Copenhagen, Denmark, July 2013): ULTRAFAST X-RAY AND 2-DIMENSIONAL UV STUDIES OF MOLECULAR AND NANOSYSTEMS IN SOLUTION, **Opening Lecture**

Faraday Discussion 171 (Sheffield, July 2014): EMERGING PHOTON TECHNOLOGIES FOR CHEMICAL DYNAMICS, **Opening Lecture**

PHOTON14 (London, September 2014): COMBINING THE ATOMIC-SCALE RESOLUTIONS OF TIME AND SPACE, **Plenary Lecture**

Workshop on Prospective Applications of Attosecond Science (London, September 2014): ULTRAFAST CHEMICAL DYNAMICS AT THE FEW-FEMTOSECONDS LIMIT, **Introductory Lecture**

Jean Perrin Lecture 2014, French Physical Society (Dammarié-lès-Lys, France, October 2014): OU VA L'ÉLECTRON ? **Named Lecture**

PIER Photon Science and CUI Symposium (Hamburg, November 2014): TRACKING THE ELECTRON IN MOLECULAR SYSTEMS AND IN MATERIALS, **Closing lecture**

The Morino Lectures (University of Kyoto, Japan, April 2015): ULTRAFAST CORE-LEVEL SPECTROSCOPIES: APPLICATIONS IN CHEMISTRY, BIOLOGY AND MATERIALS SCIENCE, **Named Lecture**

Commemorating the International Year of the Light (University of Toledo, Spain, April 2015)
EL ORIGEN DE LA OPTICA Y EL NASCIMENTO DEL METODO EXPERIMENTAL, **Public Lecture**

Commemorating the International Year of the Light (UNESCO, Paris, September 2015)
ATOMIC RESOLUTIONS OF TIME AND SPACE WITH NEW LIGHT SOURCES, **Public Lecture**

Photonics Day 2015 (Lausanne, November 2015)
THE ORIGIN OF OPTICS AND THE BIRTH OF THE EXPERIMENTAL METHOD, **Public Lecture**

Leibniz-Kolleg, Universität Potsdam (Potsdam, May 2016)
ULTRAFAST MOLECULAR DYNAMICS IN LIQUIDS PROBED ACROSS THE SPECTRUM, **Public Lecture**

Chemistry and Physics at Low Temperatures 2016 (Biarritz, France, July 2016)
PROBING THE ULTRAFAST DYNAMICS OF MOLECULAR SYSTEMS FROM THE IR TO THE X-RAY RANGE, **André Tramer Memorial Lecture**

Vth Iberian Photochemistry Meeting (Toledo, Sept. 2016)
ULTRAFAST OPTICAL AND X-RAY STUDIES OF CHEMICAL REACTIONS, **Plenary Lecture**

The Welch Conference *FRONTIERS OF IMAGING* (Austin, Texas, October 2016)

Distinguished and Plenary Lectures

CORE-LEVEL PHOTOELECTRONS TO VISUALIZE STRUCTURAL DYNAMICS, **Public Lecture**

Société Chimique de Genève (Geneva, February 2017)

OBSERVING CHEMICAL DYNAMICS AT THE ATOMIC SCALES OF TIME AND SPACE, **Public Lecture**

Visionary Talk of the Frontiers of Optics+Laser Science (FiO+LS) OSA meeting (Washington DC, Sept. 2017)

OPPORTUNITIES WITH NOVEL ULTRAFAST DEEP-UV TO X-RAY TOOLS, **Inaugural Lecture**

XIX Simposio Brasileiro di Quimica Teorica (Lindoiias-SP, Brazil, Nov. 2017)

ULTRAFAST MOLECULAR DYNAMICS IN SOLUTIONS, **Opening Plenary Lecture**

The Sir Jesse Boot Foundation Lecture (Univ. of Nottingham, November 2017)

ULTRAFAST CHEMICAL DYNAMICS IN SOLUTIONS: OPTICAL AND X-RAY STUDIES, **Public Lecture**

La Real Academia de Ciencias Exactas, Fisicas y Naturales (Madrid, February 2018)

MATTER IN ACTION! **Inaugural Lecture as member of the Academy**

Inauguration of the Lord George Porter Laboratory (University of Sheffield, UK, March 2018)

ULTRAFAST CHEMICAL DYNAMICS IN SOLUTIONS

American crystallographic association “Coppens symposium” (Toronto, July 2018)

FROM STRUCTURE TO STRUCTURAL DYNAMICS, **Memorial Lecture**

XAFS 2018 Conference (Krakow, July 2018)

TIME-RESOLVED X-RAY SPECTROSCOPIC STUDIES OF SOLAR MATERIALS AND BIOLOGICAL SYSTEMS, **Plenary Opening Lecture**

International conference in Ultrafast Optical Science (UltrafastLight-2018, Moscow, October 2018)

