

Curriculum Vitae

Elodie BOURGEAT-LAMI

Born June, 15 1964

Laboratory of Chemistry, Catalysis, Polymers and Processes

C2P2 - UMR 5265 CPE/CNRS/UCBL

CPE Lyon - 43, Bd. du 11 Nov. 1918

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Professionnel Experience

- Current position** **Research Director at CNRS** (DR1 since 2014)
C2P2 Laboratory, UMR 5265 - CPE Lyon, Villeurbanne, France
Complex Colloid group
- 1991-2004** **Junior Scientist at CNRS** (CR2 and then CR1)
Laboratory of Organic Materials, Solaize, France (1991-1995). Laboratory of Chemistry and Polymerization Processes, Villeurbanne, France (1996-2004)
- 1996-1997** **Mobility.** Institut Charles Sadron (ICS, UPR 22) – Strasbourg, France
- 1988-1991** **Ph.D.** University of Montpellier II, France. Title: Study of the Physico-chemical Properties of *Zeolite Beta*. Supervisor: F. Fajula

Education

- 2003** **HABILITATION A DIRIGER DES RECHERCHES**, University Claude Bernard Lyon 1
- 1991** **Ph.D THESIS** in Chemistry, University of Montpellier
- 1988** **MASTER DEGREE** in Organic Chemistry, University of Haute Alsace - Mulhouse
- 1988** **GRADUATE ENGINEER** in Chemistry (equivalent Bachelor Degree S Sc.) Ecole Nationale Supérieure de Chimie de Mulhouse - Option Material Chemistry

Scientific production and Supervisory Work (summary)

► Publications (Peer Review): 180

- Publications (Other): 39
- Book Chapters: 10
- Patents: 8
- Seminars and invited conferences: 92
- Oral presentations (submitted abstracts): 170
- Poster presentations: 182

Supervisory Work

- Ph.D supervised: 9
- Ph.D (co-) supervised: 19 + 1 (current)
- Post-docs: 16
- MSc or equivalent: 41
- Foreign students (or MSc): 11

Research Interests

My research activities focus on the synthesis of **complex colloidal materials with emphasis placed on hybrid colloids**. Our approach is based on an in-depth study of polymerization mechanisms (both organic and inorganic) and kinetic aspects, as well as on fine control of the physico-chemical properties of the medium and of colloidal stability. Based on fundamental studies, my main objective is to understand and control interactions between organic and inorganic compounds (or their precursors) to form nanostructured hybrid materials that can find applications in coatings, optics or biology. In collaboration with physicists and physicochemists, I have considered a wide variety of systems and processes, and developed strong expertise in the following items.

- Surface modification of organic and inorganic colloids
- Emulsion polymerization
- Synthesis of colloidal nanocomposites, film formation and properties
- Synthesis of polymer/polymer hybrid latexes (PU/acrylic, PDMS/acrylic, vitrimers)
- Graphene-based latexes
- Functionalization of inorganic particles through Reversible Radical Deactivation Polymerization (RDRP)
- Formation and stabilization of emulsions and miniemulsions
- Sol-gel chemistry

Major Research Contributions

► Colloidal molecules

The concept of colloidal molecules was put forward for the first time in 2003 by van Blaaderen to designate non-spherical colloids made of the aggregation of a small number of particles. Since then, there has been an increasing interest in the development of synthetic methods for the production of such complex assemblies. Some years ago, we have reported different strategies along this line, that all involved the controlled nucleation and growth of a discrete number of polymer nodules on top of a central silica sphere, through seeded emulsion polymerization. We demonstrated that the obtained morphologies were not only dependent on the surface functionalization chemistry used to build the assembly but also on the size ratio between the central silica particles and the satellite polymer nodules. Colloidal molecules with a controlled number of polymer protrusions, mimicking the space-filling model of simple molecules, could so be obtained.

► Pickering emulsion polymerization

Polymer latexes are most often prepared in the presence of molecular surfactants that play an important role in controlling the particle size, the reaction rate and latex stability. However, one of the major drawbacks of surfactants used in emulsion polymerization is their ability to migrate and accumulate at the film surface or at the film/substrate interface, which may degrade the coating properties. In my group, we are deeply involved in the use of inorganic solids as stabilizers of polymer latex particles obtained by conventional emulsion polymerization (so-called Pickering latexes). We have developed various chemical and physicochemical approaches to promote interfacial adhesion of the inorganic particles (metal oxides, clay platelets or nanotubes) onto the polymer latex particles, and showed strong correlations between the development of the particle morphology and the reaction rate.

► RDRP-mediated synthesis of nanocomposite particles

I have been involved for many years now in the synthesis of colloidal nanocomposites through reversible deactivation radical polymerization (RDRP) in aqueous dispersed media (RAFT, NMP). Among the different methods, one strategy relies on the use of water-soluble living polymeric precursors that are previously adsorbed at the surface of inorganic particles (clay minerals, metal oxides, metals) and chain extended with hydrophobic monomers to afford a range of nano-objects whose morphologies depend on the nature of the particle surface and on the composition of the hydrophilic and hydrophobic blocks. By controlling the interactions taking place at the hydrophilic polymer/Inorganic interface and the polymerization kinetics, it is possible to fine-tune these morphologies, and form composite particles with complex, sometimes quite exotic shapes, which most often cannot be obtained using standard emulsion polymerization processes. Furthermore, the resulting nanostructured particles can be used to form composite film materials with improved optical, mechanical or barrier properties, making them suitable for a wide range of applications.

