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### Experience:

#### *LCC laboratory, Toulouse*

Since Oct. 2009 : CNRS full position, Directrice de Recherche 2<sup>ème</sup> classe

2006-2009 : CNRS full position, Chargée de Recherche 1<sup>ère</sup> classe

#### *ITODYS laboratory, Univ. of Paris7*

2000-2006 : CNRS full position, Chargée de Recherche 1<sup>ère</sup> classe

1996-2000 : CNRS full position, Chargée de Recherche 2<sup>ème</sup> classe

1995-1996 : post-doctoral position in laboratory ITODYS, Univ. of Paris7

### Education:

**Habilitation à Diriger les Recherche (HDR), University of Paris VII, 11/2005:** *Design, synthesis and electropolymerization of functional pi-conjugated systems: study of electronic interactions in organic or hybrid reticulated systems.*

**PhD, University of Paris VI, 01/1995:** *Design, synthesis and study of organophosphorylated molecules. Characterization of their related polymers and use in non-linear optics.*

**Ms, University of Paris VI, 06/1991:** *inorganic chemistry and molecular materials.*

### Research interests:

#### *ITODYS, Univ. of Paris7 (1995-2006)*

My activity was mainly focused on synthesis of pyrrole and thiophene for innovative materials obtained through electropolymerization. These materials were devoted to several studies: their use in anticorrosion, the study of materials with switchable magnetic properties by electrical command (dual properties: conductivity and magnetism), the study of the impact of the polymer architecture on the promotion of the electronic interchain transfer.

#### *LCC, Toulouse (Sept 2006 up to now)*

In September 2006, I moved to Toulouse for driving a new thematic centered on electronic organics. Electronic transfer is of great interest for any material used in energy conversion/transfer.

My current research concerns the synthesis and the study of original organic materials presenting specific aggregation behavior for organic electronics or photophysical properties for imaging purpose. Molecular engineering is on the heart of my research work and is mainly focused on combination of organic fluorophores with phosphorylated dendrimers.

Web links: [https://www.researchgate.net/profile/Kathleen\\_Moineau](https://www.researchgate.net/profile/Kathleen_Moineau)

<https://www.lcc-toulouse.fr/auteur744.html>

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## **Collaborations:**

- Italy, Anna PAINELLI and Francesca TEREZIANI (University of Parma): theoretical modelization and optical spectroscopy on organic nanoparticles and thin films.
- Japan, Shogo MORI (Shinshu University): elaboration of dye-sensitized solar cells.
- Mexico, Ernesto RIVERA (UNAM, Mexico City): synthesis of molecules and oligomers.
- Toulouse, Christina VILLENEUVE-FAURE (LAPLACE laboratory, Univ. Paul Sabatier): AFM and KFM measurements on organic thin films.
- Toulouse, Isabelle SEGUY and Elena BEDEL-PEREIRA (LAAS-CNRS laboratory): set up and photochemical and electrical characterizations of organic thin films.
- Toulouse, Fabienne ALARY (LCPQ laboratory, Univ. Paul Sabatier): theoretical calculations on molecules and oligomers.

## **key words:**

Organic synthesis, direct (hetero)arylation, heterocyclic (pyrrole, thiophene, benzothiadiazole) chemistry, electrochemistry, molecular materials, dendrimers, molecular electronics, photovoltaics, multifunctional materials, thin films characterizations.

## **Experience in Peer Review:**

### **- Participation to National evaluation activities:**

- Member of the French National Council of The Universities, Section 31 (Physical chemistry, electrochemistry, theoretical chemistry, electrochemistry) 2004 to 2008.
- Evaluation of ANR projects: 2011 to 2021
- Member of ANR comity, programme ANR/JST TMOL: 2014-2015.

### **- Participation to European evaluation activities:**

- Evaluation of European projects, Strops and Collaborative Projects (FP6-NMP, FP7-ICT-2007-1, FP7-ENERGY-NMP-2008-1, ENERGY.2009.2.1.1, NMP.2009.1.2.1, FP7-NMP-2010-SMALL-4), People Individual Marie Curie Actions (FP7-PEOPLE-2011-IEF-IIF-IOF), Innovation Actions (Objective ICT-04-2017)
- Remote evaluation for Department of Programs and Projects Portuguese Foundation for Science and Technology, « Novel materials for electronic applications »: 2009-2010.
- Remote evaluation for the Latvian Council of Science (LCS) of the Republic of Latvia within the Project call of 2021.
- Remote evaluation for the European Science Foundation (2019, 2020, 2022)

## **National Science managing:**

- Member of the Steering Committee (2010-2018), member of the Scientific committee (since 2018) of the National French Network of Organic Electronics (GDR d'électronique organique, now called GDR OERA) funded in year 2010. About 40 laboratories participate to this Network. <http://gdr-oera.cnrs.fr/>
- Expert of the « Observatoire des Micro & nanotechnologies » OMNT Section : « organic electronics »: 2011-2015.

## **Publications:**

Some recent publications

-“The Usefulness of Trivalent Phosphorus for the Synthesis of Dendrimers”. A.-M. Caminade, K. I. Moineau-Chane Ching, B. Delavaux-Nicot, *Molecules* 2021, 26, 269.

