

## Curriculum vitae

July 2025



REMACLE

Françoise Fernande Andrée

Citizenship: Belgian

Birth date : 18/11/1964

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### Positions

- Directeur de Recherches of the Fonds National de la Recherche Scientifique at the University of Liège, 2005-present.
- Head of the Theoretical Physical Chemistry group, UR MolSys, University of Liège, 2001-present.
- Invited Professor, Collège de France et Université Pierre et Marie Curie, Paris, May 2012.
- Invited Professor, Hebrew University of Jerusalem, Chemistry Institute, 2006-.
- Maître de Recherches of the Fonds National de la Recherche Scientifique at University of Liège, 2001-2005.
- Chercheur Qualifié of the Fonds National de la Recherche Scientifique at the University of Liège, 1993-2001.
- Chargé de Recherches of the Fonds National de la Recherche Scientifique at the University of Liège, academic years 1991-93.
- Post-doctoral fellow of the Hebrew University of Jerusalem, 1/07/1990-30/09/1991 with Prof. R. D. Levine.
- Aspirant of the Fonds National de la Recherche Scientifique Belge at the University of Liège, academic years 1986-90.

### Education

- Under-graduate: Licencié en Sciences Chimiques, with the Highest Honors and the congratulations of the Jury, University of Liège, July 1986.
- Graduate : University of Liège, Département of Chemistry, Molecular Dynamics , Prof. J.-C. Lorquet, 1986-1990.
- Ph.D. : Docteur en Sciences Chimiques, with the Highest Honors and the congratulations of the Jury, Liège University, March 27<sup>th</sup>, 1990.
- Agrégé de l'Enseignement Supérieur (Habilitation thesis) with Unanimity of the Faculty of Sciences, University of Liège, May 2001.

### Awards

- Senior Medal of the 'Centre de Mécanique Ondulatoire Appliquée', 2025.
- Member of the Belgian Royal Academy- Class of Sciences, 2023.
- Emmy Noether Distinction for Women in Physics of the European Physical Society, Autumn-Winter 2017.
- Fellow of the American Physical Society, 2009
- Prize of the Friends of the University of Liège, Nov 2002.
- Lauréate du Prix Louis d'Or de la Société Royale des Sciences de Liège 1996.
- Prize of the 'Concours Annuel' 1991 of the Royal Academy of Belgium, Class of Sciences, Group III/A, October 1991.

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- Prize of the Foundation for Encouraging Research in Exact Sciences, Liège University, October 1991.
- ‘Lauréat du concours des bourses de voyages’, Communauté française de Belgique, 1990.
- Prize of the best ‘mémoire’ of the Royal Chemical Society of Belgium, July 1986.

## Research interests:

### Theoretical Physical Chemistry – Computational Chemistry

The theory and the modeling of the control of molecular responses to external perturbations (optical, electrical and mechanical), the design of new materials and information processing.

- Attochemistry : quantum dynamics of control of chemical reactivity by ultrafast (attosecond) optical excitation in molecules. Efficient methodologies for quantum dynamics in several nuclear degrees of freedom coupled to several electronic states
- Molecular classical and quantum computing. (i) Computing by observables : Quantum computing based on ultrafast optical addressing of electronic coherences in molecular and nanosystems. –(ii) Molecular logic using intra- and inter- molecular dynamics, with special emphasis on the implementation of massively parallel quantum logic operations and multivalued logic. (iii) Developments of quantum algorithms for quantum dynamics.
- Dynamics of excited states in dense level systems and the control of energy and charge transfer : polyatomic molecules, high molecular Rydberg states, site-selected reactivity in small ionized peptides, arrays of metallic quantum dots.
- Electronic, structural, mechanical, optical, transport and magnetic properties of molecular and supramolecular and nanosystems: Diels-Alder adducts, arrays of metallic quantum dots, functionalized gold nanoclusters, supramolecular complexes, including DNA and peptides fragments.
- Systems biology : Information Theoretic Approach for the analysis of high throughput genomic and proteomic data

## Publications

291 publications in international peer reviewed journals, ORCID : 0000-0001-7434-5245

h Index: 52, > 10 400 citations (Google scholar), h index 44, > 7800 citations (Scopus).

A full list can be found at <http://www.tcp.ulg.ac.be>.

Links towards publications

Google Scholar : <https://scholar.google.com/citations?user=IBZTixAAAAJ&hl=en>

Orbi (Repository of ULiège) :

<https://orbi.uliege.be/ph-search?uid=u013667>

## Guest Editor

Special Issue “Energy and Entropy of Change: From Elementary Processes to Biology”, Chemical Physics 514 (2018), Co-Editor with R. Kosloff, E. Rabani.

Special issue “Roadmap for Quantum Computing in Atomic and Molecular Physics”, J. Phys. B. IOP, 2026, Co-Editor with Sabre Kais and Takeshi Sato.

## Academic activities

- Member of the AMOPD board of EPS, 2025-2031
- Member of the International Advisory Board of the ATTO X conference (Lund, 2025), ATTO IX (Korea, 2023), VIII conference (Orlando, 2022)
- Member of the International Scientific Advisory Committee of Stereodynamics meetings, 2022-
- Member of the International Advisory Board of the Max Planck Institute for complex systems in Dresden, 2021-2026.
- Member of the CECAM (centre européen de calcul atomique et moléculaire) Council, 2020-
- Member of the COMA (Comité d'accompagnement - Advisory Committee) of FRS-FNRS 2020-2026.
- Vice-President of the Research Council for Sciences and Engineering of the University of Liege, 2023-2026, 2021-2023, member 2020-2026.
- Member of the Orientation Committee of the ARES (Académie de Recherche et d'Enseignement Supérieur)- Wallonia-Brussels Federation, Belgium, 2021-
- Member of the Technical program committee of 23<sup>rd</sup> International conference of ultrafast phenomena 2022 (UP2022), Montreal, Canada organized by Shanghai Institute of Optics and Fine Mechanics (SIOM), the European Physical Society (EPS) and the Optical Society of America (OSA).
- Member of the Technical program committee of 22<sup>nd</sup> International conference of ultrafast phenomena 2020 (UP2020), Shanghai, China, organized by Shanghai Institute of Optics and Fine Mechanics (SIOM), the European Physical Society (EPS) and the Optical Society of America (OSA).
- Member of the International Conference on Photonic, Electronic and Atomic Collisions XXXI ICPEAC committee, 2017-2019.
- Foreign member of the evaluation committee of the National Science and Engineering research council (NSERC) of Canada, Chemistry, 2010-2013.
- Member of the evaluation Committee of the EastChem Department (University of Edinburgh and of St Andrews), 2011-2015.
- Member of the board of the 'Comité des Sociétés chimiques belges', 2006-
- Member of the Research Council of the University of Liège, 1999-2006.
- Member of the Physical Chemistry Committee of the Flanders Research Foundation of Belgium (FWO), 2002-2008.
- Member of the Exact Sciences Evaluation Committee of the Fonds National de la Recherche Scientifique, FNRS-FRS, French Community of Belgium, 2012-2014. Member of the FRAI Jury PE3 (2014-2017).
- Founding member and Secretary of the ASBL interuniversity NANOWAL, the Wallonia network for nanotechnologies, 1998-
- Vice-President of the Royal Society of Sciences of Liège, 2004-2005.
- President of the Royal Society of Sciences of Liège, 2005-2006.
- Member of the Committee for International Relations, University of Liège, 2003-2006.
- Reviewer for research national foundations (Germany, Holland, Israel, Austria and for NSF (US)).
- Panel expert EC: FP6, FP7, ERC, H2020 and Horizon Europe.
- Referee for general, chemistry and physics journals.

## Participation to research projects

### Running projects

#### European

- Partner in the ULiege team of the EC Master program on innovative materials : **FAME-AIS Erasmus Mundus plus**, 2007-2028 (<https://www.fame-master.eu/>).