► Visible-light emulsion photopolymerization

Photopolymerizations have witnessed a huge interest over the past few years for the production of a variety of polymeric materials. While most traditional photoinitiating systems employ UV radiation to generate the active species, visible light photoinitiating systems are attracting increasing attention. Indeed, visible light presents noticeable advantages compared to UV-photoinitiation. It is greener, cheaper and much safer than UVs. In addition, it generates photons with longer wavelengths leading to a better penetration of light making it compatible with turbid media, and especially with conventional emulsion polymerization. Recently, in close collaboration with E. Lacôte (LHCEP) and J. Lalevée (IS2M), we have shown that water-soluble N-Heterocyclic carbene-boranes (NHC-boranes) were efficient co-initiators for the type II emulsion photopolymerization of styrene and acrylic monomers. Using a simple and cheap equipment composed of a standard double-wall glass reactor spiral-wrapped with a LED ribbon all around its external wall, stable latexes with diameters in the range 50-300 nm, full conversions and solids contents up to 30 wt%, could be successfully obtained, illustrating the efficacy of this new visible-light photoinitiating system.

Expertise and project evaluation

Agence Nationale de la Recherche (ANR)

Since 2009: Evaluation of requests for funding

Agence Nationale de la Recherche (ANR)

2013-2016: Member of the evaluation committee (CES 5, 8 and 9)

Région Aquitaine

Evaluation of research proposals

C’Nano Ile de France

2015-2017: Evaluation of research proposals

European Scientific Foundation

Evaluation of research proposals

Agence d’évaluation de la Recherche et de l’enseignement Supérieur (AERES)

2014: Member of scientific committee

Awards

2017-2021	Prime d’excellence Scientifique
2011-2015	Prime d’excellence Scientifique
2011	Laureate of the <i>First Transnational Call in Polymer Chemistry (IUPAC)</i>

Conference Organization

► Conference/symposium chair and/or organizer

- 2020** **PACIFICHEM** (Onolulul, Hawaii, USA) – *Co-organizer* with E. Spentzer, M. Hideto and P. Zetterlund
- 2012** **POLYMERS IN DISPERSED MEDIA** (PDM, Lyon, France) - *Co-organizer* with B. Charleux, T. McKenna and H. Elaïssari
- 2009** **THEMATIC School ARCUS Rhone-Alpes** (Florianopolis, Brazil) - *Co-organizer* with A. Martins Dos Santos, L. Chazeau, Y. Cavallé and C. Gauthier
- 2009** **THEMATIC School ARCUS Rhone-Alpes** (Annecy, France) - *Co-organizer* with A. Martins Dos Santos, L. Chazeau, Y. Cavallé and C. Gauthier
- 2004** **POLYMERS IN DISPERSED MEDIA** (PDM, Lyon, France) - *Co-organizer* with H. Elaïssari & T. McKenna
- 2001** **CLUB EMULSION** (Lyon, France) – *Co-organizer* with A. Guyot

► Member of organizing scientific committees

- 2021** **International SOL-GEL conference**, *Lyon, FRANCE*
Member of the local organizing committee
- 2020** **50th Colloquium of the “Groupe Français des Polymères (GFP)**, *16-20 November 2020, Lyon, France*
Member of the local organizing committee
- 2020** **84th Prague Meeting on Macromolecules**, *12-16 July 2020, Prague, CZECH REPUBLIC*
Member of the International Scientific Committee and Advisory Board.
- 2017** **46th Colloquium of the GFP – 21-24 Novembre 2017** – Paris, France
Member of the scientific committee
- 1990** **GROUPE FRANÇAIS DES ZEOLITHES (GFZ)**, Montpellier, France) – *Member of the local organizing committee*

Research Administration

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|--------------|-----------------------------------------------------------------------------------------------------------------|
| 2013-Present | Member of the steering committee of the Laboratory of Excellence iMUST |
| 2008-Present | Member of the advisory committee of the « Conseil National des Universités » |
| 2013-2016 | Member of the ANR scientific committee: “Nanomatériaux et nanotechnologies pour les produits du futur » (CES 8) |
| 2008-2012 | Nominated member of the National Committee for Scientific Research (CoNRS) |
| 2008-2010 | Member of the steering committee of the cluster MACODEV |

Publications in peer reviewed journals (since 2010) [click on journals to access papers](#)

Number of citations (since the beginning of the carrier) ► [Source Web of Science \(see now\)](#)

Results found = 179. Sum of cited = 7943. Without self-citation = 7238. Average citation per item = 44.4

h index = 49 - Click [here](#) for the full list of papers - [Link to Google Scholar Citations](#)

2020

Macromolecules 53, 39-50 (2020)

Innovative method for Laponite encapsulation into polymer latex particles by clay-cluster seeded emulsion polymerization

L. DELAFRESNAYE, P-Y. DUGAS, M. LANSALOT, E. BOURGEAT-LAMI

Polym. Chem. 11, 648-652 (2020)

Synthesis of double-responsive magnetic latex particles via seeded emulsion polymerization using macroRAFT block copolymers as stabilizers

T. RODRIGUES-GUIMARAES, M. LANSALOT, E. BOURGEAT-LAMI

2019

Langmuir 35, 11512-11523 (2019)

Interaction of cationic, anionic and non-ionic macroRAFT homo and copolymers with Laponite clay: an investigation of the equilibrium data via adsorption isotherms

T. C. CHAPARRO, R. D. SILVA, I. S. MONTEIRO, A. BARROS-TIMMONS, R. GIUDICI, A. M SANTOS, E. BOURGEAT-LAMI

Macromolecules 52, 4979-4988 (2019)

