

**Liste exhaustive des productions scientifiques
au 31 mai 2021**

André Estevez-Torres

Laboratoire Jean Perrin, CNRS et Sorbonne Université, Paris

Birth: 11 november 1980
E-mail: andre.estevez-torres@upmc.fr
Phone: 01.44.27.77.72
Cell: 06.49.09.25.83

1 Pré-publications

1. Del Junco C, Estevez-Torres A, Maitra, A, **Front speed and pattern selection of a propagating chemical front in an active fluid**, *ArXiv* **2021**.
2. Senoussi A, Galas J-C, **Estevez-Torres A***, **Programmed mechano-chemical coupling in reaction-diffusion active matter**, *BioArxiv* **2021**. **Major work**

2 Publications. Articles dans des revues internationales avec comité de lecture

*= Corresponding author,

1. Van der Hofstadt M, Galas J-C, **Estevez-Torres A***, **Engineering an active extracellular medium with DNA programs**, *ACS nano* 15:1741-1752, **2021**. **Major work**
2. Urtel G, **Estevez-Torres A***, Galas J-C, **DNA-based long-lived reaction-diffusion patterning in a host hydrogel**, *Soft Matter* 15(45):9343-9351, **2019**.
3. Senoussi A, Kashida S, Voituriez R, Galas J-C, Maitra A, **Estevez-Torres A***, **Tunable corrugated patterns in an active nematic sheet**, *Proc. Natl. Acad. Sci. USA* 116:22464-22470, **2019**. **Major work**
4. Urtel G, Van Der Hofstadt M, Galas J-C, **Estevez-Torres A***, **rEXPAR: An isothermal amplification scheme that is robust to autocatalytic parasites**, *Biochemistry* 58(23):2675-2681, **2019**.
5. Senoussi A, Lee Tin Wah J, Shimizu Y, Robert J, Jaramillo A, Findeiss S, Axmann IM, **Estevez-Torres A***, **Quantitative characterization of translational riboregulators using an in vitro transcription-translation system**, *ACS Synthetic Biology* 7(5):1269-1278, **2018**.
6. **Estevez-Torres A**, Rondelez Y, Spatially localized DNA domino. *Nature nanotech.*, 12:842 **2017**. News and views.
7. A. Zadorin, Y. Rondelez, G. Gines, V. Dilhas, A. Zambrano, J.-C. Galas, **A. Estevez-Torres***, **"Synthesis and materialization of a reaction-diffusion French flag pattern"**, *Nat. Chem.*, 9: 990, **2017**. [arXiv:1701.06527](#), **Major work**
8. G. Gines, A. Zadorin, J.-C Galas, T. Fujii, **A. Estevez-Torres**, Y. Rondelez, **"Microscopic agents programmed by DNA circuits"**, *Nature nano*, 12: 351-359, **2017**.
9. Lee Tin Wah J, David C, Rudiuk S, Baigl D, **Estevez-Torres A*** **"Observing and controlling the folding pathway of DNA origami at the nanoscale"**. *ACS Nano* 10(2):1978-1987, **2016**. **Major work**
10. **Estevez-Torres A***, **"The expressionist movement"** *Nature Physics*, 11, 992-993, **2015**. News and views.
11. Zambrano A, Zadorin AS, Rondelez Y, **Estevez-Torres A***, Galas JC, **"Pursuit-and-evasion reaction-diffusion waves in microreactors with tailored geometry"** *J. Phys. Chem. B*, 119(17):5349-5355, **2015**.
12. Zadorin AS, Rondelez Y, Galas J-C, **Estevez-Torres A***, **"Synthesis of programmable reaction-diffusion fronts using DNA catalyzers"** *Phys. Rev. Lett.*, **2015**. Highlighted in **Physics**, **Chemistry World** and **Nature nanotechnology**. **Major work**