#### French Community of Belgium

- **FNRS Mobility Project ‘PINT-BILAT-M -NSFC (China) 2024 (2025-2027)’** with Prof. H-G Duan (Ningbo University): Uncovering molecular wave packet dynamics at conical intersections in light harvesting complexes.
- **Research project from FNRS-FRS PDR MOLECOH T.0247.24**, Steering photochemical reactivity with molecular electronic coherences using atto and few fs optical pulses, 2024-2027. PI.
- **Research project from FNRS-FRS CDR MOLPERI J.0150.23**, Control of molecular dynamics of pericyclic reactions, 2023-2024.
- **COS ULiège** ‘Exploration des possibilités d’applications originales du calcul quantique à l’ULiège’, coordinator, multidisciplinary project between the Science and the Applied Science Faculties of ULiege, 2022-2024.
- **Research project EOS (Excellence of Research) – Tethered- #40007519**, Coordinator C.A. Fustin, UCLouvain. Leader of the WP modeling, 2022-2027.
- **Research project from FNRS-FRS PDR MONACOMP T.0205.20**, Molecular and NAno COherent coMPuting, 2020-2024, PI.
- **Action de recherches concertées, MECANOCHEM, ULiège**, 2019-2024, CoPI in charge of modeling. Main PI. Prof. A.S. Duwez.

### Previous international projects

#### United States

- **PI in the project** ‘Exploiting Non-equilibrium Charge Dynamics in Polyatomic Molecules to Steer Chemical Reactions’, Department of Energy, Office of Basic Energy Science, Atomic and Molecular Optical Sciences, #DE-SC0012628. Coordinator : Prof. Wen Li, Wayne State University, Detroit. 2014-2017. Partners : M. Murnane, U. of Colorado, Boulder, H. B. Schlegel, Wayne State University, Detroit, R. D. Levine, University of California, Los Angeles. Renewal: Probing and Controlling Non-Equilibrium Multi-Electron Dynamics Towards Spatially and Temporally Resolving Chemical Reactivity in Molecules, 2017-2019.

#### European Commission

- **Coordinator of the EC FET Open H2020 project: COPAC #766563**, 2017-2021: Coherent Optical Parallel Computing. Partners : Prof. R. D. Levine, The Hebrew University of Jerusalem, Prof. Yossi Paltiel, The Hebrew University of Jerusalem, Prof. Elisabetta Collini, University of Padova, Dr. Barbara Fresch, University of Padova, Dr. Marinella Striccoli, CNRS-Bari, Dr. Emmanuel Mazer, Probayes, Dr. Ariela Donval, ELBIT.
- **Partner of the EC FET Open FP7 project : BAMBI**, 2014-2016: Bottom up approaches to machine dedicated to Bayesian Inference. Leader of WP2. Coordinator: Dr. Jacques Droulez, UPMC-College de France, Paris. Partners Dr. Pierre Bessière, UPMC-Collège de France, Dr. Julie Grolliez, UMF-CNRS-Thales, Dr. Damien Querloz, IEF, Emmanuel Mazer, Probayes, Prof. Jorge Lobo, ISR, Coimbra, Prof. R. D. Levine, The Hebrew University of Jerusalem, Prof. Claire Remacle, ULiège.

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- **Coordinator of the EC FET STREP FP7 project : MULTI**, 2012-2016 : Multivalued parallel molecular logic. Partners : Prof. R. D. Levine, The Hebrew University of Jerusalem, Prof. I. Willner, The Hebrew University of Jerusalem, Prof. Elisabetta Collini, University of Padova, Prof. Sven Rogge, University of New South Wales, Sydney, Australia.
- **Partner of the EC FET STREP FP7 project : TOLOP**, 2012-2016: Towards Low Power ICT. Leader of WP3. Coordinator: Dr. David Williams, Cambridge, Hitachi Laboratory, UK, Partner: Prof. R. D. Levine, The Hebrew University of Jerusalem, Prof. Stefanos Kaxiras, Upsala University, Sweden, Dr. Marc Sanquer, CEA, Grenoble, Prof. Sven Rogge, University of New South Wales, Sydney, Australia.
- **Coordinator of the EC FET Proactive STREP FP7 project : MOLOC**, 2008-2011 : Molecular Logic Circuits. Partners : Prof. R. D. Levine, The Hebrew University of Jerusalem, Prof. I. Willner, The Hebrew University of Jerusalem, Prof. K. L. Kompa, Max Planck Institute for Quantum Optics, Garching, Prof. R. Weinkauff, Dusseldorf University, Prof. Th. Halfmann, Darmstadt University, Prof. R. Waser, Jülich Research Centrum, Prof. S. Rogge, TU-Delft.
- **Coordinator of the EC FET-Open STREP FP6 project : MOLDYNLOGIC**, 2005-2008: Molecular Logic Machines by Electronic Excitation and Inter- and Intra- Molecular Quantum Dynamics Partners : Prof. R. D. Levine, The Hebrew University of Jerusalem, Prof. I. Willner, The Hebrew University of Jerusalem, Prof. K. L. Kompa, Max Planck Institute for Quantum Optics, Garching, Prof. R. Weinkauff, Dusseldorf University, Prof. J.-P. Sauvage, Université Louis Pasteur, Strasbourg.
- Partner in the ULg team of the EC FP7 PhD School IDSFUN-MAT, 2010-
- **Core member of the COST action ATTOCHEM (CA18222)** : Attosecond Chemistry, 2019-2024 (<https://attochem.eu/>).
- **Member of the COST action MOLIM (CM1405)** : molecules in action, 2015-2020.
- **Member of the COST action XLIC (CM1204)**: XUV/X-ray light and fast ions for ultrafast chemistry, 2012-2018
- **Member of the COST action** : Rational design of hybrid organic-inorganic interfaces: the next step towards advanced functional materials, 2012-2016.

#### Active collaborations

- Prof. Eleanor Campbell, University of Edinburgh, United Kingdom.
- Prof. Francesca Calegari, DESY- Hamburg, Germany
- Prof. Elisabetta Collini, University of Padova, Italy.
- Prof. Anne-Sophie Duwez, UR MOLSYS, ULiège
- Prof. James R. Heath, President of the Institute for Systems Biology, Seattle, USA.
- Prof. Manabu Kanno, Tohoku University, Sendai, Japan
- Prof. Matthias Kling, MPQ Garching and LMU, Munich.
- Prof. H. Kono, Tohoku University, Sendai, Japan
- Prof. Raphael D. Levine, The Hebrew University of Jerusalem.
- Prof. Wen Li, Wayne State University, Detroit, USA.
- Prof. Margaret Murnane, University of Colorado, Boulder, USA.
- Prof. Yossi Paltiel, The Hebrew University of Jerusalem
- Prof. Sven Rogge, Centre for quantum communication and information, UNSW, Sydney, Australia.
- Prof. Marc J. J. Vrakking, Max Born Institute, Berlin, Germany.
- Prof. Bernhard H. Schlegel, Wayne State University, USA.
- Prof. Itamar Willner, The Hebrew University of Jerusalem.
- Prof. Hans-Jakob Woerner, ETH, Zurich.

