The University Of Sheffield.

CURRUCULUM VITAE

Adrien A. P. CHAUVET

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SUMMARY

PERSONAL DETAILS

SURNAME: **Chauvet** FORNAMES: **Adrien**, Alexis, Paul

DEPARTMENT: **Chemistry**

QUALIFICATIONS:

- **Doctor of Philosophy** in Biophysics, Oct. 2012
  Dept. of Physics & Astronomy, Purdue University**,** *West Lafayette, Indiana, USA*
  Dissertation: Energy and Electron Processes in Photosynthetic organisms.
- **Master of Science** in Physics, May 2008
  Dept. of Physics & Astronomy, Purdue University**,** *West Lafayette, Indiana, USA*
  Graduate GPA: 3.53/4.0
- **Bachelor of Science,** May 2005
  Research and Formation Unit of Physical Sciences**,** *Strasbourg, France*
  Physics; Graduated with honors.
- **Diploma of General University Studies (DEUG)**, May 2004
  Louis Pasteur University (ULP)**,** *Strasbourg, France*
  Science and Technology, Material Sciences; Graduated with high honors.

CURRENT APPOINTMENT:

- **Lecturer** in Physical Chemistry 2016-Present
  Dept. of Chemistry, The University of Sheffield, Sheffield, *United Kingdom*

PREVIOUS APPOINTMENTS:

- **Postdoctoral researcher** in the Group of Applied Physics (GAP) – Biophotonics, 2015-2016
  Dept. of Chemistry, University of Geneva (UNIGE), *Geneva, Switzerland*
- **Scientist / Postdoctoral fellow** in Laboratoire de Spectroscopie Ultrarapide (LSU), 2012-2015
  Dept. of Chemistry, Ecole Polytechnique Fédérale de Lausanne (EPFL), *Lausanne, Switzerland*

MEMBERSHIP OF LEARNED SOCIETIES:

- Member of the **American Vacuum Society** 2016-2017
- Member of the **Swiss Chemical Society** 2015-2016
- Member of the **American Association for Physics Teacher (AAPT)** 2012-2014
- Member of the **Graduate Employees Organization (GEO)** 2011-2012
  of Purdue University: voice and address Purdue's staff issues.
- Member of the **Physics Graduate Student Association (PGSA)** 2012
  of Purdue University: assess progress and address students concerns.
- Member of the **National Association for Multicultural Education** 2011-2012
  teaching for social justice.
- Member (life-) of **The National Scholars Honor Society**. 2008-Present

TEACHING AND ADMINISTRATION

CURRENT TEACHINGS:

• **UV-visible and magnetic resonance spectroscopy** Created syllabus, lecture materials and exams.	Undergraduate	Year 2
• **Mathematics for Chemistry**	Undergraduate	Year 1
• **Physical Chemistry Tutorial**	Undergraduate	Year 2
• **Workshop** (UV-vis & NMR spectroscopy)	Undergraduate	Year 2
• **Literature Review**	Undergraduate	Year 3
• **Advanced Physical Chemistry Laboratory**	Undergraduate	Year 3

PREVIOUS UNDER- AND POSTGRADUATE TEACHING:

• **Molecular and Electronic Spectroscopy** Created syllabus, lecture materials, homework and exams.	Postgraduate	2013, 2014
• **Pedagogical Methodology for Graduate Students** Developed a culturally relevant course material aimed at social justice.	Postgraduate	2012
• **Physics Laboratory**	Undergraduate	2007-2012
• **Physics Tutorial**	Undergraduate	2011
• **High School Physics** Created syllabus, lecture materials, homework, exams, experimental demonstrations and activities.	Advanced Placement A-level	2009-2012

PROFESSIONAL TEACHING DEVELOPMENT:

Certifications:

- **Certificate in Learning & Teaching (CiLT)** from the Learning and Teaching Services (LeTS) of The University of Sheffield. 2018
- **Advanced Graduate Teacher Certificate (AGTC)** from the Center for Instructional Excellence (CIE) of Purdue University for the commitment in developing my teaching skills (two-year program) 2012
- **Graduate Teacher Certificate (GTC)** from the Center for Instructional Excellence (CIE) of Purdue University for the dedication and improvement of teaching skills (one-year program) 2010