13. H. W. H. van Roekel, L. H. H. Meijer, Zandra C. F. Garza, S. Masroor, **A. Estévez-Torres**, Y. Rondelez, A. Zagaris, M. A. Peletier, P. A. J. Hilbers, T. F. A. de Greef, "Automated Design of Programmable Enzyme-Driven DNA Circuits", *ACS Synth. Biol.*, 10.1021/sb500300d, **2014**.
14. A. Padirac, T. Fujii, **A. Estévez-Torres***, Y. Rondelez, "**Spatial waves in synthetic biochemical networks**", *J. Am. Chem. Soc.*, 10.1021/ja403584p, **2013**. *Journal cover*. **Major work**
15. A.-C. Louër, A. Plecis, A. Pallandre, J.-C. Galas, **A. Estevez-Torres**, A.-M. Haghiri-Gosnet, "Pressure-Assisted Selective Preconcentration in a Straight Nanochannel", *Anal. Chem.*, 10.1021/ac4016159, **2013**.
16. Hasatani, K.; Leocmach, M.; Genot, A. J.; **Estevez-Torres, A.**; Fujii, T.; Rondelez, Y., "High-throughput and long-term observation of compartmentalized biochemical oscillators" *Chem. Commun.* 49, 8090-8092, **2013**.
17. J.-C. Galas, A.-M. Haghiri-Gosnet, **A. Estévez-Torres***, "A nanoliter-scale open chemical reactor", *Lab Chip*, 11, 415-423, **2013**.
18. **A. Estévez-Torres**, D. Baigl, "**DNA compaction: fundamentals and applications**", *Soft matter*, **2011**.
19. L. Liu, K. Loutherbach, 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**.
20. **A. Estévez-Torres**, C. Crozatier, A. Diguët, 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. USA*, 106, 12219-12223, **2009**.
21. **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**. **PhD**
22. 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", *Chem-BioChem*, 9, 1201-1206, **2008**.
23. **A. Estevez-Torres**, C. Gosse, T. LeSaux, 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, 8222-823, **2007**. **PhD**
24. 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**. **PhD**
25. D. Alcor, J.-F. Allemand, I. Aujard, J.-B. Baudin, C. Benbrahim, S. Charier, E. Cogné-Laage, V. Croquette, **A. Estévez Torres**, F. Ferrage, L. Jullien, A. Kononov, A. Lemarchand, H. Lemarchand, O. Ruel, "Assembly of modules from chemistry and supramolecular chemistry : From engineering of complexity to high-performance chromatography", *Russ. Chem. Bull.*, 53, 1379-1384, **2004**. **PhD**

3 Publications. Articles dans des revues nationales avec comité de lecture

26. D. Alcor, J.-F. Allemand, I. Aujard, T. Barilero, J.-B. Baudin, C. Benbrahim, D. Bensimon, A. Bourdoncle, S. Charier, E. Cogne-Laage, V. Croquette, **A. Estevez-Torres**, N. Gagey, L.

Jullien, A. Lemarchand, H. Lemarchand, A. Meglio, P. Neveu, O. Ruel, "Tuning the effective molecular diffusion: a step toward control over oriented molecular motion", *Actualité Chimique*, 284, 9–15, 2005. PhD

4 Publications. Chapitres de livres

1. Senoussi A, Vyborna Y, Berthoumieux H, Galas J-C, Estevez-Torres A, *Learning from embryo development to engineer self-organizing materials*, in "Out-of-equilibrium supramolecular systems and materials", eds. Giuseppone N, Walther A (Wiley-VCH), 2021.
2. Van Der Hofstadt M, Gines G, Galas J-C, Estevez-Torres A, *Programming spatio-temporal patterns with DNA-based circuits*, in "DNA- and RNA-based computing systems", ed. Evgeny K (Wiley VCH), 2021.
3. Dramé-Maigné A, Genot A, Estevez-Torres A, Galas J-C, Rondelez Y, *Programmer avec des molécules : Pourquoi et comment?*, in "Inventer l'avenir L'ingénierie se met au vert", eds. Meireles-Masbernard M, Nicolas L, Slaoui A (CNRS Editions, Paris), 2019.

5 Publications. Articles dans des conférences internationales avec comité de lecture

1. **A. Estévez-Torres**, L. Mzali, A. Kalley, A. Zadorin, Y. Rondelez, J.-C. Galas, "Microfluidics to explore the spatial behavior of synthetic biochemical networks", *Proceedings of the 17th International Conference on Miniaturized Systems for Chemistry and Life Sciences (μTAS 2013)*.
2. A. Padirac, **A. Estévez-Torres**, T. Fujii, Y. Rondelez, "DNA-based molecular ecosystem on a chip", *Proceedings of the 16th International Conference on Miniaturized Systems for Chemistry and Life Sciences (μTAS 2012)*, p.121-123.
3. J.-C. Galas, **A. Estévez-Torres**, (2012), "A chemical oscillator in a nano-liter scale microfluidic open reactor", *Proceedings of the 16th International Conference on Miniaturized Systems for Chemistry and Life Sciences (μTAS 2012)*, p. 608-610.
4. **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", in, *Proc. of μTAS*, J.-L. Viovy, P. Tabeling, S. Descroix, and L. Malaquin (Eds), 1, 236–238, 2007.
5. **Estevez Torres A**, Jullien L, & Lemarchand A (2005) "Stochastic resonances and highly selective separation methods: Application to the detection of DNA mutations". *Noise and Fluctuations*, eds Gonzalez T, Mateos J, & Pardo D, pp 639-642.