## Organization of meetings

- Web Symposium ‘Parallel information processing at the nanoscale’, held on line March 23<sup>th</sup> - 25<sup>th</sup>, 2021.
- Project COPAC webmeeting, Dec 22 and Dec 30 2020
- Project COPAC meeting, Asiago, Feb 17-19, 2020.
- Project COPAC meeting, Annecy, 03-06 May 2019.
- Kick off meeting of the FET-open H2020 COPAC, Tel-Aviv, December 2017.
- Nano information Processing Perspectives, Cambridge, UK, December 13<sup>th</sup> -16<sup>th</sup>, 2015. Co-organizer with F. Gonzalez-Galba (Hitachi Cambridge), R. D. Levine (HUJI) and D. Williams (Hitachi-Cambridge). Chair of the session: Optical Computing.
- Project meeting FET FP7 project **MULTI**, Hebrew University, Jerusalem, Aug 31-September 4<sup>th</sup>, 2014.
- 4<sup>th</sup> Workshop NANOWAL, May 21<sup>st</sup>, 2014 : Bio-inspired synthetic functional molecules
- Kick-off meeting of FET FP7 project **MULTI**, Padoue, September 11-13 2012.
- Member of the organizing committee of the ISSPIC XVI in Leuven, July 2012.
- Final FET FP7 project **MOLOC** meeting, Brussels, Aug 31<sup>st</sup>-September 2<sup>nd</sup>, 2011.
- Molecular Logic, Lorentz Center, Leiden, May 30<sup>th</sup>-June 2<sup>nd</sup> 2011, organizer with S. Rogge (TU-Delft) and I. Willner (HUJI)
- Third year FET FP7 project **MOLOC** meeting, Vaalsbroek Castle, Vaals, Germany, March 17<sup>th</sup>-18<sup>th</sup>, 2011
- Organizing committee member of the RCTF 2010 meeting : Structure électronique et réactivité, co organizer Michel Godefroid, ULB.
- Second year FET FP7 project **MOLOC** meeting, Dusseldorf, Castel Michle, March 17-March 19, 2010
- May 8<sup>th</sup>, 2009 : Organisation du Symposium Molecular and nano electronics, Liège. Nanowal meeting
- April, 27<sup>th</sup>, 2009 : organisation first year review meeting of the FET FP7 project **MOLOC**, Liège, Belgium.
- March 1-3<sup>th</sup>, 2009 : Organisation du first year FET FP7 project **MOLOC** meeting, Jerusalem, Israël
- February 16<sup>th</sup>, 2009 : PAI WP1 meeting at KUL
- November 25<sup>th</sup>, 2007 : PAI first year meeting.

## Teaching activities

- Theoretical Chemistry, 2<sup>nd</sup> BAC Chemistry
- Quantum Chemistry, 3<sup>rd</sup> BAC Chemistry
- Advanced Quantum Chemistry, 1<sup>st</sup> Master Chemistry
- Molecular Logic : Master and graduate course.

## Training activities

### Master Students

- **Antoine Rémy**, 2025-2027, Master thesis
- **Adam Smeers**, 2025-2027, Master Thesis
- **Julie Hammoud**, 2022-2023, ULiege, Supervisor, Master Thesis
- **Martin Blavier**, 2021-2022, ULiege, Supervisor Master Thesis.
- **Laura Jadin**, 2018-2019, ULiege, supervisor Master Thesis.
- **Gabriel Boitel-Aulen**, 2017, Erasmus Master 1 internship from the University Pierre and Marie Curie, Paris.
- **Raphael Mourier**, 2016, Master 1 Internship from University Pierre and Marie Curie, Paris.



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- **Stephan Vandenwildenberg**, 2015-2016, ULiège, Supervisor Master thesis.
- **Valérie Schwanen**, 2014-2015, ULiège, supervisor Master Thesis.
- **Tristan Lespagnard**, 2010, Etude théorique et expérimentale de l'interaction entre la guanine et un agrégat ou une surface d'or, co-supervisor master thesis.
- **Benoît Mignolet**, 2010, Theoretical study of the ultrafast electron dynamics induced by an atto pulse in the neutral and cationic state of the ABCU molecule, supervisor.
- **Marc Dewergifosse**, 2006, Electronic dynamics in a linear chain of metallic quantum dots and implementation of ternary logic, supervisor.
- **Jean-François Greisch**, 2001, Optimisation de la Désorption-Ionisation laser de petites molécules, co-supervisor.

## PhD students

- **Shouryo Ghose**, Projet EOS Thethered, 2023-2027.
- **Pietro Di Checci**, ULiege teaching assistant, 2021-2023.
- **Manuel Alejandro Cardosa-Gutierrez**, ULiege PhD fellowship, project ARC MECHANOCHEM, 2020-2024. PhD Januray 2025.
- **Julien Stiennon**, ULiege Teaching assistant, 2019-2020.
- **Stephan van den Wildenberg**, teaching assistant, 2016-2017, FRIA Fellow, 2017-2020. PhD in 2020. Present : Post-doc at UCSD in the group of Joel Zhou.
- **Pavel Rukin**, PhD trainee, The photochemistry Institute of the Russian Academy, Moscow, August 2015-February 2016. PhD in Moscow in 2018.
- **Valérie Schwanen**, supervisor, Aspirant FNRS 2015-2018.
- **Gustavo Lugo**, supervisor, 2013-2016, EC PhD School IDS-FunMAT, co-supervisor : C. Chaneac, UPMC, Chemistry Schools of Paris. PhD in 2016.
- **Fabien Dufour**, co-supervisor with Corinne Chaneac, Collège de France and UPMC, Chemistry Schools of Paris, Elaboration de nanocomposites inorganiques fonctionnels, oxydes de titane et/ou métalliques, par l'adsorption sélective de molécules organiques. Approches expérimentale et théorique combinées, 2010-2013, PhD School IDS-FunMAT, 2013. Presently : Researcher at Michelin R&D, Clermont-Ferrand.
- **Benoît Mignolet**, supervisor, Theoretical study of the molecular dynamics induced by intense ultrashort optical pulses : control of chemical reactivity and information processing at the molecular level, 2010-2014. Chargé de recherches FNRS 2015-2018, Scientific collaborator, ULiege, 2018-2019s.
- **Renuka Ganesan**, supervisor, Etude théorique des propriétés électroniques optiques et de conduction de complexes hybrides agrégats métalliques-ligands organiques en vue d'applications à la logique moléculaire, 2009-2013. PhD 2013. Presently Assistant Professor, Bangalore College.
- **Tristan Lespagnard**, supervisor, Etude théorique et quantique de complexes supramoléculaires ancrés sur des nanoparticules et des surfaces, 2010-2011.
- **Cheng-Gen Zhang**, Academy of Sciences, Beijing, Supervisor Prof. Zhixiang Wang. Training period Dec 2008-Dec 2009 : Theoretical studies of the geometry, electronic states and transport properties of large gold clusters, and hybrid organic ligand-gold cluster complexes. PhD in 2010.
- **Jean-François Greisch** (co-supervisor) : The geometry, electronic states and transport properties of large gold clusters, and hybrid organic ligand-gold cluster complexes, 2010.
- **Pascale Urbain** (co-supervisor) : Etude de la dynamique des réactions monomoléculaires par analyse des distributions d'énergie cinétique, 1998.

## Post-docs

- **Dr. Adrià Suber**, 2026-2027, Post-doc FNRS PDR MOLECOH
- **Dr. Jean-Nicolas Vigneau**, 2024-2027, Post-doc FNRS PDR MOLECOH

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- **Dr. Gaurav Pandey**, 2023-2024, Post-doc FNRS PDR MONACOMP. 2024-2026 Post-doc ULiege
- **Dr. James Hamilton**, 2020-2023, postdoc on FNRS PDR MONACOMP.
- **Dr. Cayo Gonçalez**, 2018-2020, post-doc on the FNRS PDR Ultrafast bond making.
- **Dr. Hugo Gattuso**, 2017-2020, Post-doc on the COPAC project. Present : Cofund post-doc in Madrid.
- **Dr. Alessio Valentini**, 2016-2020, post-doc on the FNRS PDR 'Ultrafast bond making'. 2020-2023 : Post-doc in Todd Martinez group in Stanford. Present: Scientific researcher, Creyon bio.
- **Dr. Benoit Mignolet**, FNRS Research Associate at ULG, 2014-2018. Scientific collaborator ULiege, 2018-2019. Present : Manager at Dexia bank, Brussels.
- **Dr. Kenny Bogaert**, 2016, Present : Research Associate at UGent
- **Dr. Ksenya Vladimirova**, 2014-2017, Present : Post-doc at the Hebrew University of Jerusalem
- **Dr. Barbara Fresch**, 2011-2016, Present: Assistant Professor, the University of Padova.
- **Dr. Stephan Knippenberg**, 2012-2014, Present: Researcher Solvay Institute, Brussels.
- **Dr. Daniele Pepe**, 2014-2015, Present Post-doc at the University of Hasselt.
- **Dr. Ana Ballester**, 2014-2016.
- **Dr. Shoutian Sun**, 2014-2015, Present : Research Associate, University of Shanghai.
- **Dr. Astrid Nikodem**, 2014-2016, Present Software engineer, AVL LIST GmbH, Graz, Austria, in the section "CDS - Multiphysical Systems".
- **Dr. Tian-Yan**, 2013-2014. Present : Researcher Associate at the Shanghai Advanced Research Institute.
- **Dr. Mykhailo Klymenko**, 2012-2016. Present : Post-doc, cluster department, RMIT University, Melbourne, Australia.
- **Dr. Tomasz Kus**, 2012-2014, Present Senior Software Engineer at DNV GL, Poland.
- **Dr. Thomas Guillon**, 2010-2011.
- **Dr. Yong-Hong Yan**, 2009.
- **Dr. Ganga Periyasamy**, 2008-2009, Present : Assistant Professor, University of Bangalore
- **Dr. Eugène Kryachko**, 2005-2009.

