



Liste des productions scientifiques de la plate-forme BIBS en 2023

1- Articles dans des journaux à comité de lecture

1. Boulet, J. C., Abi-Habib, E., Carrillo, S., Roi, S., Veran, F., Verbaere, A., Meudec, E., Rattier, A., Ducasse, M-A., Jørgensen, B., Hansen, J., Le Gall, S., Poncet-Legrand, C., Cheynier, V., Doco, T., Vernhet, A. Focus on the relationships between the cell wall composition in the extraction of anthocyanins and tannins from grape berries. *Food Chemistry*, 2023, 406, 135023, <https://doi.org/10.1016/j.foodchem.2022.135023>
2. Keuleyan, E., Gélébart, P., Beaumal, V., Kermarrec, A., Ribourg-Birault, L., Le Gall, S., Meynier, A., Riaublanc, A., Berton-Carabin, C. Pea and lupin protein ingredients: New insights into endogenous lipids and the key effect of high-pressure homogenization on their aqueous suspensions, *Food Hydrocolloids*, 2023, 108671, <https://doi.org/10.1016/j.foodhyd.2023.108671>.
3. Le GALL, S., SOLE-JAMAULT, V., Le GOFF, A., NARS-CHASSERAY, M., Le BOT, L., Renaud, C., Lollier, V., Guinet, T., Gervais, J., Ohleyer, L. & Jeandroz, S. Effect of Cultivars, Environment, and Year on Agronomic Traits, Biochemical Composition of Major Constituents (Lipids, Proteins, and Polysaccharides), and Rheological Properties of Seeds in Brassica juncea. *ACS Food Sci. Technol.* 2023, doi.org/10.1021/acsfoodscitech.3c00094
4. Lahaye, M., Thoulouze, L., Calatraba, M., Gaucrain, T., Falourd, X., Le-Quere, J. M., Foucat, L., Bauduin, R. A multimodal and multiscale investigation of factors affecting the juice yield of cider apples. *Food Chemistry*, 2023, 420, 135649, <https://doi.org/10.1016/j.foodchem.2023.135649>
5. Reynoud, N., Geneix, N., D'Orlando, A., Petit, J., Mathurin, J., Deniset-Besseau, A., ... & Bakan, B. (2023). Cuticle architecture and mechanical properties: a functional relationship delineated through correlated multimodal imaging. *New Phytologist*, 238(5), 2033-2046. <https://doi.org/10.1111/nph.18862>
6. Yao, R. A., Reyre, J. L., Tamburrini, K. C., Haon, M., Tranquet, O., Nalubothula, A., Mukherjee, S., Le Gall, S., Grisel, S., Longhi, S., Madhuprakash, J., Bissaro, B. & Berrin, J. G. (2023). The Ustilago maydis AA10 LPMO is active on fungal cell wall chitin. *Applied and Environmental Microbiology*, e00573-23.
7. Prunier G., Cherkaoui M., Lysiak A., Langella O., Blein-Nicolas M., Lollier V., Benoist E., Jean G., Fertin G., Rogniaux H. & Tessier D.. Fast alignment of mass spectra in large proteomics datasets, capturing dissimilarities arising from multiple complex modifications of peptides. *BMC Bioinformatics* (2023) 24:421. <https://doi.org/10.1186/s12859-023-05555-y> .
8. Beriziky, P., Cherkaoui, M., Linxe, L., Perrin, E., Rogniaux, H., Denery-Papini, S., Morisset, M., Larré, C., Dijk, W., 2023. Hemp seed: An allergen source with potential cross-reactivity to hazelnut. *Food Research International* 169, 112932. <https://doi.org/10.1016/j.foodres.2023.112932>
9. Boulogne, I., Petit, P., Desfontaines, L., Durambur, G., Deborde, C., Mirande-Ney, C., Arnaudin, Q., Plasson, C., Grivotte, J., Chamot, C., Bernard, S., Loranger-Merciris, G., 2023. Biological and Chemical Characterization of Musa paradisiaca Leachate. *Biology* 12, 1326. <https://doi.org/10.3390/biology12101326>