Tailoring the morphology of polymer/Montmorillonite hybrid latexes by surfactant-free emulsion polymerization mediated by amphipathic macroRAFT agents

R. D. SILVA, T. C. CHAPARRO, R. S. HARDT, I. S. MONTEIRO, P-Y. DUGAS, F. D'AGOSTO, M. LANSALOT, A. M SANTOS, E. BOURGEAT-LAMI

Polym. Chem. 10, 3001-3005 (2019)

Improved malleability of miniemulsion-based vitrimers through *in situ* generation of carboxylate surfactants

R. R. VAIDYULA, E. RASWSTRON, E. BOURGEAT-LAMI, D. MONTARNAL

Polymer 172, 330-338 (2019)

Nitroxide-mediated polymerization of methacrylates in the presence of 4-vinyl pyridine as controlling comonomer

X. G. QIAO, T. SUN, S. Z. ZHOU, X. C. PANG, M. LANSALOT, E. BOURGEAT-LAMI

Biomacromolecules 20, 1045-1055 (2019)

Vitrimer chemistry meets cellulose nanofibris: bioinspired nanopapers with high water resistance and strong adhesion

F. LOSSADA, J. GUO, D. JIAO, S. GROEER, E. BOURGEAT-LAMI, D. MONTARNAL, A. WALTHER

Macromolecular Materials and Engineering 304, 1800449 (2019)

Bio-based hybrid magnetic latex particles containing encapsulated γ -Fe₂O₃ by miniemulsion copolymerization of soybean oil-acrylated methyl ester and styrene

A. M. M. MEDEIROS, F. MACHADO, E. BOURGEAT-LAMI, J. C. RUBIM, T. F. L. McKENNA

Advanced Engineering Materials 21, 1800438 (2019)

A review of vanadium dioxide as an actor of nanothermochromism. Challenges and perspectives for polymer nanocomposites

J. FAUCHEU, E. BOURGEAT-LAMI, V. PREVOT

2018

Angewandte Chemie International Edition 57, 957-961 (2018)

Visible light emulsion photopolymerization of styrene

F. LEQUEMENER, D. SUBERVIE, F. MORLET-SAVARY, J. LALEVEE, M. LANSALOT, E. BOURGEAT-LAMI, E. LACOTE

Macromolecules 51, 9730-9739 (2018)

A second-generation chameleon N-heterocyclic carbene-borane co-initiator for the visible-light oxygen-resistant photopolymerization of both organic and water-compatible resins

B. AUBRY, D. SUBERVIE, M. LANSALOT, E. BOURGEAT-LAMI, B. GRAFF, F. MORLET-SAVARY, C. DIETLIN, J.-P. FOUASSIER, E. LACOTE, J. LALEVEE

ACS Applied Nano Materials 1, 3956–3968 (2018)

Design of waterborne nanoceria/polymer nanocomposite UV-absorbing coatings: Pickering *versus* blended particles

I. MARTIN-FABIANI, M. L. KOH, F. DALMAS, K. L. ELIDOTTIR, S. J. HINDER, I. JUREWICZ, M. LANSALOT, E. BOURGEAT-LAMI, J. L. KEDDIE

Langmuir 34, 6784-6796 (2018)

L-arginine-catalyzed synthesis of nanometric organosilica particles through a waterborne process and their porous structure analysis

X. G. QIAO, P.-Y. DUGAS, L. VEYRE, E. BOURGEAT-LAMI

Macromolecules 51, 3953-3966 (2018)

Controlling the morphology of film-forming nanocomposite latexes of layered double hydroxide (LDH) by RAFT emulsion polymerization

S. PEARSON, A. CENACCHI PEREIRA, V. TORREGROSSA, F. LEROUX, C. TAVIOT-GUEHO, F. D'AGOSTO, M. LANSALOT, E. BOURGEAT-LAMI, V. PREVOT

AIChE Journal 64, 2612-2624 (2018)

Effect of Pickering stabilization on radical entry in emulsion polymerization

B. BRUNIER, N. SHEIBAT-OTHMAN, Y. CHEVALIER, E. BOURGEAT-LAMI

Abstracts of Papers of the American Chemical Society 256-257 (2018)

Formation of crosslinked networks through sintering of vitrimer nanoparticles

D. MONTARNAL, E. BOURGEAT-LAMI, T. N. TRAN, E. RASWSTRON

Polym. Chem. 9, 2590-2600 (2018)

Tailored microstructure and mechanical properties of nanocomposite films made from polyacrylic/LDH hybrid latexes synthesized by RAFT-mediated emulsion polymerization

F. DALMAS, S. PEARSON, B. GARY, J-M. CHENAL, E. BOURGEAT-LAMI, V. PREVOT, L. CHAZEAU

ACS Macro Letters 7, 376-380 (2018)

Formation of crosslinked films from immiscible precursors through sintering of vitrimer nanoparticles

T. N. TRAN, E. RASWSTRON, E. BOURGEAT-LAMI, D. MONTARNAL

2017

Macromolecules 50, 9742-9749 (2017)

Crystallization of nanodomains in polyethylene latex

F. BRUNEL, G. BILLUART, P-Y. DUGAS, M. LANSALOT, E. BOURGEAT-LAMI, V. MONTEIL

Polym. Chem. 8, 6217-6232 (2017)

Synthesis of clay-armored poly(vinylidene chloride-co-methyl acrylate) [P(VDC-co-MA)] latexes by surfactant-free emulsion polymerization

L. DELAFRESNAYE, P-Y. DUGAS, P-E. DUFILS, I. CHADUC, J. VINAS, M. LANSALOT, E. BOURGEAT-LAMI

Steel construction design and research 3, 254-259 (2017)

