

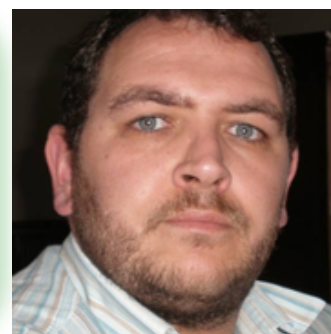
Pr. Nicolas JOLY

Unité Transformations & Agroressources site Artois – EA7915

IUT de Béthune, Université d'Artois

Département Chimie

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Situation Actuelle

- 2004 - Enseignant-Chercheur**, Institut Universitaire de Technologie de Béthune, Université d'Artois.
Compétences R&D : Extraction, analyse et modifications chimiques **polymères végétaux**, développement analytique, caractérisation mécaniques et thermiques de matériaux d'origine végétale, **Scale up, Transfert Technologique, Recherche Appliquée, gestion de projets**.
Compétences pédagogiques : Chimie analytique, organique, Physico-chimie des polymères.

Formation

- 2003 Doctorat de Chimie Appliquée – Chimie des Substances Naturelles** ; Laboratoire de Chimie des Substances Naturelles (UPRES EA 1069), Université de Limoges.

Expérience Professionnelle – Domaines de compétence

- 2004 - Responsable technique et/ou scientifique des contrats de transfert technologique et de Recherche Appliquée en chimie, en partenariat Public-Privé ;**
Domaine d'expertise : Synthèse organique à façon et scale-up, Extraction et analyses de molécules naturelles, Développement analytique organique, Matériaux biosourcés, *Reporting*.
 Exemples d'entreprises : Lesaffre, Roquette, Cosucra, Croda, SI Group, Oléon.
- 2008-2011 Chef de Département Chimie, IUT de Béthune.**
 Gestion financière entrante et sortante ; Relations industrielles et internationales ;
- 2012- Responsable du DUT Chimie par apprentissage.**
 Gestion administrative, financière et pédagogique de formations
 Relations industrielles (recherche de contrats d'apprentissage et de candidats)

Compétences générales - Qualités

Gestion de projet et d'équipe
 Adaptabilité – Ouverture d'esprit

Pro-activité
 Pluridisciplinarité – Polyvalence

Dynamisme, rigueur
 Esprit d'équipe

Activités de Recherche

2 thématiques de Recherche :

- **Chimie des polymères et molécules naturels** : Extraction, caractérisation et modification chimique de polymères végétaux (cellulose, Hémicelluloses, lignines, amidon, inuline, ...) pour l'obtention de matériaux bio-sourcés et de biomatériaux. Extraction et caractérisation de molécules d'intérêt (polyphénols, acides chlorogéniques, ...) à partir de la biomasse végétale.
- **Molécules d'origine végétale à visée biologique** : Obtention de molécules antioxydantes, antifongiques, antibactériennes, ou élicitrice. Extraction et caractérisation de molécules d'intérêt (polyphénols, acides chlorogéniques, ...) à partir de la biomasse végétale.

Publications scientifiques depuis 2018.