10. Deslignière, E., Ollivier, S., Beck, A., Ropartz, D., Rogniaux, H., Cianférani, S., 2023. Benefits and Limitations of High-Resolution Cyclic IM-MS for Conformational Characterization of Native Therapeutic Monoclonal Antibodies. *Anal. Chem.* 95, 4162–4171. <https://doi.org/10.1021/acs.analchem.2c05265>
11. Legland, D., Le, T.D.Q., Alvarado, C., Girousse, C., Chateigner-Boutin, A.-L., 2023. New Growth-Related Features of Wheat Grain Pericarp Revealed by Synchrotron-Based X-ray Micro-Tomography and 3D Reconstruction. *Plants* 12, 1038. <https://doi.org/10.3390/plants12051038>
12. Ollivier, S., Legentil, L., Yeni, O., David, L.-P., Ferrières, V., Compagnon, I., Rogniaux, H., Ropartz, D., 2023a. Gas-Phase Behavior of Galactofuranosides upon Collisional Fragmentation: A Multistage High-Resolution Ion Mobility Study. *J. Am. Soc. Mass Spectrom.* 34, 627–639. <https://doi.org/10.1021/jasms.2c00333>
13. Ollivier, S., Ropartz, D., Fanuel, M., Rogniaux, H., 2023b. Fingerprinting of Underivatized Monosaccharide Stereoisomers Using High-Resolution Ion Mobility Spectrometry and Its Implications for Carbohydrate Sequencing. *Anal. Chem.* 95, 10087–10095. <https://doi.org/10.1021/acs.analchem.3c01531>
14. Rajaonarivony, R.-K., Rouau, X., Commandré, J.-M., Fabre, C., Maigret, J.-E., Falourd, X., Le Gall, S., Piriou, B., Goudenhooff, C., Durand, S., Bourmaud, A., Beaugrand, J., Mayer-Laigle, C., 2023. Fine comminution of torrefied wheat straw for energy applications: properties of the powder and energy balances of the production route. *Sustainable Energy Fuels* 7, 5655–5668. <https://doi.org/10.1039/D3SE00873H>
15. Yeni, O., Ollivier, S., Moge, B., Ropartz, D., Rogniaux, H., Legentil, L., Ferrières, V., Compagnon, I., 2023. Ring-Size Memory of Galactose-Containing MS/MS Fragments: Application to the Detection of Galactofuranose in Oligosaccharides and Their Sequencing. *J. Am. Chem. Soc.* 145, 15180–15187. <https://doi.org/10.1021/jacs.3c01925>
16. Roze, M.; Diler, G.; Pontoire, B.; Novales, B.; Jonchere, C.; Crucean, D.; Le-Bail, A.; Le-Bail, P. Effects of Sucrose Replacement by Polyols on the Dough-Biscuit Transition: Understanding by Model Systems. *Foods* 2023, 12 (3), 607. <https://doi.org/10.3390/foods12030607>
17. Lopez, C.; Sotin, H.; Rabesona, H.; Novales, B.; Le Quere, J.-M.; Froissard, M.; Faure, J.-D.; Guyot, S.; Anton, M. Oil Bodies from Chia (*Salvia Hispanica* L.) and Camelina (*Camelina Sativa* L.) Seeds for Innovative Food Applications: Microstructure, Composition and Physical Stability. *Foods* 2023, 12 (1), 211. <https://doi.org/10.3390/foods12010211>
18. Hedjazi, L.; Belhabib, S.; D'Orlando, A.; Guessasma, S. Breaking Material Symmetry to Control Mechanical Performance in 3D Printed Objects. *Symmetry-Basel* 2023, 15 (1), 28. <https://doi.org/10.3390/sym15010028>
19. Branlard, G.; d'Orlando, A.; Tahir, A.; Schmutz, M.; Rhazi, L.; Faye, A.; Aussenac, T. The Conformation of Glutenin Polymers in Wheat Grain: Some Genetic and Environmental Factors Associated with This Important Characteristic. *J. Exp. Bot.* 2023. <https://doi.org/10.1093/jxb/erad013>
20. Violo, T.; Lambert, A.; Pillot, A.; Fanuel, M.; Mac-Bear, J.; Broussard, C.; Grandjean, C.; Camberlein, E. Site-Selective Unnatural Amino Acid Incorporation at Single or Multiple Positions to Control Sugar-Protein Connectivity in Glycoconjugate Vaccine Candidates. *Chem.-Eur. J.* 2023. <https://doi.org/10.1002/chem.202203497>
21. Dufour, M.; Foucat, L.; Hugon, F.; Dugu, A.; Chiron, H.; Della Valle, G.; Kansou, K.; Saulnier, L. Water Mobility and Microstructure of Gluten Network during Dough Mixing Using TD NMR. *Food Chem.* 2023, 409, 135329. <https://doi.org/10.1016/j.foodchem.2022.135329>
22. Lopez, C.; David-Briand, E.; Lollier, V.; Meriadec, C.; Bizien, T.; Perez, J.; Artzner, F. Solubilization of Free B-Sitosterol in Milk Sphingomyelin and Polar Lipid Vesicles as Carriers: Structural Characterization of the Membranes and Sphingosome Morphology. *Food Res. Int.* 2023, 165, 112496. <https://doi.org/10.1016/j.foodres.2023.112496>