High performance water-based barrier coatings for the corrosion protection of structural steel

V. DEHAN, E. BOURGEAT-LAMI, F. D'AGOSTO, B. DUFFY, A. FORTINI, S. HILTON, K. KRASSA, J. L. KEDDIE, M. L. KOH, M. LANSALOT, M. LEE, J. LESAGE DE LA HAYE, I. MARTIN-FABIANI, C. MANTZARIDIS, D. P. MAZEFFA, R. P. SEAR, M. SCHULZ, M. SIBBALD, B. SKERRY, B. THOMAS

Langmuir 33, 9598-9608 (2017)

Investigation of the adsorption of amphiphilic macroRAFT agents onto Montmorillonite clay

R. D. SILVA, I. S. MONTEIRO, R. S. HARDT, R. GIUDICI, A. BARROS-TIMMONS, T. C. CHAPARRO, E. BOURGEAT-LAMI, A. M SANTOS

Polym. Chem. 8, 4014-4029 (2017)

Nitroxide-mediated polymerization-induced self-assembly of amphiphilic copolymers with a pH/temperature dual sensitive stabilizer block

X. G. QIAO, P-Y. DUGAS, B. CHARLEUX, M. LANSALOT, E. BOURGEAT-LAMI

Macromolecules 50, 3796-3806 (2017)

Nitroxide-mediated polymerization-induced self-assembly of block copolymers at the surface of silica particles. Towards new hybrid morphologies

X. G. QIAO, O. LAMBERT, J-C. TAVEAU, B. CHARLEUX, M. LANSALOT, E. BOURGEAT-LAMI

Polym. Chem. 8, 1233-1243 (2017)

Nanocomposite latexes containing layered double hydroxides via RAFT-assisted encapsulating emulsion polymerization

A. CENACCHI PEREIRA, S. PEARSON, D. KOSTADINOVA, F. LEROUX, F. D'AGOSTO, M. LANSALOT, E. BOURGEAT-LAMI, V. PREVOT

Soft Matter 13, 842-851 (2017)

Design of latex-layered double hydroxide composites by tuning the aggregation in suspensions
M. PAVLOVIC, P. ROUSTER, E. BOURGEAT-LAMI, V. PREVOT, I. SZILAGYI

Applied Surface Science 394, 519-527 (2017)

Adsorption study of a macro-RAFT agent onto SiO₂-coated Gd₂O₃:Eu³⁺ nanorods: requirements and limitations
H. ZOU, L. MELRO, T. C. CHAPARRO, I. RODRIGUES De SOUZA FILHO, D. ANANIAS, E. BOURGEAT-LAMI, A. M SANTOS, A. BARROS-TIMMONS

The Canadian Journal of Chemical Engineering 95, 208-221 (2017)

Modeling particle growth under saturated and starved conditions in emulsion polymerization
B. BRUNIER, N. SHEIBAT-OTHMAN, S. OTHMAN, Y. CHEVALIER, E. BOURGEAT-LAMI

2016

ACS Applied Materials and Interfaces 8, 34755-34761 (2016)

pH-switchable stratification of colloidal films: surfaces "on demand"

I. MARTIN-FABIANI, A. FORTINI, J. LESAGE DE LA HAYE, M-L. KOH, S. E. TAYLOR, E. BOURGEAT-LAMI, M. LANSALOT, F. D'AGOSTO, R. P. SEAR, J. L. KEDDIE

Macromolecules 49, 7609-7624 (2016)

Surfactant-free emulsion polymerization stabilized by ultrasmall superparamagnetic iron oxide particles using acrylic acid or methacrylic acid as auxiliary comonomers

K. LI, P-Y. DUGAS, M. LANSALOT, E. BOURGEAT-LAMI

Nanoscale 8, 5454-5459 (2016) - **Advance article**

Multipod-like silica/polystyrene clusters: new insights in the control and description of their morphology and tentative correlation to geometrical models for guiding their synthesis

A. DESERT, J. MORELE, J-C. TAVEAU, O. LAMBERT, M. LANSALOT, E. BOURGEAT-LAMI, A. THILL, O. SPALLA, L. BELLONI, S. RAVAINÉ, E. DUGUET

Belstein J. Nanotechnol. 7, 2000-2012 (2016)

Intercalation and structural aspects of macroRAFT agents into MgAl- layered double hydroxides

D. KOSTADINOVA, A. CENACCHI-PEREIRA, M. LANSALOT, F. D'AGOSTO, E. BOURGEAT-LAMI, F. LEROUX, C. TAVIOT-GUEHO, S. CADARS, V. PREVOT

Polymer 106, 249-260 (2016)

Polymer-encapsulated γ - Fe₂O₃ nanoparticles prepared by RAFT-mediated emulsion polymerization

K. LI, P-Y. DUGAS, E. BOURGEAT-LAMI, M. LANSALOT

Applied Clay Science 130, 55-61 (2016)

Layered double hydroxides : efficient fillers for waterborne nanocomposite films

C. VESCHAMBRES, M. HALMA, E. BOURGEAT-LAMI, L. CHAZEAU, F. DALMAS, V. PREVOT

Macromolecules 49, 4431-4440 (2016)

Synthesis of polymer/silica hybrid latexes by surfactant-free RAFT-mediated emulsion polymerization

E. BOURGEAT-LAMI, A. J. P. G. FRANCA, T. C. CHAPARRO, R. D. SILVA, P-Y. DUGAS, G. M. ALVES, A. M. SANTOS

Langmuir 32, 6046-6057 (2016)