ULTRAFAST X-RAY AND OPTICAL STUDIES OF MATERIALS, **Plenary Lecture**

Faraday Discussion (Ventura-Ca, April 2019)

ULTRAFAST PHOTOINDUCED ENERGY AND CHARGE TRANSFER, **Opening Lecture**

M. Chergui's Publications

1. *Lowest Rydberg State of H₂ in a Ne Matrix*
W. Böhmer, R. Haensel, N. Schwentner, E. Boursey and M. Chergui
Chemical Physics Letters 91 (1981) 66-68
2. *A New Band System in the Ultraviolet Emission-Spectrum of NO Trapped in an Argon Matrix*
M. Chergui, V. Chandrasekharan, W. Böhmer, R. Haensel, H. Wilcke and N. Schwentner
Chemical Physics Letters 105 (1984) 386-390
3. *Observation of the Rydberg States of NO Trapped in an Argon Matrix*
M. Chergui, N. Schwentner, W. Böhmer and R. Haensel
Physical Review A 31 (1985) 527-529
4. *Moment analysis of the Rydberg absorption and emission lines of NO in condensed rare gases*
M. Chergui and N. Schwentner
in Spectral Lineshapes, eds.: F. Rostas and S. Gordon (Walter de Gruyter, Berlin, 1985) 747-748
5. *Quenching of the NO Rydberg states near the first dissociation limit*
M. Chergui, Y. Le Duff, E. Boursey and N. Schwentner
in Photophysics and Photochemistry above 6 eV, ed.: F. Lahmani (Elsevier Science Publishers, Amsterdam, 1985) 423-426
6. *Rydberg states and intramolecular relaxation of NO trapped in rare gas matrices*
M. Chergui, V. Chandrasekharan, N. Schwentner and H. Kühle
in Photophysics and Photochemistry above 6 eV, ed.: F. Lahmani (Elsevier Science Publishers, Amsterdam, 1985) 433-438
7. *Pressure effects on the absorption and emission of the n=1 exciton in solid Ne*
V. Chandrasekharan and M. Chergui
in Photophysics and Photochemistry above 6 eV, ed.: F. Lahmani (Elsevier Science Publishers, Amsterdam, 1985) 275-280
8. *Calculated Frequency-Shifts of Matrix-Isolated H₂ in Solid Argon*
V. Chandrasekharan, M. Chergui, B. Silvi and R. D. Etters
Physica B & C 131 (1985) 267-272
9. *Frequency Shifts of Vibrational and Rotational States of Dilute H₂, D₂, and HD Impurities in Solid Ar under Pressur*
B. Silvi, V. Chandrasekharan, M. Chergui and R. D. Etters
Physical Review B 33 (1986) 2749-2756
10. *Energy-Resolved Fluorescence of C²II(v=1) State of NO Pure and with Argon*
Y. Le Duff, M. Chergui and E. Boursey
Chemical Physics Letters 123 (1986) 445-448
11. *Vibrational and Rotational Frequency-Shifts of Dilute H₂, D₂, and HD Impurities in Solid Ar, Kr, and Xe under Pressure*
R. D. Etters, B. Silvi, V. Chandrasekharan and M. Chergui
International Journal of Quantum Chemistry (1985) 675-686
12. *Intensity Enhancement of the NO C² II(v=0) Fluorescence in the Presence of Rare-Gases*
Y. Le Duff, M. Chergui, E. Boursey and N. Schwentner
Chemical Physics Letters 127 (1986) 557-562
13. *NO D²Σ⁺ Fluorescence Quenching by Rare Gas Atoms and van der Waals Well Depths*
M. Chergui and Y. Le Duff
Chemical Physics 105 (1986) 281-289
14. *Rydberg States of NO Trapped in Rare Gas Matrices*
M. Chergui, N. Schwentner and W. Böhmer
Journal of Chemical Physics 85 (1986) 2472-2482