## Oral presentations and participation to scientific meetings (2021-2025)

200. Invited Lecture Iswamp2025, Nagoya, July 25-July27, Japan, Tuning electron-nuclei entanglement with atto and few femtosecond attopulses for controlling chemical reactivity.
189. Keynote Lecture, QSQP XXVII, Quantum Systems in Chemistry, Physics and Biology, Paris, July 7-15, 2025, Tuning electron-nuclei entanglement with atto and few femtosecond attopulses for controlling chemical reactivity
188. Invited Lecture, ECAMP15 (European Conference on Atoms and Molecules), Symposium 'Femtosecond and attosecond physics, reaction dynamics, coherent control, strong fields', Innsbruck, June 30-July 4<sup>th</sup>, 2025, Controlling ultrafast reactivity with atto and few fs pulses.
187. Invited Lecture, WATOC2026, Oslo, 22-29 June 2025, Controlling ultrafast reactivity with atto and few fs pulses.
186. Invited Lecture, ACS Spring meeting 2025, San Diego, USA, March 24-March 28, 2025, Symposium : Attosecond Spectroscopy: From gas phase to solution chemistry. 'Electronic coherences built by an attopulse control electron-nuclei entanglement and the forces on the nuclei'
185. Invited talk, "Ultrafast quantum control of electrons and nuclei" session at the PQE25 (Physics of quantum electronics) conference, Snowbird, UT, 6-10 Jan 2025. Controlling electron-nuclei entanglement and the force on the nuclei using electronic coherence excited by an attopulse.



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184. Invited talk, 'Ultrafast Dynamic Imaging of Matter 2024' conference, November 18-20, 2024, DESY Hamburg, Electronic coherences built by an attopulse control the electron-nuclei entanglement and the forces on the nuclei
183. Colloquium, State Key Laboratory of precision spectroscopy, East China Normal University, October 23<sup>rd</sup>, 2024, Controlling quantum dynamics through electronic entanglement in molecules pumped by ultrashort optical pulses
184. Colloquium, Physics department, Ningbo University, China, October 21<sup>st</sup>, 2024
183. Invited talk, ISTCP 2024, Qingdao, China, Oct 12-Oct 18, 2024, Electronic coherences built by an attopulse control electron-nuclei entanglement and the forces on the nuclei
182. Invited PCHEM seminar, North Carolina University, Chapel Hill, US, May8, Controlling quantum dynamics through electronic entanglement in molecules pumped by ultrashort optical pulses
181. Invited talk, CLEO 2024 conference, Ultrafast Science of Attosecond, X-Ray Free-Electron-Laser, and Ultra-Intense Light, Charlotte, North Carolina, May 5-10<sup>th</sup>, 2024.
180. Invited speaker, the EPS forum 'Atom, Molecular and Optical Physics for Quantum Technologies, Berlin, March 25-26<sup>th</sup>, 2024.
179. Invited speaker, final meeting COST ATTOCHEM Tenerife, Feb 28-March 1st, 2024, Electronic coherences built by an attopulse control electron-nuclei entanglement and the forces on the nuclei
178. Colloquium 'Controlling quantum dynamics through electronic entanglement in molecules pumped by ultrashort optical pulses', Indian Institute for Science and Education Research Mohali, Chandigarh, India, December 19<sup>th</sup>, 2023.
177. Colloquium 'Controlling quantum dynamics through electronic entanglement in molecules pumped by ultrashort optical pulses', Indian Institute for Science and Education Research, Kolkata, December 15<sup>th</sup>, 2023.
176. Colloquium 'Electronic entanglement shapes the force on the nuclei in molecules pumped by ultrashort optical pulses', Indian Association for the Cultivation of Science, Kolkata, December 13<sup>th</sup>, 2023.
175. Invited speaker, Theoretical Chemistry Symposium 2023, Steering quantum dynamics in molecules pumped by ultrashort optical pulses ITT Madras, India, December 7<sup>th</sup>-10<sup>th</sup>, 2023.
174. Invited speaker, Nobel Symposium on Attosecond Science and Technology, 'Steering selective quantum dynamics through electronic entanglement in molecules excited by ultrashort optical pulses', Bastad, Sweden, August 20-24, 2023.
173. Invited speaker, Quantum Battles in Attoscience 2023, University College London, Electronic coherences built by an attopulse shape the entanglement between electronic and nuclear degrees of freedom and the force on the nuclei June 28-30, 2023.
172. Institute Colloquium, Donostia International Physics Center, Quantum parallelism at room temperature by coherent excitonic dynamics of an ensemble CdSe quantum dot dimers April 27<sup>th</sup>, 2023.
171. Department Colloquium, Chemistry, KUL, Controlling quantum dynamics through electronic entanglement in molecules pumped by ultrashort optical pulses, April 21<sup>st</sup>, 2023
170. Keynote lecture, Control of photoinduced ultrafast attosecond coherent dynamics in molecules, APATCC-10 meeting, Quy Nhon, Vietnam on 19-23 Feb 2023.
169. Invited speaker, Controlling quantum dynamics through electronic entanglement in molecules pumped by ultrashort optical pulses, Coupled Electron-Nuclear dynamics for Electron Capture, QD4ICEC kickoff meeting, Paris, Feb 15-16, 2023, Webconference.
168. Invited conference, Exploiting electronic coherences for steering selective bond formation in molecules pumped by ultrashort optical pulses, Theory Days workshop, Toulouse, Nov 23-25, 2022.
167. Hot topic talk, Exploiting electronic coherences for steering selective bond formation in molecules pumped by ultrashort optical pulses, Stereodynamics 2022, Rethymnon, Crete, Oct 30-Nov 4, 2022.