6 Conférences invitées dans des congrès nationaux ou internationaux

October 2018 *Synthesis of spatio-temporal structures with DNA molecular programs.*
International Conference on the Molecular Origins of Life, Munich, Germany.

September 2018	<i>Nanotechnologie à base d'ADN</i> . Adaptations et modifications de l'ADN: des outils à la bioéthique, Colloque joint de la Société Française de Toxicologie Génétique et de la société de pharmaco-toxicologie cellulaire, Paris, France.
August 2018	<i>Measurement of thermodynamic properties of nucleic acid nanostructures</i> . Mini-colloque "DNA nanotechnology", Journées de la Matière Condensée 2018, Grenoble, France.
June 2017	<i>Synthesis of spatio-temporal structures with DNA molecular programs</i> . Workshop on Dynamics, Thermodynamics, and Information Processing in Chemical Networks, Luxembourg, Luxembourg.
February 2017	<i>Synthesis of spatio-temporal structures with DNA molecular programs</i> . COST group meeting: "Systems chemistry in Paris", Paris, France.
June 2016	<i>Synthesis of a reaction-diffusion French flag pattern</i> . 2nd Conference of the french research group on synthetic biology, Bordeaux, France.
April 2016	<i>Controlling molecular organization across scales: from DNA origami folding to pattern formation</i> . 13th Annual Conference on "Foundations of nanoscience: self-assembled architectures and devices", Snowbird, UT, USA.
June 2015	<i>Writing down reaction-diffusion equations with DNA</i> . 8th International Conference "Engineering of Chemical Complexity", Munich, Germany.
April 2015	<i>Writing down reaction-diffusion equations with DNA</i> . Journée "Prise en compte de la génétique dans les modèles démographiques", Avignon, France.
January 2015	<i>Out-of-equilibrium pattern formation with synthetic biochemical networks</i> . Journées de Physique Statistique 2015, Paris, France.
February 2014	<i>DNA-based chemical waves and patterns</i> . SFB "Nanoagents for the spatiotemporal control of molecular and cellular reactions" retreat, Frauenchiemsee, Germany.
February 2013	<i>DNA computing</i> . French-Japanese workshop in bioinspired methods and applications, Tokyo, Japan.
September 2011	<i>Engineering reaction networks outside the cell: reactions and reactors</i> . 3rd Workshop on Stochasticity in Biochemical Reaction Networks, Banff, Canada.

7 Communications orales dans des congrès et workshops

November 2017	<i>Morphogenetic matter made of DNA</i> . Systèmes et Matière Complexes, deuxième édition, Cachan, France.
June 2017,	<i>Characterization of translational riboregulators in an in vitro transcription- translation system</i> , RiboNets workshop: From RNA tools and networks towards future applications, Schloss Mickeln, Duesseldorf, Germany.
August 2016	<i>Material morphogenesis with DNA</i> . 15ème Journées de la Matière Condensée, Bordeaux, France.
July 2015	<i>In vitro approaches to investigate RNA riboregulators</i> . Ribonets workshop, Vienna, Austria.
July 2014	<i>DNA-based reaction-diffusion waves of tunable velocity</i> . Oscillations & dynamic instabilities in chemical systems Gordon conference, Girona, Spain.
September 2013	<i>DNA computing goes spatial</i> . 19th conference on DNA computing and molecular programming, Phoenix, USA.