23. Richely, E.; Zarei, A.; Melelli, A.; Rajan, D. K.; Govilas, J.; Gabrion, X.; Clévy, C.; Legland, D.; Perez, J.; Guessasma, S.; Placet, V.; Kallio, P. & Beaugrand, J. Measurement of microfibril angle in plant fibres: Comparison between X-ray diffraction, second harmonic generation and transmission ellipsometry microscopies. *Composites Part C: Open Access*, **2023**, *11*, 100355. <https://doi.org/10.1016/j.jcomc.2023.100355>
24. Wang, Y., Saulnier, L., Ral, J. P., Falourd, X., & Kansou, K. Determining whether granule structural or surface features govern the wheat starch digestion, a kinetic analysis. *Carbohydrate Polymers*, **2023**, *315*, 120966. <https://doi.org/10.1016/j.carbpol.2023.120966>

2- Communications dans des colloques nationaux ou internationaux

2.1 Communications orales invitées

1. Rogniaux, H., Cherkaoui M, Prunier G, Tessier D (2023). What is hiding in my dataset? On the benefit of OMS approaches for a deeper interpretation of proteomics data, CJ FPS 2023, Strasbourg (FR), 2023-04-03
2. Ollivier, S. (2023). Cyclic ion mobility-mass spectrometry: pushing the boundaries of structural glycosciences, Waters SELECT SERIES Users Meeting, Paris (FR), 2023-04-04
3. Ollivier, S., Fanuel, M., Ropartz, D., Rogniaux, H. (2023). Cyclic ion mobility-mass spectrometry: pushing the boundaries of structural glycosciences, JFSM 2023, Marseille (FR), 2023-09-04
4. Rogniaux H., Ollivier, S., Fanuel, M., Ropartz, D. (2023). MASS SPECTROMETRY IN STRUCTURAL GLYCOSCIENCES: WHERE ARE WE TODAY?, JFSM 2023, Marseille (FR), 2023-09-04
5. Legland, D. (2023). Image based modelling approaches for analysis of plant tissues morphology, MiFoBio 2023, Presqu'île de Giens (FR), 2023-11-09