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166. Contributed talk, ATTOVIII, Exploiting electronic coherences for steering selective bond formation in molecules pumped by ultrashort optical pulses, Orlando, July 8<sup>th</sup>-15<sup>th</sup>, 2022
165. Invited speaker, 'Exploiting electronic entanglement for steering selective bond dynamics in molecules pumped by ultrashort optical pulses', MOLEC 2022, 23<sup>rd</sup> Conference on the Dynamics of Molecular Systems, Hamburg, Aug 22-Aug 26, 2022.
164. Invited keynote talk, 'Quantum parallelism at room temperature by coherent excitonic dynamics of an ensemble CdSe quantum dot dimers', NanoIsrael, Oct 4-6, 2021.
163. Invited talk, "Exploiting electronic coherences for steering selective bond formation in molecules" Web symposium Attochem Young Scientists Symposium, Sep 14-17<sup>th</sup>, 2021.
- 162 : Invited talk : "Exploiting electronic coherences for steering selective bond formation in molecules" Fall 2021 ACS virtual meeting Aug22-Aug 26, 2021, Atlanta, Symposium : Synthetizing Quantum Coherences'.
161. Invited talk 'Exploiting electronic coherences for steering selectively ultrafast reactivity in molecules' at the international workshop 'Attosecond to Few-Femtosecond Ultrafast Science at Future XFELs' DESY Hamburg, organized on line June 28-June 30, 2021.
160. Invited Talk 'Steering Nuclear Motion by Ultrafast Multistate State Non Equilibrium Quantum Dynamics in Atto Excited Molecules', CLEO-Europe meeting, Munich, June 21-25, 2021, on line.
159. Quantum Cafe webseminar, EC- DG connect, May 20, 2021: Progress report on the COPAC project.
158. Les Houches web workshop : Quantum Dynamics and Spectroscopy of Functional Molecular Materials and Biological Photosystems. May-3-7, 2021. Contributed talk Title : Quantum parallel computing by coherent excitonic dynamics of an ensemble of size dispersed quantum dots. May 3<sup>rd</sup>.
157. AttoFridays – Quantum Battles webseminar, Exploiting electronic coherences for steering selective bond formation in molecules, Organized by University College London, organized by Carla Figueiras, March 19<sup>th</sup>, 2021.
156. Webtalk 'Ultrafast vibronic dynamics in molecules excited by short femtosecond pulses', February 23<sup>rd</sup>, 2021, DFG project webmeeting 'Quantum Dynamics in Tailored Intense fields, Feb 22-25, 2021, organized by Manfred Lein, Hannover.
155. Video shooting for an Introduction to Quantum Technologies, EC-DEFIS, January 18<sup>th</sup>, 2021
154. Invited talk, Ultrafast vibronic dynamics in molecules excited by short fs pulses, ATTOCHEM kick off webmeeting, September 10<sup>th</sup>, 2020
153. Invited talk, Ultrafast vibronic dynamics in molecules pump and probe by short fs pulses, ATTO-CM DoE research network workshop, Charlottesville, Virginia, Feb 27-28, 2020.
152. Invited talk, Ultrafast vibronic and photoelectron dynamics in molecules photoexcited by short femtosecond pulses, ATOM2019, Max Planck Institute for Complex Systems, Dresden, Nov 19-21, 2019.
151. Invited seminar : Photoinduced electronic and nuclear dynamics in molecules at the 'Multiscale Dynamics in Molecular Systems', Ecole de Physique, Les Houches, France, Aug 25<sup>th</sup>-30<sup>th</sup>, 2019.
- 150 : Invited talk International Society of Theoretical Chemical Physics (ISTCP-X), July 11-17<sup>th</sup>, 2019, Tromsø, Norway, 'Ultrafast Coherent photoinduced quantum dynamics in molecules'.
149. Invited talk 'Ultrafast coherent energy and charge transfer in nanosystems by fs laser pulses: A quantum dynamical study of CdSe QD dimers and of functionalized gold clusters' Computer in chemistry, Material Science, 257<sup>th</sup> ACS meeting, Orlando, March 31st-April 4th, 2019.
148. Invited talk 'Coherent ultrafast photoinduced coupled electronic-nuclear dynamics in dense manifolds of molecular vibronic states' at the Symposium 'Modeling Dynamics in Dense Manifolds of Electronic States' of the 257<sup>th</sup> ACS meeting, Orlando, March 31st-April 4th, 2019.
147. Invited talk 'FET Open H2020 COPAC project', Workshop "FET Innovation ecosystems: Regional support for a European Impact", Brussels, October 25<sup>th</sup>, 2018.
146. Invited talk 'Ultrafast Coherent Non-equilibrium Charge Dynamics in Molecules', 2018 Atomic, Molecular and Optical Sciences Research PI Meeting , Office of Basic Energy Sciences , U. S. Department of Energy, Gaithersburg, Oct 22-24, 2018.
145. Invited talk 'Thermodynamic-like information theoretic surprisal analysis of genomic and metabolic data' at the Symposium Information Theory & Dynamics: From Elementary

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Processes to Systems Chemistry: Symposium in honor of Raphael Levine' of the 256<sup>th</sup> ACS meeting, Boston, August 19-23, 2018.

144. Invited talk 'Role of electronic coherences in ultrafast non-equilibrium quantum dynamics in molecules induced by strong short optical pulses' at the Symposium 'Strong field in chemistry' of the 256<sup>th</sup> ACS meeting, Boston, August 19-23, 2018.

143. Invited talk 'Phenotype characterization of biosamples by thermodynamic-like information theoretic surprisal analysis of genomic and metabolic data', Second Julios Palacios International Symposium, La Coruna, Spain, July 11-12, 2018.

142. Invited talk : Molecular Logic, Symposium in the honor of the 80<sup>th</sup> birthday of R. D. Levine, Israeli Academy of Science and humanities, Jerusalem, June 18, 2018.

141. Invited seminar 'Experience as a coordinator : FET open H2020 project COPAC, FNRS, June 8, 2018

140. Invited seminar : Role of electronic coherences in ultrafast non-equilibrium quantum dynamics in molecules induced by strong short optical pulses, International Max Planck Research School, Max Planck Institute for Complex Systems, Dresden, May 30, 2018.

139. Invited talk 'Ultrafast coherent electronic and nuclear dynamics induced by attopulses' at the meeting 'New ideas about dynamics and mechanisms of energy relaxation and transport', Padova, Feb 8-9, 2018.

138. Kick-off COPAC meeting, Tel-Aviv, December 12-14, 2017 : Multi-phase matching directions and logic function decomposition'.

137. Colloquium of the Institute for Molecular Sciences, Okazaki, Japan, September 22, 2017. Title: 'Ultrafast Coherent Electronic and Nuclear Dynamics induced by Attopulses'.

136. Plenary talk 'Ultrafast Coherent Electronic and Nuclear Dynamics induced by Attopulses' at the Physical Chemistry Colloquium on Ultrafast Electronic and Structural Dynamics, Tohoku University, Sendai, Japan, September 19-20, 2017.

135. Plenary talk 'Optical and Electrical Parallel Molecular and Nanoscale Computing', Computer in Scientific Discovery 8, Mons, August 23-25, 2017.

134. Invited talk 'Ultrafast Non equilibrium Dynamics Induced by Attopulse' to the Symposium 'New Frontiers in Ultrafast Photochemistry', 28<sup>th</sup> International Conference on Photochemistry, Strasbourg, July 16<sup>th</sup> -21<sup>st</sup>, 2017.

133. Plenary talk, Ultrafast non equilibrium dynamics induced by attopulses, Molecule in Motion workshop 2017, Zurich, April 18-20<sup>th</sup>, 2017.

132. Invited talk, Ultrafast non equilibrium dynamics induced by attopulses, International workshop on photoionization, Aussois (France) March 26<sup>th</sup> -March 31<sup>st</sup>, 2017.

131. Plenary talk, Ultrafast non equilibrium dynamics induced by attopulses, MOLCAS developer meeting, Jerusalem, Feb 7-9, 2017.

130. Plenary talk, Dynamical studies of Ultrafast Charge Migration in Diatomic and Modular Molecules, The 21st International Workshop on Quantum Systems in Chemistry, Physics, and Biology (QSCP-XXI), Vancouver, Canada, on July 2-9, 2016.

129. Invited talk, Dynamical studies of Ultrafast Charge Migration in Diatomic and Modular Molecules, Symposium 'Molecules in laser fields', Orford, May-3-7, 2016, Canada.

128. Invited talk Dynamical studies of Ultrafast Charge Migration in Diatomic and Modular Molecules, Belgian Physical Society Meeting, Ghent (Belgium), May 18, 2016

127. Invited talk, Dynamical studies of Ultrafast Charge Migration in Diatomic and Modular Molecules Probed by Photoelectron Angular Distributions, International Symposium on Ultrafast Intense Laser Science 14, Hawaii, December 8-11, 2015.

126. Chair of the session II, 2015 Atomic, Molecular and Optical Sciences Research PI Meeting, October 25-28, 2015, Gaithersburg, USA.