- ✓ **Dielectric Characterization of Polylactic Acid Substrate in the Frequency Band 0.5-67 GHz.** G. Boussatour, P.-Y. Cresson, B. Genestie, N. Joly, and T. Lasri. *IEEE Microwave and Wireless Components Letters*, **2018**, 28(5), 374-376.
- ✓ **Step-wise multi-scale deconstruction of banana pseudo-stem (*Musa acuminata*) biomass and morpho-mechanical characterization of extracted long fibres for sustainable applications.** T. Sango, A. M. Cheumani Yona, L. Duchatel, A. Marin, M. Kor Ndikontar, N. Joly, J.-M. Lefebvre. *Industrial Crops and Products*, **2018**, 122, 657-668.
- ✓ **Measurement of the thermal conductivity of flexible biosourced polymers using the 3-omega method.** G. Boussatour, P.-Y. Cresson, B. Genestie, N. Joly, J.-F. Brun, T. Lasri. *Polymer Testing*, **2018**, 70, 503-510.
- ✓ **Renewable surfactants for biochemical applications and nanotechnology.** S. Le Guenic, L. Chaveriat, V. Lequart, N. Joly, P. Martin. *Journal of Surfactants and Detergents*, **2019**, 22, 5-21.
- ✓ **Water-Soluble Extracts from Banana Pseudo-stem as Functional Additives for Polylactic Acid: Thermal and Mechanical Investigations.** T. Sango, G. Stoclet, N. Joly, A. Marin, A.M. Cheumani Yona, L. Duchatel, M. Kor Ndikontar^b, J.-M. Lefebvre. *European Polymer Journal*, **2019**, 112, 466-476.
- ✓ **Substitution degree and fatty chain length influence on structure and properties of Fatty Acid Cellulose esters.** L. Duchatel-Crépy, N. Joly, P. Martin, A. Marin, J.-F. Tahon, J.-M. Lefebvre, V. Gaucher. *Carbohydrate Polymers*, **2020**, 234, 115912
- ✓ **Synthetic mono-rhamnolipids display direct antifungal effects and trigger an innate immune response in tomato against *Botrytis cinerea*.** M. Robineau, S. Le Guenic, L. Sanchez, L. Chaveriat, V. Lequart, N. Joly, M. Calonne, C. Jacquard, S. Declerck, P. Martin, S. Dorey, E. Ait Barka. *Molecules*, **2020**, 25, 3108.
- ✓ **Importance of the C12 Carbon Chain in the Biological Activity of Rhamnolipids Conferring Protection in Wheat against *Zymoseptoria tritici*.** R. Platel, L. Chaveriat, S. Le Guenic, R. Pipeleers, M. Magnin-Robert, B. Randoux, P. Trapet, V. Lequart, N. Joly, P. Halama, P. Martin, M. Höfte, P. Reignault, A. Siah. *Molecules* **2021**, 26, 40.
- ✓ **Potato by-products as a source of natural chlorogenic acids and phenolic compounds: extraction, characterization and antioxidant capacity.** N. Joly, K. Souidi, D. Depraetere, D. Wils, P. Martin. *Molecules*, **2021**, 26, 177.
- ✓ **Polyacrylamide grafted Xanthan: Microwave-assisted synthesis and rheological behavior for polymer flooding.** S. Chami, N. Joly, P. Bocchetta, P. Martin, D. Aliouche. *Polymers*, **2021**, 13, 1484.
- ✓ **Effects of Geomaterial-Originated Fillers on Microstructure and Mechanical/Physical Properties of α - and β -Chitosan-Based Films.** A. Mourak, M. Hajjaji, A. Alagui, P. Martin, N. Joly. *Molecules*, **2021**, 26, 7514.
- ✓ **2.45 GHz natural polymer-based flexible bandpass filter exploiting laser structuring.** A. Sid, P.-Y. Cresson, N. Joly, F. Braud, B. Genestie, T. Lasri. *Microwave and Optical Technology Letters* **2022**, 64, 727-732.
- ✓ **Flower-like Highly Open-Structured Binder-Free Zn-Co-Oxide Nanosheet for High- Performance Supercapacitor Electrodes.** Q. Abbas, S.H. Siyal, A. Mateen, M.A. Bajaber, A. Ahmad, M.S. Javed, P. Martin, N. Joly, P. Bocchetta. *Molecules* **2022**, 27, 4850.
- ✓ **β -chitosan-clay films: Characterization and antibacterial study using response surface methodology.** M. Hajjaji, A. Alagui, N. Joly, P. Martin. *Polymers from Renewable Resources*, **2022**, 13(4) 223-242.
- ✓ **A flexible and wearable dual band bio-based antenna for WBAN applications.** A. Sid, P.-Y. Cresson, N. Joly, , F. Braud, T. Lasri. *AEUE - International Journal of Electronics and Communication*, **2022**, 157, 154412
- ✓ **Towards the hydrophobization of thermoplastic starch using fatty acid starch ester as additive.** C. Terrie, A. Mahieu V. Lequart, P. Martin, N. Leblanc, N. Joly. *Molecules*, **2022**, 27, 6739
- ✓ **Bio-based substrate for flexible electronics - Application to a 2.45 GHz wearable patch antenna.** A. Sid, P.-Y. Cresson, N. Joly, F. Braud, T. Lasri. *Materials Today Electronics*, **2023**, 5, 100049
- ✓ **Optimization of enzymatic synthesis of D-glucose-based surfactants using supported *Aspergillus niger* lipase as biocatalyst.** A. Spalletta, N. Joly, P. Martin. *Chemistry*, **2023**, 5, 1855-1869.
- ✓ **Structure and mechanical behavior of fully substituted acid starch esters.** A. David, G. Stoclet, N. Joly, C. Ribeiro, N. Descamps, D. Lourdin, V. Gaucher. *Macromolecular Chemistry and Physics* **2023**, 02300177.
- ✓ **Optimization of alkali treatment for production of fermentable sugars and phenolic compounds from potato peel waste using topographical characterization and FTIR spectroscopy.** Q. Mushtaq, N. Joly, P. Martin, J. Iqbal Qazi. *Molecules*, **2023**, 28, 7250.
- ✓ **Chemical Composition and Antibacterial activity of Essential Oils from Fruits of *Vismia baccifera* and *Vismia macrophylla* Collected at different Locations in Venezuelan Andes.** A. Buitrago, J. Rojas, J. Velasco, M. Morillo, N. Joly, L. Rojas, P. Martin. *European Journal of Medicinal Plants*, **2023**, 34, 115.
- ✓ **Latest Trends in Lipase-Catalyzed Synthesis of Ester Carbohydrate Surfactants: From Key Parameters to Opportunities and Future Development.** A. Spalletta, N. Joly, P. Martin. *International Journal of Molecular Sciences*, **2024**, 25, 3727.
- ✓ **Chitosan in electrochemical (bio)sensors: nanostructuring and methods of synthesis.** P. Bocchetta, A. Othman, M. Gupta, G. Andriani, P. Martin, Y. Kumar, N. Joly, P. Sacco f, M.S. Javed. *European Polymer Journal*, **2024**, 113092.
- ✓ **Amylase and cellulase production from newly isolated *Bacillus subtilis* using acid treated potato peel waste.** Q. Mushtaq, U. Ishtiaq, N. Joly, J. I. Qazi, P. Martin. *Microorganisms*, **2024**, 12, 1106.
- ✓ **Investigation and characterization of changes in potato peels by thermochemical acidic pre-treatment for extraction of various compounds.** Q. Mushtaq, U. Ishtiaq, N. Joly, P. Martin, J. I. Qazi. *Scientific Reports*, **2024**, 14 (1), 12655.