2.2 Communications orales dans des congrès nationaux ou internationaux

1. Rogniaux, H. (2023). La boîte à outils SpecOMS/SpecGlobX pour l'interprétation des spectres en protéomique : des protéines modifiées à l'étude du peptidome ?, Journées du réseau MassProtINRAE, Saclay (FR), 2023-06-08
2. Rogniaux, H. (2023). Quoi de neuf sur BIBS?, Journées du réseau MassProtINRAE, Saclay (FR), 2023-06-08
3. Maillard, G. (2023). Texture and structure changes in lentils during hydrothermal cooking, ICEF14 (International Congress of Engineering and Food), Nantes (FR), 2023-06-19
4. Florent Grélard, David Legland, Loïc Foucat, Mathieu Fanuel, Hélène Rogniaux (2023). Fusion de données IRM et MALDI pour étudier le développement du grain de blé, 18ème Colloque de la Société Française des Microscopies, Rouen (FR), 2023-07-03
5. David Legland, Camille Alvarado, Eric Badel, Fabienne Guillon, Andrew King, Thang Duong Quoc Le, Camille Rivard, Louis Paré, Anne-Laure Chateigner-Boutin, Christine Grousse (2023). Synchrotron Based X-ray Microtomography Reveals Cellular Morphological Features of Developing Wheat Grain. Sun User Meeting, Saint-Aubin (FR), 2023-01-19.
6. Falourd, X., Lahaye, M., Chabbert, B., Aguié-Béghin, V., Rondeau-Mouro, C. Solid-state NMR $^1\text{H} \rightarrow ^{13}\text{C}$ polarization transfer kinetics to investigate interactions in starch and cellulose-based assemblies. 8th EPNOE International Polysaccharides Conference, Graz (AUT), 2023-09-19.
7. Falourd, X., Lahaye, M., Chabbert, B., Aguié-Béghin, V., Rondeau-Mouro Interactions in polysaccharide assemblies: the contribution of ss-NMR $^1\text{H} \rightarrow ^{13}\text{C}$ polarisation transfer kinetics. 1st NMR for Life Sciences Conference, Distanziel, 2023-10-10.

2.3 Communications par affiche

1. Prunier, G., Cherkaoui, M., Lysiak, A., Langella, O., Blein-Nicolas, M., Lollier, V., Benoist, E., Jean, G., Fertin, G., Rogniaux, H., Tessier, D. (2023). SpecGlobX: a fast tool for aligning mass spectra in large proteomics datasets, capturing dissimilarities arising from multiple complex peptides modifications, 71st ASMS conference, Houston (US-TX), 2023-06-04

2. Fanuel, M., Grélard, F., Foucat, L., Alvarado, C., Arnaud, B., Chateigner-Boutin, A.L., Saulnier, L., Legland, D., Rogniaux, H. (2023). SPATIAL CORRELATION OF WATER DISTRIBUTION AND FINE STRUCTURE OF HETEROXYLANS IN THE DEVELOPING WHEAT GRAIN, 2nd journées du GDR MSI, Lille (FR), 2023-06-12
3. Rezette, L.;Kansou, K., Le Gall S., Marion D., Della Valle G., Saulnier L. (2023). Integrating the variability of wheat minor components to model farinograph absorption, ICEF14 (International Congress of Engeneering and Food), Nantes (FR), 2023-06-19
4. Prunier, G., Cherkaoui, M., Lysiak, A., Langella, O., Blein-Nicolas, M., Lollier, V., Benoist, E., Jean, G., Fertin, G., Rogniaux, H., Tessier, D. (2023). SpecGlobX: a fast tool for aligning mass spectra in large proteomics datasets, capturing dissimilarities arising from multiple complex peptides modifications, ProteoAix, Aix-en-Provence (FR), 2023-06-20
5. David Legland, Camille Alvarado, Eric Badel, Fabienne Guillon, Andrew King, Thang Duong Quoc Le, Camille Rivard, Louis Paré, Anne Laure Chateigner Boutin, Christine Girousse (2023). La microtomographie synchrotron à rayons X révèle la morphologie cellulaire du grain de blé en développement, Graines 2023, Versailles (FR), 2023-11-07
6. Anne-Laure Chateigner Boutin, Camille Alvarado, Angelina D'Orlando, Sylvie Durand, Frédéric Jamme, David Legland, Fabienne Guillon, Marie Françoise Devaux (2023). Apports de l'imagerie multimodale multiéchelle et de l'analyse d'images pour l'étude de la croissance et la composition du grain de blé en développement, Graines 2023, Versailles (FR), 2023-11-07
7. Rezette, L.;Kansou, K., Le Gall S., Marion D., Della Valle G., Saulnier L. (2023). Integrating the variability of wheat minor components to model farinograph absorption, Graines 2023, Versailles (FR), 2023-11-07
8. Falourd, X., Lahaye, M., Rondeau-Mouro, C. Hydrated starch, an extremely complex organisation studied through a wide range of cross-polarisation experiments. GERM 2023, Murol (France), 12-15/06/2023.