Investigation of four different Laponite clays as stabilizers in Pickering emulsion polymerization
B. BRUNIER, N. SHEIBAT-OTHMAN, M. CHNIGUIR, Y. CHEVALIER, E. BOURGEAT-LAMI

Langmuir 32, 4052-4058 (2016)

Temperature response of rhodamine B-doped latex particles. From solution to single particle
A. SOLEILHAC, M. GIROD, P. DUGOURD, B. BURDIN, J. PARVOLE, F. BAYARD, E. LACOTE, E. BOURGEAT-LAMI, R. ANTOINE

Physical Review Letters 116, 118301 (2016) - **Highlighted paper**

Dynamic stratification in drying films of colloidal mixtures
A. FORTINI, I. MARTIN-FABIANI, J. LESAGE DE LA HAYE, F. D'AGOSTO, M. LANSALOT, P-Y. DUGAS, E. BOURGEAT-LAMI, J. L. KEDDIE, R. P. SEAR

Langmuir 32, 112-124 (2016)

Partitioning of Laponite clay platelets in Pickering emulsion polymerization
B. BRUNIER, N. SHEIBAT-OTHMAN, Y. CHEVALIER, E. BOURGEAT-LAMI

Adv. Polym. Sci. 270, 123-161 (2016)

Synthesis of nanocapsules and polymer/inorganic nanoparticles through controlled radical polymerization at and near interfaces in heterogeneous media
E. BOURGEAT-LAMI, F. D'AGOSTO, M. LANSALOT

2015

Langmuir 31, 12609-12617 (2015)

Effect of macroRAFT copolymer adsorption on the colloidal stability of layered double hydroxide nanoparticles
M. PAVLOVIC, M. ADOK-SIPICZKI, C. NARDIN, S. PEARSON, E. BOURGEAT-LAMI, V. PREVOT, I. SZILAGYI

Abstracts of Papers of the American Chemical Society 250, 37 (2015)

Waterborne nanoceria/polymer nanocomposites : enhanced properties through designed nanostructure
M-F. IGNACIO, A. CENACCHI-PEREIRA, F. D'AGOSTO, M. LANSALOT, E. BOURGEAT-LAMI, J. KEDDIE

Chem. Rev. 115, 9745-9800 (2015)

Controlled/living radical polymerization in dispersed systems: an update
P. ZETTERLUND, S. THICKETT, S. PERRIER, E. BOURGEAT-LAMI, M. LANSALOT

Polym. Chem. 6, 5323-5357 (2015)

Latex routes to graphene-based polymer nanocomposites
E. BOURGEAT-LAMI, J. FAUCHEU, A. NOEL

Polymer 70, 118-126 (2015)

Towards a one-step method for preparing silica/polymer heterodimers and dimpled polymer particles
I. CHADUC, J. PARVOLE, T. DOUSSINEAU, R. ANTOINE, A. DESERT, P-Y. DUGAS, S. RAVAINÉ, E. DUGUET, E. BOURGEAT-LAMI, M. LANSALOT

Macromolecules 48, 545-556 (2015)

Synthesis of multipod-like silica/polymer latex particles through polymerization-induced self-assembly of amphiphilic block copolymers
X. G. QIAO, P-Y. DUGAS, B. CHARLEUX, M. LANSALOT, E. BOURGEAT-LAMI

J. Phys. Chem. C, 119, 10844-10849 (2015)

Charge detection mass spectrometry for the characterization of mass and surface area of composite nanoparticles

T. DOUSSINEAU, A. DESERT, O. LAMBERT, J-C. TAVEAU, M. LANSALOT, P. DUGOURD, E. BOURGEAT-LAMI, S. RAVAINÉ, E. DUGUET, R. ANTOINE

2014

Molecular Crystals Liquid Crystals 604, 1-6 (2014)

Regioselective Coating of Tetrapod-like Clusters with Silica

A. DESERT, C. HUBERT, A. THILL, O. SPALLA, J-C. TAVEAU, O. LAMBERT, M. LANSALOT, E. BOURGEAT-LAMI, E. DUGUET, S. RAVAINÉ

Macromolecules 47, 6591-6600 (2014)

Free radical emulsion polymerization of ethylene

G. BILLUART, E. BOURGEAT-LAMI, M. LANSALOT, V. MONTEIL

Polym. Chem. 5, 6611-6622 (2014)

Synthesis of multi-hollow clay-armored latexes by surfactant-free emulsion polymerization of styrene mediated by poly(ethylene oxide)-based macroRAFT agent/Laponite complexes

T. RODRIGUES GUIMARAES, T. C. CHAPARRO, F. D'AGOSTO, M. LANSALOT, A. MARTINS DOS SANTOS, E. BOURGEAT-LAMI

Polymer 55, 5140-5145 (2014)

Electrical and mechanical percolation in graphene-latex nanocomposites

A. NOEL, J. FAUCHEU, M. RIEU, J-P. VIRICELLE, E. BOURGEAT-LAMI

Polym. Chem. 5, 5609-5616 (2014)

Synthesis of nanoscaled poly(styrene-co-n-butyl acrylate)/silica particles with dumbbell-and snowman-like morphologies by emulsion polymerization

T. BLADE, L. MALOSSE, E. DUGUET, M. LANSALOT, E. BOURGEAT-LAMI, S. RAVAINÉ

Macromolecular Reaction Engineering 8, 622-638 (2014)

Acrylic-alkyd hybrids: secondary nucleation, particle morphology and limiting conversions

R. UDAGAMA, C. DE LAS HERAS ALARCON, J. L. KEDDIE, J.G. TSAVALAS, E. BOURGEAT-LAMI, T.F.L. McKENNA

Composite Science and Technology 95, 82-88 (2014)

