Prénom, Nom/ First Name, Last Name:

Catherine, Joly

BioDyMIA EA n°3733
Université Claude Bernard Lyon 1
IUT - Département Génie Biologique
Technopole Alimentec - Rue Henri de Boissieu
01 000 Bourg en Bresse
FRANCE

e-mail:

catherine.joly@univ-lyon1.fr

Numéro de téléphone / Phone number:

+ 33 474472142

Compétences / Skills

Mécanismes de transport. Physico-chimie des polymères naturels (procédés de transformation, formulation, vieillissement, interaction eau/polymère, relations structure/propriétés). Emballage, matériaux au contact des aliments. Techniques : perméation/sorption, mobilité macromoléculaire, fluorescence, analyses thermiques des polymères.

Transport phenomena. Natural and renewable polymer (plastic processing, formulation, ageing, water interactions, structure/property relationships). Food packaging and regulation issues. Technical expertise: gas permeation and sorption, macromolecular mobility, Steady state and time resolved fluorescence spectroscopy, polymer thermal analysis.

Cursus: / Education:

1994-97 Contrats post-doctoraux (programmes européens, et régionaux) (IEM Montpellier, IMP Lyon, ICMR Reims)
1991-95 Doctorat Matériaux Macromoléculaires et Composites - Lyon I - Greffage de fibres cellulosiques et localisation des agents de greffage dans la microstructure. Conséquences sur les propriétés d'un composite à matrice polypropylène.
1990-91 D.E.A ISS – Mulhouse - travail d' adhésion PDMS

1995 Ph D in polymer sciences and composites, Lyon 1
Composites from grafted cellulosic fibers and polypropylene
1991 Master Diploma (solid surface sciences- PDMS work of adhesion, Université de Haute Alsace - CNRS - ISS Mulhouse
Network: member of RMT Propack FOOD - former ANSES consultant - consultant for a technical center

Postes occupés: / Positions:

Maître de Conférences (physico-chimie des polymères) Université Lyon 1 depuis 2009
Maître de Conférences (physico-chimie des polymères) Université Reims Champagne Ardenne depuis 1997
*2002-2009 : Maître de Conférences ESI-Reims
*1997-2001 : UFR sciences exactes et naturelles de Reims -CNAM
Avant 97: contrats post-doctoraux divers

Associate Professor in polymer physico chesmitry , Lyon 1 University (2009-present).
Associate Professor in polymer physico chesmitry, Reims Champagne Ardenne University (2997-2009) : Packaging School university (ESI-Reims)

Before 1997 : Several post doctoral positions (initernational/national and private projects)

Activités d'enseignement :

Publics : DUT, Licence professionnelle, Master

Génie des procédés (transfert de matière, plasturgie)
Chimie organique
science des matériaux
matériaux au contact des aliments et règlementation
MCDA

/ Teaching activities :

Lectures and lab : undergraduate and postgraduate levels:

Chemical engineering (heat transfer and material processing)
Organic chemistry (basic)
Food packaging (material science, transport phenomena and FCM regulation)

Thèmes de recherche:

Matériaux polymères pour l'emballage/migration/ Matériaux actifs (antimicrobien) / mobilité macromoléculaire (propriétés thermiques et sondes in situ)

Projets collaboratifs principaux : FP7 succipack/FUI REPALI/ FP6 MIgresives//Eranet BioPack/ANR SFPD/ANR Actiphen

/ Research topics :

Packaging Polymeric materials / Migration/ Active material (antimicrobial) / polymer chain mobility (thermal properties and fluorescence sensing)

Main collaborative projects: FP7 Succipack / FUI REPALI/ FP6 Migresives / Eranet BioPack / ANR SFPD/ ANR Actiphen

Production scientifique/ Scientific production:

Focus 2005-2014:

J. Bouajila, A. Limare, C. Joly and P. Dole. Lignin Plasticization to Improve Binderless Fiberboard Mechanical Properties, polymer engineering and science, Polymer Engineering and Science (2005), 45(6), 809-816.N. Follain, C. Joly, P. Dole, C. Bliard. Properties of starch based blends. Part 2. Influence of poly vinyl alcohol addition and photocrosslinking on starch based materials mechanical properties. Carbohydrate Polymers (2005), 60(2), 185-192.

N. Follain, C. Joly, P. Dole, C. Bliard. Mechanical properties of starch-based materials. 1. Short review and complementary experimental analysis. Journal of Applied Polymer Science (2005), 97(5), 1783-1794

P. Dole, L. Averous, C. Joly, G. Della Valle, C. Bliard. Evaluation of starch-PE multilayers: processing and properties. Polymer Engineering and Science (2005), 45(2), 217-224.

J. Bouajila, P. Dole, C. Joly, A. Limare. Some laws of a lignin plasticization. Journal of Applied Polymer Science (2006), 102 (2), 1445-1451.

L. Godbillot, P. Dole, C. Joly, B. Roge, M. Mathlouthi. Analysis of water binding in starch plasticized films. Food Chemistry (2006), 96(3), 380-386.

N. Follain, C. Joly, P. Dole, B. Roge, M. Mathlouthi. Quaternary starch based blends: Influence of a fourth component addition to the starch/water/glycerol system. Carbohydrate Polymers (2006), 63(3), 400-407.

