

Frédéric Chandezon

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48, married, 3 children



Educational Background:

- "Habilitation à diriger des recherches" degree, University Joseph Fourier, Grenoble, France, October 2003

- PhD, Cluster physics, University Joseph Fourier, Grenoble, France, November 1994

- Master degree, University of Orsay Paris-Sud, Paris, France, July 1991

- Engineer Degree in physics, ESPCI Paris tech, Paris, France, June 1991

Professional History:

2014-present

Head of INAC/SPrAM (joint CEA-CNRS Grenoble University research unit)

2013

Deputy head INAC/SPrAM (joint CEA-CNRS Grenoble University research unit)

2005-2013

Research scientist, INAC, CEA Grenoble, France

2001-2005

Project leader, INAC, CEA Grenoble, France

1996-2000

Research Scientist, Department of Basic Science on Condensed Matter, CEA Grenoble, France

1994-1996

The Niels Bohr Institute, University of Copenhagen, Denmark,

Post Doctoral Scholarship (Marie Curie European postdoctoral fellow)

Selected Synergistic Activities:

- "Colloidal semiconducting nanocrystals" project leader, INAC, CEA Grenoble (2001→ 2005);

- MYOSOTIS (ANR contract n°ANR-08-NANO-012-01) project leader (2009 → 2011);

- Involved in several national or international research projects;

- Chair of the workshop "Nano-hybrides 2", Autrans, France, June 2005;

- Member of the organizing committee of "Forum des microscopies à sonde locale", Autrans, France, March 2006; European School on Nanosciences and Nanotechnologies (ESONN): www.esonn.fr (since 2008); "Matériaux et nanostructures π -conjuguées MNPC", Annecy, France, October 2013.

- Member of the scientific committee of the international conference "Photovoltaic Technical Conference PVTC": www.photovoltaiic-technical-conference.com (since 2010);

- Member of the steering committee of the **Nanorgasol** french network on plastic solar cells: <http://nanorgasol.univ-pau.fr>

Teaching activities:

- Associate professor on organic electronics at the "Polymers for Advanced Technologies" and "N2 Nanosciences and Nanotechnology" Masters, University Joseph Fourier, Grenoble, France;

- Invited professor for several short courses in spanish in Peruvian and Ecuadorian research institutions and universities (*Instituto Peruano de Energia Nuclear, Universidad Mayor de San Marcos Lima, Universidad San Antonio Abad del Cuzco, Peru; Escuela Politecnica Nacional; Universidad Nacional San Francisco, Quito, Ecuador*).

International cooperation

- Coordinator of the EERA Joint Programme AMPEA (Advanced Materials and Processes for Energy Applications) with 46 partners <http://www.eera-set.eu/eera-joint-programmes-jps/15-eera-joint-programmes/advanced-materials-and-processes-for-energy-application-ampea/>

- Coordinator for two FP7 NMP project proposals

- Scientific cooperation with Peru and Andean countries:

- Co-chair of SPECTRA 2009 “*II escuela andina de espectroscopia y II conferencia internacional de espectroscopia*”, march 2009, Lima (2009); symposium co-organizer “Materials and nanoscience” at SPECTRA 2009;
- Funding member of the Nano-andes network (www.nanoandes.org); member of the organizing committee of “*Taller internacional en nanociencias Nano-andes*”, march 2010, Lima (Peru); November 2012, Quito (Ecuador); November 2013, La Paz (Bolivia).

Language skills

- **French:** mother language
- **English:** fluent
- **Spanish:** fluent (lecturing in Spanish)
- **Danish:** average (2 years spent as a postdoc in Denmark)

Selected publications: (60 total publications, h-index = 20)