Tunable architecture for flexible and highly conductive graphene-polymer composites

A. NOEL, J. FAUCHEU, M. RIEU, J-P. VIRICELLE, E. BOURGEAT-LAMI

Journal of Coatings Technology and Research 11, 131-141 (2014)

Novel technologies and chemistries for waterborne coatings

T.F.L. McKENNA, B. CHARLEUX, E. BOURGEAT-LAMI, F. D'AGOSTO, M. LANSALOT

International Journal of Adhesion and Adhesives 50, 176-182 (2014)

Influence of composition on the morphology of polyurethane/acrylic latex particles and adhesive films

E. DEGRANDI-CONTRAIRES, R. UDAGAMA, T.F.L. McKENNA, E. BOURGEAT-LAMI, C. PLUMMER, C. CRETON

2013

Angewandte Chemie International Edition 52, 11058-11072 (2013)

Synthesis and site-specific functionalization of tetravalent, hexavalent and dodecavalent silica particles

A. DESERT, C. HUBERT, Z. FU, L. MOULET, J. MAJIMEL, P. BARBOTEAU, O. SPALLA, A. THILL, O. LAMBERT, J-C. TAVEAU, M. LANSALOT, E. BOURGEAT-LAMI, E. DUGUET, S. RAVAINÉ

Macromolecules 46, 4285-4295 (2013)

Nitroxide-mediated polymerization-induced self-assembly of poly(poly(ethylene oxide) methyl ether methacrylate-co-styrene)-b-poly(n-butyl methacrylate-co-styrene) amphiphilic block copolymers

X. G. QIAO, M. LANSALOT, E. BOURGEAT-LAMI, B. CHARLEUX

Microporous and Mesoporous Materials 172, 146-150 (2013)

Percolation transition in the porous structure of latex-templated silica monoliths

F. GUILLEMOT, A. BRUNET-BRUNEAU, E. BOURGEAT-LAMI, J-P. BOILOT, E. BARTHEL, T. GACOIN

J. Mater. Chem. Part C 1, 2061-2068 (2013)

Luminescent latex particles loaded with anionic lanthanide complexes: a versatile platform for multi color optical coding

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E. BOURGEAT-LAMI, G.A. FARZI, L. DAVID, J-L. PUTAUX, T. MCKENNA

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N. ZGHEIB, J-L. PUTAUX, A. THILL, F. D'AGOSTO, M. LANSALOT, E. BOURGEAT-LAMI

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C. G. GAMYS, E. BEYOU, E. BOURGEAT-LAMI, L. DAVID

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Miniemulsions using static mixers: Part 2. Co-emulsification and composite materials using SMX static mixers

G. FARZI, E. BOURGEAT-LAMI, T.F.L. MCKENNA

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Synthesis of ethyl cellulose acrylate hybrid latex via miniemulsion

R. CHEN, F. CHU, C. WANG, E. BOURGEAT-LAMI, M. LANSALOT, G. LI, Y. HUANG, C. CHEN

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E. DEGRANDI, R. UDAGAMA, E. BOURGEAT-LAMI, T.F.L. McKENNA, K. OUZINEB, O. DUPONT, C. CRETON

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R. UDAGAMA, E. DEGRANDI, C. GRAILLAT, C. CRETON, T.F.L. McKENNA, E. BOURGEAT-LAMI

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Small strain mechanical properties of latex-based acrylic nanocomposite films

C. PLUMMER, R. RUGGERONE, E. BOURGEAT-LAMI, J-A. MANSON

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C. PLUMMER, R. RUGGERONE, N. NEGRETE-HERRERA, E. BOURGEAT-LAMI, J-A. MANSON

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High solids content, soap-free film-forming latexes stabilized by Laponite clay platelets

E. BOURGEAT-LAMI, T. RODRIGUES GUIMARAES, A. M. CENACCHI-PEREIRA, G. M. ALVES, J. C. MOREIRA, J-L. PUTAUX, A. MARTINS DOS SANTOS

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Synthesis of room temperature self-curable waterborne hybrid polyurethanes functionalized with (3-aminopropyl)triethoxysilane (APTES)

H. SARDON, L. IRUSTA, M.J. FERNANDEZ-BERRIDI, M. LANSALOT, E. BOURGEAT-LAMI

Polymer 51, 4462-4471 (2010)

Properties of polymer/clay interphase in nanoparticles synthesized through *in situ* polymerization processes

J. FAUCHEU, C. GAUTHIER, L. CHAZEAU, J-Y. CAVAILLE, V. MELLON, F. PARDAL, E. BOURGEAT-LAMI

Adv. Polym. Sci. 233, 53-123 (2010)

Organic-inorganic composite latexes: the marriage of emulsion polymerization and inorganic chemistry

E. BOURGEAT-LAMI, M. LANSALOT

Langmuir 26, 6086-6090 (2010)

An easy way to control the morphology of colloidal polymer-oxide clusters through seeded dispersion polymerization

D. NGUYEN, E. DUGUET, E. BOURGEAT-LAMI, S. RAVAINÉ

Chem. Mater. 22, 2822-2828 (2010)

Latex-templated silica films: tailoring the pore structure to get highly stable dielectric properties

F. GUILLEMOT, T. GACOIN, J-P. BOILOT, E. BARTHEL, A. BRUNET-BRUNEAU, E. BOURGEAT-LAMI

J. Polym. Sci. Part A: Polym. Chem. 48, 2329-2339 (2010)

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R. CHEN, F. CHU, C. GAUTHIER, L. CHAZEAU, E. BOURGEAT-LAMI, M. LANSALOT