J. Pinte, C. Joly, K. Plé, P. Dole, A. Feigenbaum, Proposal of a set of model polymer additives designed for confocal FRAP diffusion experiments, J. Agric. Food Chem., 2008, 56 (21), pp 10003–10011

J. Pinte, C. Joly, P. Dole, A. Feigenbaum. Diffusion of homologous model migrants in rubbery Polystyrene: Molar mass dependence and activation energy of diffusion. Food additives and contaminants. Food Additives & Contaminants: Part A (2010) 27(4), pages 557-566

D. Monnet, C. Joly, P. Dole, C. Bliard. Enhanced mechanical properties of partially beta-amylase trimmed starch for material applications, Carbohydrate Polymers (2010) 80 (3), Pages 747-752

K. Grob, P. Camus, N. Gontard, H. Hoellinger, C. Joly, A.C. Macherey, D. Masset, F. Nesslany, J.F. Régnier, A.M. Riquet, P. Saillard, D. Ribera. Need for a better safety evaluation of food contact materials produced from resins. Food Control Food Control (2010) 21(5), Pages 763-769

N. Hatzigrigoriou, C. Papaspirides, C. Joly, Dole Patrice Effect of Migrant Size on Diffusion in Dry and Hydrated Polyamide 6. Journal of Agricultural and Food 2010, 58 (15), pp 8667–8673

J.S. Stevanic, K. Mikkonen, C.Joly, C. Remond, P. Gatenholm, M. Tenkanen, L. Salmen. Rye arabinoxylan and Bacterial cellulose composites. Journal of Applied Polymer Science 2011, 122(2), 1030-1039

N. Hatzigrigoriou, C. Papaspirides, C. Joly, J. Pinte, P. Dole. Diffusion studies through fluorescence recovery after photobleaching in hydrated polyamides. Polymer Engineering and Science 2011, 51(3), 532-541

Y. Zhang, L. Pitkänen, J.Douglade, M. Tenkanen, C. Remond, C. Joly. Wheat bran arabinoxylans: chemical structure and film properties of three isolated fractions. Carbohydrate Polymers 2011, 86, 852-859.

Mikkonen, J. S. Stevanic, P. Dole, C. Joly, K. Pirkkalainen, R. Serimaa, M. Ankefors, L. Salmén, M. Tenkanen, Composite films from spruce galactoglucomannans with microfibrillated spruce wood cellulose, Cellulose 2012, 18(3), 713-726.

F. Jbilou, F. Ayadi, S. Galland, C. Joly, P. Dole, L. Belard, P. Degraeve. Effect of shear stress extrusion on plasticized corn flour structure: proteins role and distribution. Journal of Applied Polymer Science 2012, 123, 2177-2183

N. Hatzigrigoriou, S. N. Vouyiouka, C. Joly, P. Dole, C. D. Papaspyrides Temperature-humidity superposition in diffusion phenomena through polyamidic materials. Journal of Applied Polymer Science 2012, 125(4), 2814–2823,

S. L. Heikkinen, K. S. Mikkonen, K. Pirkkalainen, R. Serimaa, C. Joly, M. Tenkanen Specific enzymatic tailoring of wheat arabinoxylan reveals the role of substitution on xylan film properties . Carbohydrate polymer 2013, 30, 92(1), 733-40.

A. Gharsallaoui A, N. Oulahal , C. Joly, P. Degraeve. Nisin as a food preservative: Part 1: Physicochemical properties, antimicrobial activity, and main uses. Critical Reviews in Food Science and Nutrition (to be published).

Gharsallaoui A., Oulahal N., Joly C., Degraeve P. Nisin as a food preservative: Part 2: Antimicrobial polymer materials containing nisin. Critical Reviews in Food Science and Nutrition (to be published).

F. Jbilou, C. Joly, S. Galland, L. Belard, V. Desjardin, R. Bayard, P. Dole, P. Degraeve. Biodegradation study of plasticised corn flour/poly(butylene succinate-co-butylene adipate) blends. . Polymer Testing 2013, vol. 32 issue 8,. p. 1575

Fadi Khalil, Sophie Galland, Amandine Cottaz, Catherine Joly, Pascal Degraeve. Polybutylene succinate adipate/starch blends: a morphological study for the design of controlled release films à paraitre carbohydrate polymer (2014)

Jbilou F., Galland S., Telliez C., Akkari Z., Roux R., Oulahal N., Dole P., Joly C., Degraeve P. (2014). Influence of some formulation and process parameters on the stabilityof lysozyme incorporated in corn flour- or corn starch-based extrudedmaterials prepared by melt blending processing. Enzyme and Microbial Technology, 67, 40-46

Damaj Z. , Joly C. ,Guillon E., Toward new polymeric oxygen scavenging systems: formation of PVA-oxygen scavenger film. Packaging science and technology (to be published)

Anouar Ben Said, Cécile Guinot, Jean-Christophe Ruiz, Frédéric Charton, Patrice Dole, Catherine Joly, Yvan Chalamet, The Journal of Supercritical Fluids, (to be published)