M. Chergui's Publications

15. *A Model Potential for Rydberg States of Alkali Atoms in Rare Gas Matrices*
N. Schwentner and M. Chergui
Journal of Chemical Physics 85 (1986) 3458-3462
16. *An Alternative Interpretation of the Spectroscopy and Internal Dynamics of Excited Cl₂ Molecules Trapped in an Argon Matrix*
J. Le Calvé and M. Chergui
Chemical Physics Letters 132 (1986) 256-260
17. *Calculation of the Spectral Transition Frequencies of Matrix-Isolated H₂, D₂, and HD Impurities in Solid Kr and Xe under Pressure*
V. Chandrasekharan, M. Chergui, B. Silvi and R. D. Etters
Journal of Physical Chemistry 91 (1987) 1623-1628
18. *Vibrationally "Hot" Valence Luminescence of NO in Ne Matrices*
M. Chergui, N. Schwentner and V. Chandrasekharan
Journal of Luminescence 38 (1987) 150-151
19. *High-Density Excitation of Rare Gas Crystals for Stimulated Emission*
H. Nahme, T. Kessler, R. Markus, M. Chergui and N. Schwentner
Journal of Luminescence 40-1 (1988) 821-822
20. *Vibrationally Hot Emission and Electronic Relaxation of CO in Ne Matrix*
J. Bahrtdt, M. Chergui and N. Schwentner
Journal of Luminescence 40-1 (1988) 591-592
21. *Vibrationally Hot Rydberg Luminescence of NO in Ne Matrices*
M. Chergui, N. Schwentner and V. Chandrasekharan
Journal of Luminescence 40-1 (1988) 615-616
22. *Spectroscopy and Photochemistry of Au Aggregates in Rare Gas Matrices*
R. Markus, P. Moutard, M. Chergui and N. Schwentner
Journal of Luminescence 40-1 (1988) 260-261
23. *Intramolecular Electronic-to-Vibrational Energy-Conversion in NO Trapped in Xe Matrices*
F. Legay, N. Legay-Sommaire, A. Tramer, M. Chergui and N. Schwentner
Journal of Physical Chemistry 92 (1988) 261-262
24. *Rydberg Fluorescence of NO Trapped in Rare Gas Matrices*
M. Chergui, N. Schwentner and V. Chandrasekharan
Journal of Chemical Physics 89 (1988) 1277-1284
25. *Electronic and Vibrational Relaxation in Rydberg and Valence States of NO in Ne Matrices*
M. Chergui, R. Schrieffer and N. Schwentner
Journal of Chemical Physics 89 (1988) 7083-7093
26. *Mechanisms of the L²Φ-X² Π Emission of NO in Ar and Kr Matrices*
M. Chergui, N. Schwentner and V. Chandrasekharan
Journal of Chemical Physics 89 (1988) 7094-7099
27. *Cage Effect for the Abstraction of H from H₂O in Ar Matrices*
R. Schrieffer, M. Chergui, H. Kunz, V. Stepanenko and N. Schwentner
Journal of Chemical Physics 91 (1989) 4128-4133
28. *Spectra and Dynamics of the b⁴Σ⁻ State of NO in Ar and Kr Matrices*
M. Chergui, C. Crépin and A. Tramer
Chemical Physics Letters 164 (1989) 50-56

M. Chergui's Publications

29. *Nonradiative Rydberg <-> Valence Relaxation of NO Trapped in Ar, Kr, and Xe Matrices*
M. Chergui and N. Schwentner
Journal of Chemical Physics 91 (1989) 5993-6005
30. *Threshold and Cage Effect for Dissociation of H₂O and D₂O in Ar and Kr Matrices*
R. Schrieffer, M. Chergui, Ö. Ünal, N. Schwentner and V. Stepanenko
Journal of Chemical Physics 93 (1990) 3245-3251
31. *Absolute Photodissociation Quantum Yield of H₂O in Ar Matrices*
R. Schrieffer, M. Chergui and N. Schwentner
Journal of Chemical Physics 93 (1990) 9206-9207
32. *A Solid-State Laser at 4.96 μm - CO in Crystalline N₂*
H. Dubost, R. Charneau, M. Chergui and N. Schwentner
Journal of Luminescence 48-9 (1991) 853-856
33. *Charge Transfer Excitations of Doped Rare Gas Matrices*
H. Kunz, J. G. McCaffrey, M. Chergui, R. Schrieffer, Ö. Ünal and N. Schwentner
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Giovanni Chillemi, Massimiliano Anselmi, Nico Sanna, Cristiano Padrin, Lodovico Balducci, Marco Cammarata, Elisabetta Pace, Majed Chergui and Maurizio Benfatto
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M. Chergui and D. Zhong
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Malte Oppermann, Benjamin Bauer, Thomas Rossi, Francesco Zinna, Jan Helbing, Jérôme Lacour and Majed Chergui
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325. *Mahan excitons in room temperature organic-inorganic lead-based perovskites*
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S. Polishchuk, M. Puppini, A. Crepaldi, N. Colonna, R. De Gennaro, D. Dirin, O. Nazarenko, G. Gatti, S. Roth, T. Barillot, R. P. Xian, L. Rettig, R. Ernstorfer, M. Wolf, L. Poletto, M. Kovalenko, N. Marzari, M. Grioni, and M. Chergui
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327. *Ultrafast electronic relaxation in metalloporphyrins probed by broad band fluorescence up-conversion*
Olivier Bräm, Andrea Cannizzo and Majed Chergui
(draft)
328. *Mapping simultaneously the electron and hole dynamics in organic-inorganic Lead-halogen perovskites by ultrafast deep-UV spectroscopy*
Thomas Rossi, Lijie Wang, Tzung-Fang Guo and Majed Chergui
(draft)
329. *Electron injection from gold into anatase TiO₂*
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