

André ESTÉVEZ-TORRES

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Date of birth : 11.11.80
Nationality : Spanish
Researcher at CNRS

Education

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| July 2007 | PhD in Physical and Analytical Chemistry, Université Pierre et Marie Curie, Paris. |
| June 2003 | Masters in Physical Chemistry, Université Pierre et Marie Curie, Paris. |
| 2000–2002 | Double degree in Chemistry and Physics, Université Pierre et Marie Curie and École normale supérieure, Paris. |

Research

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| 2010–present | <i>Researcher at CNRS</i> at Laboratory for photonics and nanostructures, Marcoussis, France. "Engineering of dynamic reaction networks". |
| 2008–2010 | <i>Post-doctoral fellow</i> at Department of Physics, Princeton University. Advisor : Robert H. Austin. "Directed evolution of algae in microsystems for efficient production of biodiesel". |
| 2007–2008 | <i>Post-doctoral fellow</i> at Department of Physics, Kyoto University. Advisor : Kenichi Yoshikawa. "Photo-control of <i>in vitro</i> transcription activity by tuning the conformation of giant DNA". |
| 2003–2007 | <i>Graduate student</i> (PhD) at Department of Chemistry, École Normale Supérieure. Advisor : Ludovic Jullien. Title : "An electrophoretic microlaboratory to study the coupling between transport and chemical kinetics". |

Teaching and mentoring

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| 2012 | <i>Teaching Assistant</i> in M2, DNA nanotechnology (3 h), ENSTA ParisTech, Palaiseau. |
| 2012 | <i>Teaching Assistant</i> in M2, DNA nanotechnology (2 h), Université Paris Sud, Orsay. |
| 2011–present | <i>Teaching Assistant</i> in L3, chemical reactivity (32 h), Ecole normale supérieure, Paris. |
| 2011–present | <i>Examinator of concours d'entrée PC</i> at École normale supérieure, Paris. |
| 2004–2007 | <i>Teaching Assistant</i> in L1, general chemistry (200 h), Université Pierre et Marie Curie, Paris. |
| 2004–present | <i>Mentor</i> of 9 undergraduate research projects. |

Grants and fellowships

G3N CNRS (2012), ANR jeunes chercheuses et jeunes chercheurs *Dynano* (2012-2016), Projets coopératifs avec l'université d'Evry-Val-d'Esonne du PRES UniverSud *Microscila* (2012-2013), C'nano Ile-de-France *Enginets* (2012-2013), Triangle de la physique *Microgradients* (2010-2012), King Abdullah University of Science and Technology postdoctoral fellowship (2008-2010), Japan Society for Progress of Science postdoctoral fellowship (2008), Japan Science and Technology Agency invited researcher (2007-2008), French Research Ministry PhD fellowship (2004-2007), École normale supérieure undergraduate fellowship (2000-2004).

Publications

- J.-C. Galas, A.-M. Haghiri-Gosnet, A. Estévez-Torres, "A nanoliter-scale open chemical reactor", *submitted*, **2012**.
- A. Estévez-Torres, D. Baigl, "DNA compaction : fundamentals and applications", *Soft matter*, doi :10.1039/c1sm05373f, **2011**.
- L. Liu, K. Loutherback, D. Liao, D. Yeater, G. Lambert, A. Estévez-Torres, J.C. Sturm, R.H. Getzenberg, R.H. Austin, "A microfluidic device for continuous cancer cell culture and passages with hydrodynamic forces", *Lab Chip*, **10**, 1807–1813, **2010**.
- A. Estévez-Torres, C. Crozatier, A. Diguet, T. Hara, H. Saito, K. Yoshikawa, D. Baigl, "Sequence-independent and reversible photocontrol of transcription/expression systems using a photosensitive nucleic acid binder", *Proc. Natl. Acad. Sci.*, **106** , 12219–12223, **2009**.
- A. Estévez-Torres, T. Le Saux, C. Gosse, A. Lemarchand, A. Bourdoncle, L. Jullien, "Fourier transform to analyse the reaction diffusion dynamics in a microsystem", *Lab Chip*, **7**, 1205–1209, **2008**.
- M. Sollogoub, S. Guieu, M. Geoffroy, A. Yamada, A. Estévez-Torres, K. Yoshikawa, D. Baigl, "Photocontrol of single-chain DNA conformation in cell-mimicking micro-compartments", *ChemBioChem*, **9**, 1201–1206, **2008**.
- A. Estévez-Torres, C. Gosse, T. Le Saux, J.-F. Allemand, V. Croquette, H. Berthoumieux, A. Lemarchand, L. Jullien, "Fourier analysis to measure diffusion coefficients and resolve mixtures on a continuous electrophoresis chip", *Anal. Chem.*, **79**, 8222–8231, **2007**.
- A. Estévez-Torres, T. Le Saux, H. Berthoumieux, A. Georges, S. Fernandez, J.-F. Allemand, V. Croquette, A. Lemarchand, L. Jullien, C. Gosse, "Point mutation detection by on-chip diffusion coefficients measurement", *Proc. of μ TAS*, **2007**.
- A. Bourdoncle, A. Estévez Torres, C. Gosse, L. Lacroix, P. Vekhoff, T. Le Saux, L. Jullien, J.-L. Mergny, "Quadruplex-based molecular beacons as tunable DNA probes", *J. Am. Chem. Soc.*, **128**, 11094–11105, **2006**.