125. Invited Lecture, Dynamical studies of Ultrafast Charge Migration in Diatomic and Modular Molecules Probed by Photoelectron Angular Distributions, General Physics Colloquium, Bar-Ilan University, March 23<sup>rd</sup>, 2015.

124. Invited Lecture: Dynamics of Ultrafast Charge Migration in Diatomic and Modular Molecules Probed by Photoelectron Angular Distributions, OPTX2 Symposium, Paris-Saclay, February 11<sup>th</sup>, 2015.

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123. Invited lecture : Dynamics of Ultrafast Charge Migration in Diatomic and Modular Molecules Probed by Photoelectron Angular Distributions, Atom2014 meeting, Dresden, November 22-26<sup>th</sup>, 2014.
122. Invited Physical Chemistry Seminar, Dynamics of Ultrafast Charge Migration in Diatomic and Modular Molecules Probed by Photoelectron Angular Distributions, Wayne State University, Detroit, USA, October 8<sup>th</sup>, 2014.
- 121 : Invited Lecture : Dynamics of Ultrafast Charge Migration in Diatomic and Modular Molecules Probed by Photoelectron Angular Distributions, 19th ETSF conference, Zaragoza, September 23<sup>th</sup>-26<sup>th</sup>, 2014
- 120 : Invited Lecture : Dynamics of Ultrafast Charge Migration in Diatomic and Modular Molecules Probed by Photoelectron Angular Distributions, General COST XLIC meeting, Gdansk, September 9-12<sup>th</sup>, 2014.
- 119 : Invited Lecture : Dynamics of Ultrafast Charge Migration in Diatomic and Modular Molecules Probed by Photoelectron Angular Distributions, 26<sup>th</sup> Canadian Symposium on Theoretical and Computational Chemistry, Montreal, July 7-12, 2014.
- 118 : Invited Lecture : TD-DFT and Applications to Attosecond spectroscopy, Meeting of the WG1 of the COST action XLIC, London, July 2-4<sup>th</sup>, 2014.
117. Engineering properties of Au and Pd nanoclusters through their ligand shell: Computational insights, Oral Presentation, EMRS Spring Meeting, Lille, May 26-30, 2014
116. Meeting of the COST action HINT (Rational Design of Hybrid Interfaces). 3-5 March 2014, Urbino (Italy) : Oral communication: Theoretical characterization of the interactions between organic ligands and metallic clusters.
115. Invited lecture Workshop Einstein Foundation : Dynamics of Charge Migration in Modular Molecular Cations Probed by Ultrafast Photoelectron Angular Distributions, Berlin, MBI, Feb 19, 2014.
114. Invited lecture 'Attochemistry', Workshop Psiquanta, Paris, May 27-May 30, 2013.
113. Molecular Logic, Courses at the winter school : Quantum resources for single molecule-machines, Les Houches-France. January 27- February 01, 2013.
112. Realizations of complex logic machines at the molecular scale, Straghin Seminar, Chemistry Department, University of Groningen, January 24, 2013.
111. Ultrafast electron dynamics in diatomic and modular polyatomic molecules, Quantum Biology Workshop, Institute of Physics, Lund University, Dec 10 2012, Invited lecture.
110. Sudden ionization probing of ultrafast electron dynamics in molecular systems : from LiH to ABCU (C<sub>10</sub>H<sub>19</sub>N) Stereodynamics 2012, Paris, October 22-26<sup>th</sup>, 2012, Invited lecture
109. Attosecond electron dynamics in molecular systems: probing of electron density and molecular orbitals by sudden photoionization, invited lecture Atmol workshop : Imaging molecular orbitals, Berlin, September 25<sup>th</sup>, 2012.
108. Control of attosecond electronic dynamics in molecular systems, theoretical chemistry group, UPMC, June 6<sup>th</sup>, 2012.
107. Propriétés structurales et dynamiques des matériaux et logique moléculaire, groupe de chimie de la matière condensée, groupe de catalyse de l'UPMC, Paris, June 4<sup>th</sup>, 2012
106. Propriétés structurales et dynamiques des matériaux et logique moléculaire, groupe de chimie de la matière condensée, Collège de France, Paris, May 22<sup>th</sup>, 2012
105. Realizations of complex logic operations at the nanoscale, Chemistry Department, University of Edinburgh, April 26<sup>th</sup>, 2012.
104. Realizations of complex logic operations at the nanoscale, Chemistry Department, University of Toronto, Canada, February 17<sup>th</sup>, 2012.
103. Control of ultrafast electron dynamics in molecular systems : from LiH to ABCU (C<sub>10</sub>H<sub>19</sub>N), Invited talk, Xth Quantum Chemistry in Belgium, February 10<sup>th</sup>, 2012.
102. Realization of complex machines at the molecular scale, invited talk at Atmol international workshop 2012, UAB, Barcelona, January 12<sup>th</sup>-13<sup>th</sup>, 2012.
101. Review meeting of the EastChem department (University of Edinburgh and University of St. Andrews), September 21<sup>st</sup>, 2011.

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100. Realizations of complex logic operations at the nanoscale, Keynote speaker, Symposium 'Minimizing energy consumption for computing to the limit' FET proactive info Day, Brussels, Oct 12, 2011.
99. Chair of the Multivalued logic session, Molecular logic meeting, Leiden Lorentz Center, June 2<sup>nd</sup>, 2011.
98. Control of ultra-fast electron dynamics in molecular systems : Computational studies from LiH to ABCU, Seminar series of the Steacie Institute for Molecular Science, Ottawa, Canada, Feb 18, 2011.
97. Contrôle de la Dynamique Electronique "Attoseconde" Moléculaire, University of Sherbrooke, Chemistry Department Seminar, Feb 11, 2011.
96. Computational studies of metal-DNA interactions, Workshop WP1, PAI, IMO Hasselt, Feb 7, 2011
95. Chemistry Department Symposium, University of Strasbourg, May 20th, 2010, Realizations of logic operations at the molecular level.
94. CEA Saclay, may 6<sup>th</sup>, 2010 : Ligand and solvation effects on the redox properties of Au<sub>55</sub> and applications to molecular logic.
93. University of Laval, Chemistry Department seminar, Feb 18, 2010: Ligand and solvation effects on the redox properties of Au<sub>55</sub> and applications to molecular logic.
92. 2009 PAI meeting, UCL, Louvain La Neuve, Nov 25, 2009 : Ligand and solvation effects on the redox properties of Au<sub>55</sub> and applications to molecular logic.
91. GDR « Thermodynamique, Fragmentation et Agrégation de systèmes moléculaires complexes isolés », Paris, Nov23-25, 2009, Plenary talk : Ligand and solvation effects on the redox properties of Au<sub>55</sub> and applications to molecular logic.
90. Proposers' information day on FET Proactive objectives in ICT Call 5, 24 June 2009, Brussels, EC. Invited talk as the coordinator of the MOLOC project : How to submit a successful proposal.
89. 237th National meeting de l'American Chemical Society, Salt Lake City, March 20- 27, 2009. Invited talk : First Attochemistry Symposium : 'Ultrafast hole migration modular molecules from small peptides to hydrogen bonded clusters',
88. 237th National meeting de l'American Chemical Society, Salt Lake City, March 20- 27, 2009. Switching devices symposium, invited talk 'Implementation of an all electrochemically driven cyclable set-reset machine on copper rotaxanes'.
87. Invited talk at the EC FET open offices in Brussels : Perspectives on molecular logic devices. June 26, 2008
86. Invited talk at the Chimtronique meeting, Paris Jussieu, May 21-23 2008 : Réalisation de machines logiques moléculaires par adressage optique ou électrique.
85. Implementations of molecular logic machines, March 23, 2008, Israel Institute of Technology, Haifa.
84. Scientific adviser Mission of the Belgian Minister Marie-Dominique Simonet in Israel March 10-13, 2008
83. Towards parallel computing : Representation of linear digital finite state logic machines by molecular relaxation processes, Journée La Chimie pour le Calcul, Orsay, Feb 20, 2008.
82. Presentation of the MOLOC project, Enano EC Meeting, Las Palmas, Nov 15, 2007.
81. Nanoscale Electrically addressed logic machines : implementation of a complete set of ternary logic gates on three coupled quantum dots, Potsdam , Theoretical Chemistry Colloquium, Nov 7, 2007.
80. Implementation of a complete set of ternary logic gates on three coupled quantum dots, Si for nanoelectrics, Leiden, May 20-24, 2007.
79. Inter and intra molecular level logic devices, Orsay, laboratoire de Chimie Théorique, March 2, 2007.
78. Pumping and probing electron dynamics in molecules with ultrafast pulses, invited lecture to the James Franck Symposium, Israel Academy of Sciences, Jerusalem, Israel, Jan 17, 07.
77. Mechanism for charge migration in molecular wires, Invited plenary lecture, ELECMOL06, Grenoble, Dec 13, 06. (Dec 12-15, 2006)
76. Inter and intramolecular logic devices, ENANO EC meeting, LUND, Nov 7, 2006