May 2011	<i>Engineering reaction networks outside the cell: reactions and reactors.</i> CNRS microfluidics workshop, Lyon.
March 2010	<i>Sedimentation-driven selection of lipid-producing microalgae</i> APS March meeting, Portland, Oregon.
May 2007	<i>Point mutation detection by on-chip diffusion coefficient measurement.</i> Réunion du Réseau Microfluidique et Microsystèmes Fluidiques, Paris, France.
September 2005	<i>A highly selective separation method for detecting DNA mutations.</i> 8èmes Journées francophones de jeunes physicochimistes, Marly Le Roi, France.
September 2005	<i>Stochastic resonances and highly selective separation methods.</i> 18 th International conference on noise and fluctuations, Salamanca, Spain.
April 2004	<i>Kinetic DNA chips: Using fluctuations of a chemical system for controlling movement at the molecular level.</i> Frühjahrssymposium 2004, Heidelberg, Germany.

8 Séminaires invités

February 2020	<i>Bilan carbone d'un laboratoire de biophysique. L'exemple du Laboratoire Jean Perrin</i> , groupe de travail 'Transition énergétique', Institut de la transition environnementale, Sorbonne Université, Paris, France.
January 2020	<i>Acides nucléiques et émergence du comportement vivant</i> , joint seminar with Yannick Rondelez at Séminaire Search Origines et conditions d'apparition de la vie, Observatoire de Paris, Paris, France.
November 2019	<i>L'énergie mondiale est-elle limitée?</i> , groupe de travail 'Faire de la recherche dans un monde fini', Sorbonne Université, Paris, France.
September 2019	<i>Designing morphogenesis: DNA reaction-diffusion systems and active gels / Organizing cell contractility in time and space</i> , joint seminar with François Robin at Journée LJP-IBPS, Sorbonne Université, Paris, France.
June 2019	<i>Pattern formation by design: DNA reaction-diffusion systems and active gels</i> , Seminar at Department of Bionanoscience, Technical University Delft, Delft, The Netherlands.
May 2019	<i>Pattern formation by design: DNA reaction-diffusion systems and active gels</i> , Seminar at Institut für Makromolekulare Chemie, Freiburg University, Freiburg, Germany.
December 2018	<i>Spatio-temporal self-organization in chemical systems</i> , Seminar at Master Chimie et Sciences du Vivant de PSL, Paris, France.
May 2018	<i>Synthesis of spatio-temporal structures with DNA molecular programs</i> , Seminar at Institut Européen de Chimie et Biologie, Bordeaux, France.
March 2018	<i>Synthesis of spatio-temporal structures with DNA molecular programs</i> , Seminar at Institut Parisien de Chimie Moléculaire, Sorbonne Université, Paris, France.
January 2018	<i>Writing down reaction-diffusion equations with DNA</i> , Seminar at Laboratoire de physique de la matière condensée, Sorbonne Université, Paris, France.
January 2018	<i>Synthesis of spatio-temporal structures with DNA molecular programs</i> , Seminar at Laboratoire Gulliver, ESPCI, Paris, France.
May 2017	<i>Emulating French flag patterning with synthetic biochemical solutions</i> , Seminar at Laboratoire de biologie du développement, IBPS, UPMC, Paris, France.