Invited talks

- July 2012 *Molecular choreography.* Seminar at Laboratoire d'optique et biologie, Ecole polytechnique, Palaiseau, France.
- May 2012 *Molecular choreography.* Seminar at Institut d'électronique, de microélectronique et de nanotechnologie, Villeneuve d'Ascq, France.
- September 2011 *Engineering reaction networks outside the cell : reactions and reactors.* 3rd Workshop on Stochasticity in Biochemical Reaction Networks, Banff, Canada.
- May 2011 *Engineering reaction networks outside the cell : reactions and reactors.* Seminar at Laboratoire de physique des solides, Université Paris sud, Orsay.
- May 2011 *Engineering reaction networks outside the cell : reactions and reactors.* CNRS microfluidics workshop, Lyon.
- May 2011 *Engineering reaction networks outside the cell : reactions and reactors.* Biophysics seminar, Ecole normale supérieure, Paris.
- November 2010 *Synthetic epigenetics : Sequence-independent photocontrol of gene expression in vitro.* Seminar at LIMMS, Institute of Industrial Sciences, Tokyo University.
- November 2010 *Synthetic epigenetics : Sequence-independent photocontrol of gene expression in vitro.* ICORP Seminar at Kyoto University.
- October 2010 *Synthetic epigenetics : Sequence-independent photocontrol of gene expression in vitro.* Seminar at Institut Joliot-Curie. Ecole normale supérieure de Lyon.
- March 2010 *Sedimentation-driven selection of lipid-producing microalgae* APS March meeting, Portland, Oregon.
- November 2007 *DNA separation and analysis in microsystems : Towards new genotyping technologies ?* Seminar at Prof. K. Takeyasu research group. Graduate School of Biostudies, Kyoto University.
- July 2007 *An electrophoretic microlaboratory to study the coupling between transport and chemical kinetics.* Seminar at Prof. J. Cate research group. Department of Chemistry, University of California Berkeley.
- July 2007 *An electrophoretic microlaboratory to study the coupling between transport and chemical kinetics.* Seminar at Prof. R. H. Austin research group. Department of Physics, Princeton University.
- May 2007 *Point mutation detection by on-chip diffusion coefficient measurement.* Réunion du Réseau Microfluidique et Microsystèmes Fluidiques, Paris, France.
- April 2007 *Continuous diffusion coefficient measurement in an electrophoresis chip.* Seminar of the Department of Physical Chemistry, Universidad de Barcelona, Spain.
- March 2007 *Continuous diffusion coefficient measurement in an electrophoresis chip.* Seminar of the Laboratory of Future, CNRS Rhodia, Bordeaux, France.
- September 2005 *A highly selective separation method for detecting DNA mutations.* 8èmes Journées francophones de jeunes physicochimistes, Marly Le Roi, France.
- September 2005 *Stochastic resonances and highly selective separation methods.* 18th International conference on noise and fluctuations, Salamanca, Spain.
- September 2005 *Studying DNA diffusion by fluorescence microscopy.* Seminar of the Environmental Sciences Department, Universidad de Castilla la Mancha, Toledo, Spain.
- September 2005 *A separation method based on diffusion.* Seminar of the Analytical Chemistry Department, Universidad de Alcalá de Henares, Spain.
- April 2004 *Kinetic DNA chips : Using fluctuations of a chemical system for controlling movement at the molecular level.* Frühjahrssymposium 2004, Heidelberg, Germany.

Contributed posters

August 2012	18th International Conference on DNA Computing and Molecular Programming, Aarhus, Danemark.
July 2012	Microfluidics 2012, Heidelberg, Germany.
May 2011	Physics and biological systems 2011, Orsay, France.
May 2009	Evolution : the molecular landscape, 74th Cold Spring Harbor Symposium on Quantitative Biology, Cold Spring Harbor, NY.
April 2008	ESF-UB Conference in systems biology, Sant Feliu de Guixols, Spain.
July 2007	4 th Gordon research conference on physics and chemistry of microfluidics, Waterville Valley, New Hampshire.
October 2006	Journées nationales en nanosciences et nanotechnologies, Besançon, France.
July 2005	Bio-Image summer school, Paris, France.
September 2003	8 th International summer school on biophysics : supramolecular structure and function, Rovinj, Croatia.