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75. Mechanism for transport in molecular wires. Aachen (RWTH), June 2, 2006. Invited lecture of the Inorganic Chemistry Institute.
74. Quantum Chemistry in Belgium (QCB7), Mons, January 27, 2006. Invited talk : Mechanism for electrical transport in molecular wires and nanostructures.
73. Goteborg, January 24, 2006. Invited AMC (Atoms, molecules, clusters) seminar : Mechanism for electrical transport in molecular wires and nanostructures.
72. Invited speaker at the NoE Fame workshop on Transport Properties in nanoscale conductors, Liège, Sep 23, 2005. Mechanism for transport in saturated and conjugated nanowires.
71. Invited speaker at the Faraday Discussion FD131 : Molecular Wires and Nanoscale conductors. Paper : Electrical transport in saturated and conjugated nanowires, Manchester, Aug31-Sep2, 2005. Selected as a hot article : <http://www.rsc.org/Publishing/Journals/fd/News/FD131Hotpapers.asp>
70. Munich 26-28 April 2005, Max Planck Institute for Quantum Optics, Garching. Visit as coordinator of the project MOLDYNLOGIC.
69. Kick-off meeting of the EC NoE FAME, Bordeaux, Feb 9-12, 2005. Presentation of the theoretical physical chemistry group for the WP 'Theory and modeling'.
68. Kick-off meeting of the EC project MOLDYNLOGIC, Liège, Feb 6, 2005. Organizer as the coordinator of the project.
67. Invited participation to the workshop organized by the NID cluster of EC project : Monomolecular electronics. Feb 1, 2005 Madrid. 'Towards molecular logic machines using inter and intra molecular dynamics'.
66. Invited seminar : Towards molecular logic machines using inter and intra molecular dynamics, Dec 17, 2004, Center for nanoelectronics and Information Technology, Jülich.
65. Invited talk : Computing with Molecules, Meeting of the FNRS group 'Atomes, Molecules and Radiations', Université de Liège, December 10, 2004.
64. Ornstein Colloquium, Debye Institute, Utrecht University, Nov. 3, 2004 : Transport properties and gating effects in arrays of metallic quantum dots.
63. ECAMP 8 meeting, July 6-11, Rennes, France. Invited Review Lecture : Transport properties and gating effects in arrays of metallic quantum dots
62. Cluster Cooling Network Meeting, June 9-12, 2004, Bute Island, UK. Invited Lecture : Nanowiring by molecules
61. Admol meeting, Dresden, February 23-27, 2004. Posters : Transport properties and gating effects in arrays of metallic quantum dots and Nanowiring by molecules. Chairman of the session Wednesday Feb. 25.
60. SAM meeting, Namur, February 20, 2004 : Oral presentation : Transport properties and gating effects in arrays of metallic quantum dots.
59. 13 NID meeting, Athens, February 5 , 2004. Invited Lecture : Transport properties and gating effects in arrays of metallic quantum dots. Acting as a reviewer for the NID EC program : Feb 4 and Feb 6.
58. NANOMAT meeting, Brussels October 22-24 2003. Invited lecture : Transport properties and gating effects in arrays of metallic quantum dots.
57. University of Liège delegate to the AWEX economical mission headed by Prince Philippe of Belgium at the NANOTECH 2003 meeting, February 22-25 2003, San Francisco, USA.
56. 2<sup>nd</sup> Workshop of the EC Network: European Cluster Cooling Network, Strasbourg (France) September 13-15 2002.
55. 224<sup>th</sup> ACS meeting', Boston (USA) August 17-23, 2002. Invited lecture : Role of disorder on the electronic and transport properties of quantum dots artificial solids .Symposium : Ordered Molecular Assemblies of Nanoparticles.
54. 'Role of disorder on the optical properties of quantum dots arrays', Invited lecture, James Franck Symposium, Ringberg Castle, Germany, 6-9 juillet 2002.
53. Joint COST – Action Workgroup Meeting on Individual and Assembled Nanoparticles and Quantum Dots, Leuven, April 25-27, 2002. Poster : Role of Disorder on the Electronic and Optical Properties of Quantum Dots Assemblies. Book of Abstracts, P43.
52. 'Towards computing with molecules : examples of molecular logic circuits', Physical Chemistry Seminar, The Israel Institute of Technology (Technion), Haifa, Israel, March, 20 2002.

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51. 'Role of disorder on the electronic and optical properties of quantum dot artificial solids', Seminar at the Theoretical Chemistry Department of Heidelberg University, November 26, 2001.
50. Workshop on Self-Assembly and Chemistry for Nanotechnology, Namur, November 9, 2001. Poster P 25 : Role of disorder on the electronic and optical properties of quantum dots artificial solids.
49. 222<sup>th</sup> ACS meeting', Chicago (USA) August 25-30, 2001. (i) Invited lecture : Towards molecular machines using pump-probe spectroscopy. Symposium 'Signal processing in Chemistry Quantum Dynamics and Control', (ii) Poster : Time cross correlation from resonant Raman excitation profiles : A direct inversion by Maximum Entropy (Symposium : Signal Processing in Chemistry Quantum Dynamics and Control'), (iii) Poster : Towards computing with molecules : Examples of molecular logic circuits, (Symposium : Molecular Electronics Molecular Transport).
48. Towards computing with molecules: examples of molecular logic circuits, Invited lecture , International VW Symposium : Isolated Molecules of Biological Interest, Schloss Mickeln, Düsseldorf, June 29 to July 1, 2001.
47. 220<sup>th</sup> ACS meeting', Washington DC (USA) August 20-24, 2000. Oral presentation 'Electronic Properties of Assemblies of Quantum Dots', Symposium 'Quantum Computing for the Next Millenium';
46. 220<sup>th</sup> ACS meeting', Washington DC (USA) August 20-24, 2000. Oral presentation 'Role of Disorder on the Electronic and Optical Properties of Assemblies of Quantum Dots', Symposium 'General Papers on Advanced Materials and Nanotechnology'.
45. Conférence EURESCO 'Molecules of Biological Interest in the Gas Phase', Les Houches (France) May 13-18 2000. Oral presentation : 'Charge transfer and site selective reactivity in small peptide cations'.
44. 'EC Workshop : Delayed Ionization and Competing Mechanisms in Atomic Clusters', Jerusalem, April 9-13, 2000. Invited Speaker : On the mechanism of delayed ionization in ZEKE spectroscopy.
43. 'Charge transfer and the selective fragmentation of small peptide ions', The Fritz Haber Research Center, The Hebrew University of Jerusalem, April 4, 2000.
42. Photon \_ Matter Interaction : Concerto for Fourier Transforms, ULB November 22-26 1999. Oral presentation : Conductivity and the Electronic Response of an Array of Quantum Dots.
41. Quantum Chemistry in Belgium 4, Antwerp (UIA) November 23, 1999. Oral presentation : 'Disorder Effects in the Electronic Response of an Array of Quantum dots'.
40. Invited speaker at the European Research Conference : Highly Excited Electronic States in San Feliu de Guixols, Spain, 23-28 october 1999. 'Site Selective Fragmentation of Small Peptides Ions Following localized Ionization'
39. Invited speaker at the International Symposium 'Theory of Atomic and Molecular Clusters' (TAMC- 3), Berlin 5 – 9/10/1999. 'Disorder Effects in the Electronic Response of an Array of Quantum Dots'.
38. CNRS laboratory Aimé Cotton, Université de Paris Sud, Orsay. 29/09/99-01/10/99. Seminar : Effets du désordre sur la réponse électronique d'un réseau de quantum dots.
37. 218<sup>th</sup> ACS meeting, New Orleans , 22/08-26/08/99. Invited talks 'Charge Migration and Control of Site Selective Fragmentation in Small Peptide Ions' for the symposium 'Electronic Nonadiabatic Processes in Gaseous, Cluster and Condensed Media',
36. 218<sup>th</sup> ACS meeting, New Orleans , 22/08-26/08/99. Invited talk 'Disorder effects in the electronic response of an array of quantum dots' for the symposium 'Theory and Modeling of Electronic and NLO Materials'. Article in the September 27, 1999 issue of CENews.
35. Invited speaker at the Gordon Research Conference on Clusters, Nanocrystals, and Nanostructures : 'Effects of Disorder on Electronic and Optical Properties of Quantum Nanodots' , New London, Connecticut, 25/07/99-30/07/99
34. Contributed talk at the 217<sup>th</sup> ACS meeting, Anaheim, California, USA, March 21-25, 1999 : Prompt and Delayed Dissociation of Energy Rich Molecules.
33. LUMOP seminar 'Propriétés électroniques et optiques des quantum nanodots' le 17/12/1998, Université de Liège, Département de Physique.
32. Présentation d'une communication orale intitulée 'Architectonic Quantum Dots'. Réunion du groupe de contact FNRS 'Atomes et Molécules' du 14/12/98 à Louvain-la-Neuve.
31. Perspectives in Chemistry , Jerusalem (Israel), 17-22/05/1998.