<https://doi.org/10.3390/molecules26020269>

-“First Class of Phosphorus Dendritic Compounds Containing Cyclodextrin Units in the Periphery Prepared by CuAAC”. K. Sorroza-Martínez 1, I. González-Méndez, M. Vonlanthen, K. I. Moineau-Chane

Ching, A.-M. Caminade, J. Illescas, E. Rivera, *Molecules* 2020, 25, 4034; <https://doi.org/10.3390/molecules25184034>

- "β-Cyclodextrin PAMAM dendrimer: how to overcome the tumbling process for getting fully available host cavities." I. Gonzalez-Mendez A. Hameau, R. Laurent, C. Bijani, V. Bourdon, A.-M. Caminade . Rivera, K. I. Moineau-Chane Ching, *Eur. J. Org. Chem.*, 2020, 1114-1121 <https://doi.org/10.1002/ejoc.201901823>

- "Fluorescent phosphorus dendrimers excited by two photons: synthesis, two-photon absorption properties and biological uses." A.-M. Caminade, A. Zibarov, E. Cueto Diaz, A. Hameau, M. Klausen, K. Moineau-Chane Ching, J.-P. Majoral, J.-B. Verlhac, O. Mongin, M. Blanchard-Desce, *Beilstein J. Org. Chem.* 2019, 15, 2287-2303. <https://doi.org/10.3762/bjoc.15.221>

- "π-Stacking Interactions of Graphene-Coated Cobalt Magnetic Nanoparticles with Pyrene-Tagged Dendritic Poly (Vinylidene Fluoride)." E. Folgado, M. Guerre, N. Mimouni, V. Collière, C. Bijani, K. Moineau-Chane Ching, A.-M. Caminade, V. Ladmiral, B. Améduri, A. Ouali, *ChemPlusChem* 2019, 84, 78-84. <https://doi.org/10.1002/cplu.201800471>

- "Multistimuli-Responsive Materials from Benzothiadiazole-Based Charge-Transfer Chromophores: Interdependence of Optical Properties and Aggregation." B. Bardi, C. Dall'Agnese, M. Tassé, S. Ladeira, A. Painelli, K. I. Moineau-Chane Ching, F. Terenziani, *ChemPhotoChem* 2018, 2, 1027-1037. <https://doi.org/10.1002/cptc.201800145>

- "Enhancement of quantum efficiency by co-adsorbing small julolidine dye and bulky triphenylamine dye in dye-sensitized solar cells." C. Dall'Agnese, K. Komatsu, M. Koshika, D. Morikawa, K. I. Moineau-Chane Ching, S. Mori, *J. Photochem. Photobiol. A*, 2018, **356**, 403-410. <https://doi.org/10.1016/j.jphotochem.2018.01.021>

- "Dissymetrisation of benzothiadiazole by direct C-H arylation: a way to symmetrical and unsymmetrical elongated π-conjugated molecules." Chunxiang Dall'Agnese, Daniel Hernández Maldonado, Damien Le Borgne, Kathleen I. Moineau-Chane Ching, *Eur. J. Org. Chem.*, 2017(46) 6872-6877. <https://doi.org/10.1002/ejoc.201701382>

- "Spectroscopic Investigation and Theoretical Modeling of Benzothiadiazole-Based Charge-Transfer Chromophores: From Solution to Nanoaggregates." B. Bardi, C. Dall'Agnese, K. I. Moineau-Chane Ching, A. Painelli, F. Terenziani. *J. Phys. Chem. C*, 2017, **121** (32), 17466-17478. <https://pubs.acs.org/doi/pdf/10.1021/acs.jpcc.7b04647>

- "Nanoscale investigations on interchain organization in thin films of polymer-liquid crystal blend." C. Villeneuve-Faure, D. Le Borgne, V. Ventalon, I. Séguy, K. I. Moineau-Chane Ching, E. Bedel-Pereira. *J. Chem. Phys.* 2017, **147**, 014701-8. <https://doi.org/10.1063/1.4991415>

- "Cyclotriphosphazene, an old compound applied to the synthesis of smart dendrimers with tailored properties." A.-M. Caminade, A. Ouali, A. Hameau, R. Laurent, C. Rebout, B. Delavaux-Nicot, C.-O. Turrin, K. I. Moineau-Chane Ching, J.-P. Majoral. *Pure Appl. Chem.*, 2016, **88**(10-11), 919-929. <https://doi.org/10.1515/pac-2016-0711>

- "Design and synthesis of new small molecules for electronic organics via direct hetero-arylation using ligand-less palladium catalyst." K. I. Moineau-Chane Ching, 2016, *Polymat Contributions*, 1, 72-75. <http://www.iim.unam.mx/polymatcontributions/previous-volumes.html>

- "Synthesis of Benzothiadiazole-based molecules via direct arylation: an eco-friendly way of obtaining small semi-conducting organic molecules." C. Chen, D. Hernández Maldonado, D. Le Borgne, F. Alary, B. Lonetti, B. Heinrich, B. Donnio, K. I. Moineau-Chane Ching, *New J. Chem*, 2016, **40**(9), 7326-7337.  
<http://dx.doi.org/10.1039/C6NJ00847J>