Semester-long courses at Purdue University: 2009-2012

Pedagogical Methodology for Graduate Students, *Dept of Physics*; **Multicultural Education**, *Dept of Curriculum Instruction*; **Language Study for Educators**, *Dept of C. and I.*; **Introduction to Critical Pedagogy,** *Dept of Educational Studies*; **Politics, Race, Class and Gender and Social Inquiry**, *Dept of Ed. Studies*; **Sociology of Education**, *Dept of Ed. Studies*; **History of American Education**, *Dept of Ed. Studies*; **Critical Race Theory**, *Dept of C. I.*

ADMINISTRATIVE ROLES:

Timetabling: 2019

- Organizing the department's teaching schedule.

Undergraduate Recruitment Team: 2018-present

- Developing and implementing strategies to facilitate and improve recruitment.
- Setting admission standards and policies.

Science and Religion Society: 2018-present

- Organize regular interfaith discussions about the interplay between science and religion.

Outreach Team: 2017-present

- Developing and participating to outreach activities within the department and in local communities.
- Looking for funding sources to enable outreach activities.

PROFESSIONAL VISIBILITY AND OUTREACH

PRESENTAION TO SCIENTIFIQUE AUDIENCE:

- CLF User Meeting, *Oxford, UK*: **talk** 2019
- Imaging Life Café, *Sheffield, UK*: **talk** 2019
- 2017 Energy Symposium at the U. of Sheffield, *Sheffield, UK*: **talk** and **poster** 2017
- ISPPCC 2017, *Oxford, UK*: **talk** 2017
- 2017 Krebs Symposium at the U. of Sheffield, *Sheffield, UK*: **talk** 2017
- AVS 63rd International Symposium and Exhibition, *Nashville, USA*: **invited talk** 2016
- Tetra Pyrrole Discussion (Annual) Group Meeting, *Liverpool, UK*: **invited talk** 2016
- MUST Annual Meeting 2016, *Engelberg, CH*: **talk** and **poster**. 2016
- Swiss Photochemistry Section Annual Meeting 2015, *Zurich, CH***: talk** 2015
- Swiss Chemical Society Fall Meeting 2013 – 2015, *CH*: **talk** and **poster**. 2013-2015
- University of Zurich (ETHZ), Ultrafast Dynamics Group, *CH*: **invited talk**. 2014
- University of Geneva, Applied Physics Group, *CH*: **invited talk**. 2014
- 39th Midwest Photosynthetic Conference, *USA*: **talk** *on my behalf*. 2013
- IPS-19, *Berkeley, USA*: **talk** and **poster**. 2012
- 34th - 37th Midwest Photosynthetic conference, *Turkeyrun, USA*: **talk** and **poster**. 2008-2011

COMMUNITY ENGAGEMENT:

- **Outreach talk** at **Cafe Scientifique**, *Sheffield, UK* 2018
- Science fair **Judge** at Netherwood School, *Barnsley*, UK 2018
- **Outreach talk** at the 2017's **24hr Inspire** charity event, *Sheffield, UK* 2017
- **Outreach talk** at St Mary's Catholic High School, *Chesterfield, UK* 2016
- **PI** for the 2014 **interdisciplinary project**, at EPFL, *Lausanne, CH* 2014
- Fellow of the **Equal Opportunities Office**, at EPFL, *Lausanne, CH* 2014
- **Physics outreach organizer** at MTI school of Knowledge, IN: coordinator, advertiser & fund raiser, *Indianapolis, USA.* 2011-2012
- **Senator** representing the Physics Dept. for the **Purdue Graduate Student Government (PGSG)**: serve as intermediary between the Administration and the graduate student population, *West Lafayette, USA.* 2011-2012
- Committee member of the **Ruth and Joel Spira Award** at Purdue University, *West Lafayette, USA.* Spring 2011

GRANTS AND SCHOLAR/FELLOWSHIPS:

- EPSRC's **Young Investigator Award** (£ 370k) 2018
- Molecular Ultrafast Science and Technology (MUST)'s **2014 Educational Competition**, for project-based initiation of children to solar technologies. 2014
- **International Fellowship Program** from the Swiss National Center of Competence in Research and the FP7 Marie Curie Actions-People. 2013-2015
- **Student Grant Program for Community Service/Service Learning Projects** from Purdue University, for the *Purdue Nano-Days* project. 2012
- **Scholarship** from the National Association for Multicultural Education. 2011
- **Student Grant Program for Community Service/Service Learning Projects** from Purdue University, for the *Science Immersion Project*. 2011
- **Scholarship** from the Région Alsace 2005-2006

RESEARCH AND PUBLICATIONS

CURRENT RESEARCH AREAS:

- **Ultrafast Transient Spectroscopy** of photosynthetic molecular complexes, single porphyrins, porphyrin complexes and thin films in the UV-Vis-IR.
- **Pulse shaping** for the enhancement of chemical reactions.
- Development of **analytical tools** (Matlab-based) of transient absorption data.
- Application of **microfluidics** for ultrafast spectroscopy measurement.
- **Optical Coherent Tomography** of plants for the visualization of plant communication and defense mechanisms.

PREVIOUS RESEARCH:

GAP – Biophotonics at UNIGE, Geneva, *Switzerland* (Prof. J.-P. Wolf) 2015-2016

- **Pulse shaping** for ultrafast pump-probe spectroscopy of molecules in the Vis using a TOPAS-white seeded by a cryo-cooled IR amplifier. The shaping was done via LCD phase mask pulse shaper (home-built) optimized by Genetic Algorithm.
- Built a state-of-the-art **electroretinogram** apparatus for monitoring mice's eye response to shaped light.
- **High Harmonics Generation** via gas-cell for spectroscopy in the X-UV spectral region (water-window) via TOPAS-High Energy seeded by a cryo-cooled IR amplifier.

LSU at EPFL, *Lausanne, Switzerland* (Prof. M. Chergui) 2012-2015

- Set-up a **UV-Vis pulse compression** (home-built) optimized via Genetic Algorithm-assisted deformable mirror (sub-10 femtoseconds, >100 nm bandwidth).
- Set-up a **2-Dimentional Electronic Spectroscopy** with broad spectral range (>100 nm) in the UV-Vis via a phase stable, CARS geometry.
- Set-up **high power white light source** (400-800nm) via IR-seeded hollow core gas-filed fiber.
- **Ultrafast Ultrabroad Pump-Probe** spectroscopy of molecules in the UV-Vis via IR-seeded TOPAS-white and NOPA (home-built).

Purdue University, *West Lafayette, Indiana, USA* (Prof. S. Savikhin) 2005-2012

- **Ultrafast femtosecond** spectroscopy with a (home-built) Ti-sapphire pulsed laser amplifier and OPA in the Vis-NIR.
- **Nanosecond pump-probe** spectroscopy via Q-switch and excimer-dye laser in the Vis.
- Set-up a **femtosecond white light continuum generator** at 80 MHz via microstructured (photonic crystal) optical fiber for pump-probe experiment.
- **LHT/LNT cryogenics** experiments
- **Terahertz** spectrometry; **Steady-State absorption** and **Fluorescence** spectrometry; Biological sample preparation and purification; Precision machining etc.

PUBLICATIONS:

Journal articles:

11. **Time-resolved -ray absorption spectroscopy with a water window high-harmonic source.**
Y. Pertot, C. Schmidt, M. Matthews, A. Chauvet, M. Huppert, V. Svoboda1, A. von Conta1, A. Tehlar, D. Baykusheva1, J.-P. Wolf, H. J. Wörner *Science, 2017*
10. **Ultrafast dynamics of the photo-excited hemes *b* and c_n in the cytochrome b_6f complex.**
Rachna Agarwal and Adrien Chauvet *PCCP, 2017*
9. **Photo-induced oxidation of the uniquely liganded heme *f* in the cytochrome b_6f complex of oxygenic photosynthesis.**
Adrien Chauvet, Rachna Agarwal, Frank van Mourik and William A. Cramer *PCCP, 2016*
8. **Note: Small Anaerobic Chamber for Optical Spectroscopy.**
Adrien Chauvet, Rachna Agarwal, William A. Cramer, and Majed Chergui *RSI, 2015*
7. **Setup for Broadband Fourier-Transform multidimensional electronic spectroscopy.**
A Al Haddad, A. Chauvet, J. Ojeda, C. Arrell, F. Van Mourik, G. Auböck, M. Chergui. 40 (3), pp. 312-315 *Optic Letters, 2015*
6. **Does the Singlet Minus Triplet Spectrum with Major Photobleaching Band Near 680-682 nm Represent an Intact Reaction Center of Photosystem II?**
Adrien Chauvet, Ryszard Jankowiak, Adam Kell, Rafael Picorel, Sergei Savikhin. 119 (2), pp 448–455 *J. Phys. Chem. B, 2015*
5. **Photo-induced dynamics of the heme centers in cytochrome bc_1**
Adrien Chauvet, André Al Haddad, Wei-Chun Kao, Carola Hunte, Majed Chergui. 17(3), pp 2143-51 *PCCP, 2014*
4. **A Microfluidic Flow-Cell for the Study of the Ultrafast Dynamics of Biological Systems.**
Adrien Chauvet, Tania Tibiletti, Stefano Caffarri, Majed Chergui. 85 *RSI, 2014*
3. **A Map of Dielectric Heterogeneity in a Membrane Protein: the Hetero-Oligomeric Cytochrome b_6f Complex**
S. Saif Hasan, Stanislav D. Zakharov, Adrien Chauvet, Valentyn Stadnytskyi, Sergei Savikhin and William A.Cramer *J. Phys. Chem. B, 2014*
2. **Temporal and spectral characterization of the photosynthetic reaction center from *Heliobacterium modesticaldum***
Adrien Chauvet, Josephine Sarrou, Su Lin, Steven P. Romberger, John H. Golbeck, Sergei Savikhin and Kevin E. Redding. 116, pp 1-9 *Photosyn. Res., 2013*
1. **Spectral Resolution of the Primary Electron Acceptor A_0 in Photosystem I**
Adrien Chauvet, Naranbaatar Dashdorj, John H. Golbeck, T. Wade Johnson, and Sergei Savikhin. 116 (10), pp 3380–3386 *J Phys. Chem. B, 2012*

Book chapters:

3. **Fourier Transform in Ultrafast Spectroscopy**.
   Adrien Chauvet, in **Fourier Transforms - Century of Digitalization and Increasing Expectations**, DOI: 10.5772/intechopen.84897 2019
2. **Microfluidics for Ultrafast Spectroscopy**.
   Adrien Chauvet, in **Applications of Microfluidics**, ISBN 978-953-51-4623-0 2016
1. **Beyond dominant discourse on Islam: proposal for disruptions through teacher education programs for democratic engagement and social justice**
   *Amina Shareef and Adrien Chauvet, Chapter in **Teacher education for social justice**, Editor: Luciana C. de Oliveira, ISBN: 9781623961084* *2013*

Book:

1. **De la science à la croyance - Raffermir sa foi par une approche scientifique**.
   Adrien Chauvet, SKU 97827524017241 2019

Proceedings:

3. **Dielectric Heterogeneity in the Cytochrome *b*6*f* Complex.**
   Stanislav D. Zakharov, Saif S. Hasan, Adrien Chauvet, Valentyn Stadnytsky, Sergei Savikhin, William A. Cramer. 106 (2), Supplement 1, pp 371a *Biophys. J., 2015*
2. **Electrostatically Constrained Pathway of Intra-Monomer Electron Transfer in the Cytochrome *b*6*f* Complex of Oxygenic Photosynthesis**
   Stanislav D. Zakharov, Saif S. Hasan, Adrien Chauvet, Sergei Savikhin, William A. Cramer. 104 (2), Supplement 1, pp 488a *Biophys. J., 2014*
1. **Type I Reaction Center from the Green Sulfur Bacterium *Chlorobium tepidum*: is Chl *a* the Primary Electron Acceptor?**
   Adrien Chauvet, Bharat Jagannathan, John H. Golbeck and Sergei Savikhin. 96 (3), Supplement 1, pp 526a–527a *Biophys. J., 2009*