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About the suitability of the seeded-dispersion polymerization technique for preparing micron-sized silica-polystyrene clusters

D. NGUYEN, S. RAVAINÉ, E. BOURGEAT-LAMI, E. DUGUET

L'Actualité chimique 340, 18-21, Avril 2010

Les particules mettent les formes. III. Des atomes aux molécules colloïdales

A. PERRO, D. NGUYEN, E. BOURGEAT-LAMI, S. RAVAINÉ, E. DUGUET

L'Actualité chimique 340, 14-17, Avril 2010

Les particules mettent les formes. II. Quand le dieu romain Janus inspire les scientifiques

A. PERRO, S. RECLUS, E. BOURGEAT-LAMI, S. RAVAINÉ, E. DUGUET

Macromol. Symp. 289, 129-134 (2010)

Synthesis of polyacrylic/silica nanocomposite latexes using static mixer

G. FARZI, T.F.L. MCKENNA, E. BOURGEAT-LAMI

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Dilational lateral stress in drying latex films

A. M. KONIG, E. BOURGEAT-LAMI, V. MELLON, K. VON DER EHE, A. F. ROUTH, D. JOHANNSMANN

Polymer 51, 6-17 (2010)

Miniemulsion polymerization for synthesis of structured clay/polymer nanocomposites : short review and recent advances

J. FAUCHEU, C. GAUTHIER, L. CHAZEAU, J-Y. CAVAILLE, V. MELLON, E. BOURGEAT-LAMI

J. Polym. Sci. Part A: Polym. Chem. 48, 784-793 (2010)

Micellar behaviour of well-defined polystyrene-based block copolymer with triethoxysilyl reactive groups and their hydrolysis condensation

C. G. GAMYS, E. BEYOU, E. BOURGEAT-LAMI

J. Polym. Sci. Part A: Polym. Chem. 48, 593-603 (2010)

Synthesis of oily core-hybrid shell nanocapsules through interfacial free radical co polymerization in miniemulsion: droplet formation and nucleation

Z. CAO, G. SHAN, N. SHEIBAT-OTHMAN, J-L. PUTAUX, E. BOURGEAT-LAMI

Photonics for solar energy systems III proceedings, Vol. 7725, 77250G (2010)

Latex-templated porous silica films for antireflective applications

F. GUILLEMOT, A. BRUNET-BRUNEAU, E. BOURGEAT-LAMI, T. GACOIN, E. BARTHEL, J-P. BOILOT, R. B. WEHRSPORN, A. GOMBERT

Book chapters

In Layered double hydroxide polymer nanocomposites, T. Sabu and D. Saju (Eds.), Woodhead Publishing, Oxford, Chap. 11, 461-495 (2020). V. Prévot and E. Bourgeat-Lami

Organic/Inorganic Hybrid Nanoparticles. In Hybrid materials (2016), G. KICKELBICK (Ed.), Wiley VCH, Weinheim, 2nd edition, E. Bourgeat-Lami

Encapsulation with the use of controlled radical polymerization. In Encyclopedia of Polymeric Nanomaterials. S. Kobayashi and K. Muellen (Ed.), Springer Reference, Chap. 347, pp. 718-729 (2015), A. Cenacchi-Pereira, E. Grant, F. D'Agosto, M. Lansalot, E. Bourgeat-Lami

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Organic/Inorganic Nanocomposite Colloids. In the Encyclopedia of Nanoscience and Nanotechnology. H.S. Nalwa Ed. Scientific Publishers, Los Angeles. Vol. 8. 305-332 (2004). E. Bourgeat-Lami

Hollow Particles - Synthetic pathways and potential applications. In Colloidal Polymers, Surfactant Series. A. Elaïssari Ed. Marcel Dekker. Vol. 115, Chap. 8, 189-224 (2003). E. Bourgeat-Lami

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Patents

European Patent Application **EP15306883** déposé le 27 Nov. 2015 - CNRS/Solvay Specialty - – Extension international **WO 2017/089566**. Process for the preparation of a vinylidene chloride polymer/clay composite, films obtained therefrom, and use thereof.

French Patent **N° FR 30 03573** (2014) - CNRS/MICHELIN - Extension internationale **WO 2014/147160**. Rubber composition made from hybrid particles.

French Patent **N° FR 30 00487** (2014) - CNRS/SAINT GOBAIN RECHERCHES - Extension internationale **WO 2014/102493**. Transparent glass, ceramic, or glass-ceramic substrates coated with bifunctional porous layers.

French Patent **N° FR 28 97064** (2007) - CNRS. Preparation of maghemite nanoparticles coated with polyethylene oxide.

French Patent **N° FR 28 62236** (2005) - Extension Internationale **WO 2005/049195**. Asymmetric inorganic particles, process for their preparation.

French Patent **N° FR 28 46572** (2004) - Extension Internationale **WO 2004/044061**. Dissymmetric nanometric or mesoscopic particles and their preparation process.

French Patent **N° FR 90 14749** (1992) - CNRS/ELF France. Procédé de désalumination des zéolithes synthétiques à larges pores, catalyseurs et adsorbants organophiles sélectifs renfermant les zéolithes désaluminées obtenues selon le procédé et zéolithe bêta essentiellement silicique.

European Patent Application **EP 488867** (1992) - CNRS/ELF France. Preparation of silicic beta-type zeolites by dealumination of large-pore synthetic zeolites.