3- Organisation ou co-organisation de colloques

1. ICEF 2023 (International congress of engineering and food), Nantes, 2023/06/23-26 (co-organisation ONIRIS-BIA)
2. Sfμ 2023 - (18ème colloque de la Société française des microscopies), Rouen, 2023/07/03-07 (BIBS co-animation du symposium "Techniques corrélatives, combinatoires ou multi-modales", avec université de Lausanne)
3. Journée "Analyse d'images" de l'axe bio-imagerie de BioGenOuest, Rennes, le 04/10/2023 (DL).

4- Enseignements (cours, ateliers, etc.)

1. EMBO Practical courses module "Advanced Methods in bioimage Analysis". "Advanced Image Analysis", durée 50mn cours + 2h TP. LEGLAND, David. 2023/09/10-15
2. ESPCI Paris - "Principe de la mobilité ionique couplée à la spectrométrie de masse - Exemples d'applications", durée 2h cours. ROPARTZ, David. 2023/10/23
3. Master I Chimie, Parcours A3M (Université de Nantes). « La RMN du solide et les végétaux : Etude de la cellulose » Durée : 1h15. FALOURED, Xavier. 2023/02/02.
4. Master I Chimie, Parcours A3M (Université de Nantes). « Spectrométrie de masse MALDI. Application en imagerie » Durée : 3h30. ROGNIAUX, Hélène et FANUEL Mathieu. 2023/01/19
5. Master II Sciences du Médicament et des Produits de Santé, Parcours CQPS (Université de Nantes). « Spectrométrie de masse MALDI. Application en imagerie » Durée : 3h. ROGNIAUX, Hélène et FANUEL Mathieu. 2023/02/07
6. Master II Sciences du Médicament et des Produits de Santé, Parcours CQPS (Université de Nantes). « Spectrométrie de masse couplée à la mobilité ionique » Durée : 3h. SIMON, Ollivier. 2023/02/07

5- Mémoires de stage

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1. ARDAENS, Briec. Rapport stage M2 (Université Bordeaux, Master 2 Agrosceience Biotechnologies & Biologie Univ Bordeaux, 6 mois, 2023). Extraction strategies and characterization of polysaccharides from tomato cuticle
2. BUTELLE, Rémi. Rapport de stage M1 (Université Nantes, Master 1 de chimie parcours Analyse, molécules, matériaux, médicaments, 5 mois). Caractérisation par RMN du solide des interactions dans des systèmes polysaccharidiques complexes (cellulose-hémicellulose-conyférol).
3. PETRAU, Alice. Rapport de stage M2. (Université de Nantes, Master 1 Nutrition Sciences des Aliments parcours IBVEM, 5 mois). Evaluation de méthodes d'acquisition automatiques de spectres MS/MS en couplage LC-IMS-MS pour la caractérisation d'oligosaccharides.
4. LE CAR, Coralie. Rapport de stage M1 (Université de Nantes, Master 1 de chimie parcours Analyse, molécules, matériaux, médicaments (A3M), 5 mois). Greffage de pointes AFM pour l'étude des interactions biomoléculaires de protéines végétales et polysaccharides.