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30. Science at the Turn of the Century , 20 Years of Wolf Prizes, Jerusalem (Israel) ,11-12/05/1998.
29. The Okazaki COE conference on Molecular Science of Excited States and Nonadiabatic Transitions, Okazaki (Japan), 25-28/03/1998. Two posters : On the Inverse Born Oppenheimer Separation for High Molecular Rydberg States and Charge Directed Reactivity : a Simple Electronic Model Exhibiting Site Selectivity for the Fragmentation of Ions.
28. James Franck Symposium on Laser-Matter Interaction , oral presentation : Charge directed reactivity : A simple model exhibiting site selectivity in the dissociation of ions, Schloss Rinberg, Tegernsee, 15-18/02/1998.
27. Seminar : Physical Aspects and Quantitative Theory of the Dynamics of High Molecular Rydberg States, Chemical Physics Department, ETH, Zürich, 12/12/1997.
26. Seminar :Time Resolved ZEKE Spectra of High Molecular Rydberg States : Physical Aspects and Dynamical Computations, FOM Institute for Atomic and Molecular Physics (AMOLF) , Amsterdam , 3/11/1997.
25. FNRS meeting , group : Atomes, Molécules et Radiation, oral presentation : Physical Aspects and Quantitative Theory of Time Resolved Spectroscopy of High Molecular Rydberg States, ULB (Brussels) 20/11/1997.
24. Participation to the Colloquium for Dr. H. Lefevbre-Brion, Orsay, Université de Paris Sud 13/10/1997.
23. Quantum Chemistry in Belgium, Oral presentation : Charge Directed Reactivity : a Simple Electronic Model Exhibiting Site Selectivity for the Dissociation of Ions in Mass Spectrometry, 9/10/1997, ULB (Brussels).
22. 'Research Conference on Very High Resolution Spectroscopy with Photoelectrons', oral presentation : Physical Aspects and Quantitative Theory of Time Resolved Spectroscopy of High Molecular Rydberg States, Emmetten (Switzerland) 20-25/09/1997.
21. International Workshop 176. WE-Heraeus-Seminar : New Theoretical Concepts in ZEKE Spectroscopy, Invited oral presentation : Physical Aspects and Quantitative Theory of Time and Frequency Resolved ZEKE spectra, Kreuth (Germany) , 5-8/07/1997.
20. Joint LURE and LPPM (CNRS) Seminar: Spectres ZEKE résolus en temps et en fréquence : Aspects physiques et simulations dynamiques, Université de Paris Sud, Orsay, 25/04/1997.
19. Physical Chemistry Department Seminar :Time and Frequency Resolved ZEKE Spectroscopy, Tel- Aviv University, 6/03/ 1997
18. Israeli Conference on Molecular Dynamics and The James Franck Symposium, Ein Gedi (Israël) , 12-15/01/1997. Oral presentation : Time and Frequency Resolved ZEKE spectroscopy.
17. Symposium on charge transfer and molecular wires, SFB meeting, Tegernsee, Germany, 14-16/12/ 1996.
16. Weekly Seminar : Time and Frequency Resolved ZEKE Spectroscopy , Institut für Physikalische und Theoretische Chemie, Technische Universität München, 21/11/1996.
15. Meeting of the Royal Society : 'Discussion Meeting on Molecular Rydberg Dynamics', London, 6-7/11/1996. Poster and oral presentation : Time and Frequency Resolved ZEKE Spectroscopy.
14. Meeting : Quantum Chemistry in Belgium, Leuven (KUL), 26/09/1996. Poster : Quantal Long Time Dynamics in High Molecular Rydberg States.
13. 11'th European Conference on Dynamics of Molecular Reactions, 1-6/09/1996, Nyborg, Denmark. Poster : Prompt and Delayed Decay from a Dense Set of States.
12. Seminar : Dynamique Intramoléculaire dans les Etats de Rydberg Hautement Excités' , FNRS meeting, 24/05/96.
11. Seminar : Quantal Long Time Dynamics in High Molecular Rydberg States, Free University of Amsterdam, 15/05/96.
11. Fritz Haber Research Center seminar : Prompt and Delayed Decay from a Dense Set of States, The Hebrew University, Jerusalem, 22/2/1996.
10. Invited participation to the 'XXe Solvay Meeting : Photochemistry : Chemical Reactions and their control on the femtosecond time scale, Brussels, 28/11- 2/12/1995.

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9. Meeting 'Quantum chemistry in Belgium : Current aspects and trends for the future', Namur(Belgium) , 26-27/10/1995. Oral presentation : Intramolecular dynamics in a dense set of states : Prompt and delayed dissociation.
8. NATO workshop 'Overtone Spectroscopy and Dynamics', Han-sur-Lesse (Belgium), 10-16/04/1994. Poster : Time evolution in phase space and the fluctuation of overtone intensities.
7. Workshop 'Femtosecond infrared Multiphoton Dissociation' , Max-Planck-Institut-für-Quantenoptik , Munich, 5-7/07/1993. Oral presentation : The separation of time scales in molecular dynamic
6. Seminar : Time Domain Information from Frequency-resolved data using Maximum Entropy, Rice Quantum Institute, Houston University, Texas, 28/04/1993.
5. Meeting 'Femtosecond Chemistry' , Freie Universität, Berlin, 1-5/03/1993.
4. Oral presentation The sequential exploration of phase space probed by high resolution spectroscopy ' at the FNRS meeting High resolution molecular spectroscopy, ULB (Brussels, Belgium) 1/12/1992.
3. Fritz Haber Research Center seminar : The sequential exploration of phase space in polyatomic molecules, Hebrew University, Jerusalem, 10/09/1992.
2. 5th European workshop on molecular spectroscopy and photo-induced dynamics, Wégimont (Belgium), 8-11/05/1989. Poster.
1. Workshop 'vibrational predissociation', CECAM, Paris, 14-22/06/1987 .