- V. Artero, F. Chandezon, D. Co, B. Dietzek “European and international initiatives in the field of artificial photosynthesis ” in “Artificial Photosynthesis” B. Robert (Ed.), Elsevier (in press).
- T. Chevallier, G. Le Blevenec, F. Chandezon, “ Photoluminescence properties of AgInS₂-ZnS ” *Nanoscale*, **8**, 7612-7620 (2016).
- A. de Kergommeaux, Mi. Lopez-Haro, S. Pouget, J.-M. Zuo, C. Lebrun, F. Chandezon, D. Aldakov, P. Reiss “ Synthesis, internal structure, and formation mechanism of monodisperse tin sulfide nanoplatelets ” *Journal of the American Chemical Society*, **5**, 9943-9952 (2015).
- A. Lefrançois, B. Luszczynska, B. Pépin-Donat, C. Lombard, B. Bouthinon, J.-M. VÉrilhac, M. Gromova, J. Faure-Vincent, S. Pouget, F. Chandezon, S. Sadki, P. Reiss “Enhanced Charge Separation in Ternary P3HT/PCBM/CuInS₂ Nanocrystals Hybrid Solar Cells” *Scientific Reports*, **5**, 7768 (2015).
- M. Lopez-Haro, L. Guetaz, T. Printemps, A. Morin, S. Escribano, P.-H. Jouneau, P. Bayle-Guillemaud, F. Chandezon, G. Gebel “Three-dimensional analysis of Nafion layers in fuel cell electrodes” *Nature Communications* **5**, 5229 (2014).
- M. Lopez-Haro, T. Jiu, P. Bayle-Guillemaud, P.-H. Jouneau, F. Chandezon “Multiscale analysis of polymer-nanoparticle hybrid materials for solar cells ” *Nanoscale* **5**, 10945-10955 (2013).
- L. Hartmann, D. Djurado, I. Florea, J.-F. Legrand, A. Fiore, P. Reiss, S. Doyle, A. Vorobiev, S. Pouget, F. Chandezon, O. Ersen, M. Brinkmann “Large-scale simultaneous orientation of CdSe nanorods and regioregular poly(3-hexylthiophene) by mechanical rubbing” *Macromolecules* **46**, 6177-6186 (2013).
- L. Hartmann, A. Kumar, M. Welker, A. Fiore, C. Julien-Rabant, M. Gromova, M. bardet, P. Reiss, P.N.W. Baxter, F. Chandezon, R. Pansu “Quenching dynamics in CdSe nanoparticles: surface-induced defects upon dilution” *ACS Nano* **6**, 9033-9041 (2012).
- N. Berton, C. Ottone, V. Labet, R. de Bettignies, S. Bailly, A. Grand, C. Morell, S. Sadki, F. Chandezon “New alternating copolymers of 3,6-carbazoles and dithienylbenzothiadiazoles: synthesis, characterization, and application in photovoltaics” *Macromol. Chem. Phys.* **212**, 2127-2141 (2011).
- D. Aldakov, T. Jiu, M. Zagorska, R. de Bettignies, P.-H. Jouneau, A. Pron, F. Chandezon “Hybrid nanocomposites of CdSe nanocrystals distributed in complexing thiophene-based copolymers”, *Phys. Chem. Chem. Phys.* **12**, 7497-7505 (2010).

- T. Jiu, P. Reiss, S. Guillerez, R. de Bettignies, S. Bailly, F. Chandezon, "Hybrid solar cells based on blends of CdSe nanorods and poly(3-alkylthiophene) nanofibers" *IEEE J. Sel. Top. Quantum Electron.* **16**, 1619-1626 (2010), invited paper in a special issue on organic photovoltaics.
- M. Brinkmann, F. Chandezon, R.B. Pansu, C. Julien-Rabant "Epitaxial growth of highly oriented fibers of semiconducting polymers with a shish-kebab super-structure", *Adv. Funct. Mater.* **19**, 3819-3823 (2009): *article and journal cover*.
- N. Berton, I. Fabre-Francke, D. Bourrat, F. Chandezon, S. Sadki "Poly(bisthiophene-carbazole-fullerene) double-cable polymer as new donor-acceptor material: preparation and electrochemical and spectroscopic characterization" *J. Phys. Chem. B* **8**, 14087-14093 (2009).
- M. Brinkmann, D. Aldakov, F. Chandezon "Fabrication of oriented and periodic hybrid nanostructures of regioregular poly(3-hexylthiophene) and CdSe nanocrystals by directional epitaxial solidification", *Adv. Mater.* **19**, 3819-3827 (2007).
- D. Aldakov, F. Chandezon, R. de Bettignies, M. Firon, P. Reiss, A. Pron "Hybrid organic-inorganic nanomaterials: ligand effects" *Eur. Phys. J. Appl. Phys.* **36**, 261-265 (2006).
- P. Reiss, G. Quemard, S. Carayon, J. Bleuse, F. Chandezon, A. Pron "Luminescent ZnSe nanocrystals of high color purity" *Mater. Chem. Phys.* **84**, 10-13 (2004).
- F. Chandezon, S. Tomita, D. Cormier, P. Grübling, C. Guet, H. Lebius, A. Pesnelle, B. A. Huber : « *Rayleigh instabilities in multiply charged sodium clusters* », *Phys. Rev. Lett.* **87**, 153402 (2001).
- R. Antoine, P. Dugourd, D. Rayane, E. Benichou, M. Broyer, F. Chandezon, C. Guet "Direct measurement of electric dipole polarizability of isolated C₆₀ molecules" *J. Chem. Phys.* **110**, 9771-9772 (1999).
- F. Chandezon, P.M. Hansen, C. Ristori, J. Pedersen, J. Westergaard, S. Bjørnholm : « *Evaporation of clusters in a heat bath* », *Chem. Phys. Lett.* **277**, 450 (1997).
- F. Chandezon, C. Guet, B.A. Huber, D. Jalabert, M. Maurel, E. Monnard, C. Ristori, J.C. Rocco "Critical sizes against Coulomb dissociation of highly charged sodium clusters obtained by ion impact" *Phys. Rev. Lett.* **74**, 3784-3787 (1995).
- F. Chandezon, C. Guet, B.A. Huber, D. Jalabert, M. Maurel, E. Monnard, C. Ristori, J.C. Rocco "Critical sizes against Coulomb dissociation of highly charged sodium clusters obtained by ion impact" *Phys. Rev. Lett.* **74**, 3784-3787 (1995).
- F. Chandezon, B.A. Huber, C. Ristori : « *A new regime Wiley-McLaren time-of-flight mass spectrometer* », *Rev. Sci. Instr.* **65**, 3344 (1994).