April 2017	<i>Synthetic biology outside of cells</i> , Seminar at A. Jaramillo group, Dept; of life sciences, Warwick University, Warwick, UK.
November 2016	<i>Synthesis of spatio-temporal structures with DNA molecular programs</i> , Seminar at Institut Charles Sadron, Strasbourg, France.
June 2015	<i>Self-organization of synthetic biochemical networks within microfluidic devices</i> . Journées CR1 de l'INC du CNRS, Paris, France.
March 2015	<i>Self-organization of synthetic biochemical networks within microfluidic devices</i> . Seminar at Institut Pierre Gilles de Gennes, Paris, France.
October 2014	<i>Self-organization of synthetic biochemical networks</i> . Seminar at Department of applied physics, Universidad de Santiago de Compostela, Spain.
October 2014	<i>Synthesis of spatio-temporal structures with biochemical reaction networks</i> . Séminaire de chimie autour des nanosciences, ITODYS, Université Paris Diderot, Paris, France.
September 2014	<i>Programming reaction-diffusion spatio-temporal patterns with DNA</i> . Seminar at Groupe de travail Complexité et Algorithmes, LIAFA, Université Paris Diderot, Paris, France.
April 2014	<i>Self-organization of synthetic biochemical networks within microfluidic devices</i> . Seminar at Laboratoire Jean Perrin, Université Pierre et Marie Curie, Paris, France.
March 2014	<i>Self-organization in reaction-diffusion systems</i> . Groupe de travail sur les Origines de la vie au Laboratoire Jean Perrin, Université Pierre et Marie Curie, Paris, France.
February 2014	<i>DNA-based chemical waves and patterns</i> . Seminar at Technical University Munich, Munich, Germany.
January 2013	<i>Molecular choreography</i> . Seminar at Institute of Physics, Chinese academy of sciences, Beijing, China.
July 2012	<i>Molecular choreography</i> . Seminar at Laboratory for theoretical biology, Charité University, Berlin, France.
July 2012	<i>Molecular choreography</i> . Seminar at Laboratoire d'optique et biologie, Ecole polytechnique, Palaiseau, France.
May 2012	<i>Molecular choreography</i> . Seminar at Institut d'électronique, de microélectronique et de nanotechnologie, Villeneuve d'Ascq, France.
May 2011	<i>Engineering reaction networks outside the cell: reactions and reactors</i> . Seminar at Laboratoire de physique des solides, Université Paris sud, Orsay.
May 2011	<i>Engineering reaction networks outside the cell: reactions and reactors</i> . Biophysics seminar, Ecole normale supérieure, Paris.
Novembre 2010	<i>Synthetic epigenetics: Sequence-independent photocontrol of gene expression in vitro</i> . Séminaire au LIMMS, Institute of Industrial Sciences, Université de Tokyo.
Novembre 2010	<i>Synthetic epigenetics: Sequence-independent photocontrol of gene expression in vitro</i> . Séminaire ICORP à l'Université de Kyoto.
Octobre 2010	<i>Synthetic epigenetics: Sequence-independent photocontrol of gene expression in vitro</i> . Séminaire à l'Institut Joliot-Curie. Ecole normale supérieure de Lyon.
Novembre 2007	<i>DNA separation and analysis in microsystems: Towards new genotyping technologies?</i> Seminar at Prof. K. Takeyasu research group. Graduate School of Biostudies, Kyoto University.
Juillet 2007	<i>An electrophoretic microlaboratory to study the coupling between transport and chemical kinetics</i> . Seminar at Prof. J. Cate research group. Department of Chemistry, University of California Berkeley.

Juillet 2007	<i>An electrophoretic microlaboratory to study the coupling between transport and chemical kinetics.</i> Seminar at Prof. R. H. Austin research group. Department of Physics, Princeton University.
Avril 2007	<i>Continuous diffusion coefficient measurement in an electrophoresis chip.</i> Seminar of the Department of Physical Chemistry, Universidad de Barcelona, Spain.
Mars 2007	<i>Continuous diffusion coefficient measurement in an electrophoresis chip.</i> Seminar of the Laboratory of Future, CNRS Rhodia, Bordeaux, France.
Septembre 2005	<i>Studying DNA diffusion by fluorescence microscopy.</i> Seminar of the Environmental Sciences Department, Universidad de Castilla la Mancha, Toledo, Spain.
Septembre 2005	<i>A separation method based on diffusion.</i> Seminar of the Analytical Chemistry Department, Universidad de Alcalá de Henares, Spain.

9 Participation à des congrès

November 2019	CellTiss Days 2019, GDR, Gien, France.
October 2019	Franco-Japanese DNA Nanotechnology Workshop, Paris, France.
July 2019	L'ingénierie se met au vert, Colloque CNRS, Paris, France.
September 2018	EMBO Workshop, Physics of integrated biological systems, Cargese, France.
November 2017	Workshop on Molecular programming experiments and theory, Florence, Italy.
June 2014	Workshop on Mathematics and its applications to complex phenomena arising in biology, chemistry and medicine, Luminy, France.
October 2013	μ TAS 2013, Freiburg, Germany.
August 2012	18th International Conference on DNA Computing and Molecular Programming, Aarhus, Denmark.
July 2012	Microfluidics 2012, Heidelberg, Germany.
May 2011	Physics and biological systems 2011, Orsay, France.
Mai 2009	Evolution: the molecular landscape, 74th Cold Spring Harbor Symposium on Quantitative Biology, Cold Spring Harbor, NY.
Avril 2008	ESF-UB Conference in systems biology, Sant Feliu de Guixols, Spain.
Juillet 2007	4 th Gordon research conference on physics and chemistry of microfluidics, Waterville Valley, New Hampshire.
Octobre 2006	Journées nationales en nanosciences et nanotechnologies, Besançon, France.
Juillet 2005	Bio-Image summer school, Paris, France.
Septembre 2003	8 th International summer school on biophysics: supramolecular structure and function, Rovinj, Croatia.