Invited Conferences

- 5th French-Chinese Symposium on Soft Matter and Macromolecules, 25-30 September **2018**, Wuhan, CHINE
- SUSPOL, 10-12 July **2017**, Bordeaux, FRANCE
- International Symposium on Polymer Colloids, 25-30 June **2017**, Arantzazu, ESPAGNE
- 20th Microencapsulation Industrial Convention, 10-13 Avril **2017**, Nantes, FRANCE
- Luoyang Chemistry and Chemical Engineering Conferences, 10-18 Septembre **2016**, Luoyang, CHINE
- SoFun School, 2-5 September **2015**, Carcans, FRANCE
- 35th Australasian Polymer Symposium, 12-15 July **2015**, Gold Coast, AUSTRALIE
- International Workshop on Structure and Dynamics of Polymer Nanocomposites, 22-24 Juin **2015**, Montpellier, FRANCE
- Colloque National du GFP, 3-6 Novembre **2014**, Saint-Malo, FRANCE
- The 17th International Symposium on Silicon Chemistry: ISOS XVII, 3-8 August **2014**, Berlin, ALLEMAGNE
- IUPAC Macro 2014 – 6-11 July **2014**, Chiang Mai, THAILANDE
- Pigment & Colour Science Forum, 1-3 October **2013**, Rome, ITALIE
- Workshop on Multifunctional Textiles based on Hybrid Coatings and Nanoparticles, 17-18 September **2013**, Naples, ITALIE
- Particles 2013, *Particles in composites and related advanced materials*, 3-6 August **2013**, Kettering, Ohio, USA
- Workshop on Nanostructured Polymers and Nanohybrids, 2-5 June **2013**, Shanghai, CHINE
- Wacker International Symposium on silicones and polymers: creating tomorrow's solutions, 14-17 November **2012**, Beijing, CHINE
- Wacker International Symposium on silicones and polymers: creating tomorrow's solutions, 10-13 November **2012**, Shanghai, CHINE
- New Horizons of Colloidal Science: Fundamentals and Applications, 17-20 October **2012**, Sète, FRANCE
- 3^d franco-chinese symposium on soft matter and macromolecules, 27-28 Septembre **2012**, University of Science and Technology, Hefei, CHINE
- IUPAC Macro 2012 – 24-29 June **2012**, Blacksburg, USA
- IUPAC 7th International Conference on Novel Materials and Synthesis (NMS), 16-21 October **2011**, Shanghai, CHINE
- International Symposium on Polymer Colloids, 26-30 June **2011**, Durham, The University of New Hampshire, USA
- Third French-Brazilian meeting on Polymers (FBPOL 2011) – 20-24 Avril **2011**, Florianopolis, BRESIL
- Matériaux 2010, 18-22 Octobre **2010**, Nantes, FRANCE

- High Polymer Research Group Conference – 26-30 April **2009**, *Pot Shrigley*, Cheshire, UK
- 8th World Congress of Chemical Engineering - 23-27 August **2009**, Montréal, CANADA
- Second Asian Symposium on Advanced Materials, 11-14 October **2009**, Shanghai – CHINE
- Particles 2008 – 12-14 May **2008**, Orlando, USA
- Matériaux 2006, 13-17 Novembre **2006**, Dijon, FRANCE
- International Symposium on Radical Polymerization: Kinetics and Mechanism (SML06) – September 3-6 **2006**, Il Ciocco, ITALIE
- IUPAC Macro 2006 – 16-22 July **2006**, Rio de Janeiro, BRESIL
- Groupe Français des Zéolithes – 15-17 Mars **2006**, La Rochelle, FRANCE
- Particles 2005 – 13-16 August **2005**, San Francisco, USA
- First French-Brazilian meeting on Polymers (FBPOL 2005) – 20-24 Avril **2005**, Florianopolis, BRESIL
- European Materials Research Symposium (EMRS) – May 31- June 3, **2005**, Strasbourg, FRANCE
- Les journées sol-gel du CEA – 14-15 Janvier 2004, Tours, FRANCE
- 5th France-Japan Workshop on Nanomaterials – 11-13 Octobre 2004, Bordeaux, FRANCE
- Particles 2004 – 6-9 March **2004**, Orlando, USA
- Gordon Research Conference, June 29 - July 4, **2003**, Tilton School, USA
- Journées Transalpines – 23-24 Octobre **2003**, Villeurbanne, FRANCE
- Euromat, 1-4 Septembre 2003, Lausanne, SUISSE
- Gordon Research Conference, 29 Juin -4 Juillet **2003**, Tilton School, USA
- Club Emulsion 2002, 17-18 Octobre **2002**, Tavaux, FRANCE
- International Workshop on Nanochemistry, 26-28 Septembre **2002**, Vienne, AUTRICHE
- Kick-off Meeting Cost Action Group, March **2002**, Aveiro, PORTUGAL
- Particles 2001, 24-27 February **2001**, Orlando, Floride, USA
- Club Emulsion, 29-30 Octobre **2001**, Lyon, FRANCE
- Club Crin - Action Microencapsulation, 23 Octobre **1997**, Thiais, FRANCE

Invited Seminars

- Laboratoire Capteur Diamant, LIST CEA Tech, Saclay, France (2020)
- Solvay, Aubervilliers, France (2018)
- Henan Key laboratory of Function-Oriented Porous Materials, Luoyang University, China (2016)
- University of Sao Paulo, Lorena, Brazil (2016)
- Delft University of Technology, Delft, The Netherlands (2016)
- Ecole des Mines d'Alès, Alès, France (2014)
- Rhodia Recherches et Technologies, Saint-Fons, France (2014)
- Nanjing Forestry University, Nanjing, China (2014)