# Dulie Courraud

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# **Education**

2010-2013 Ph.D. in Biochemistry, University of Montpellier, France, with honors

- 2008-2013 Pharm.D. (residency) with Research Specialization, University of Montpellier, France
- 2009-2010 M.Sc. in Nutrition, University of Nantes and Montpellier, France
- **2003-2008 Pharmacy school,** University of Nantes, France, and Vienna, Austria (Erasmus 2005-2006)

## **Positions and responsibilities**

**2022-now Senior researcher,** Department of Clinical Therapeutics, National and Kapodistrian University of Athens, Greece

LC-MS/MS clinical proteomics for diagnostic & research – Amyloidosis – Multiple myeloma

- Proteomics Core Facility management, accounting and strategy
- Supervision of 8 junior members.
- Histology, microscopy and laser microdissection of biopsies from various tissues.
- **Proteomics sample preparation and LC-MS/MS acquisition** (DDA, DIA): method development for new matrices (cell pellets, tissues, platelets, crystals, leftovers from RNA extraction, etc.)
- Troubleshooting and instrument maintenance (Bruker nanoElute 2 + timsTOF fleX)
- **Data pre- and post-processing**: MaxQuant, DIA-NN, FragPipe, DataAnalysis, R coding for data analysis, visualisation and reporting
- **Sustainability:** QA&QC procedures, method validation in view of its accreditation by health authorities and official integration within the Greek healthcare system, budgeting

**2021-2022 Academic researcher,** Department of Chemistry, Analytical chemistry laboratory, National and Kapodistrian University of Athens, Greece

LC-MS/MS targeted metabolomics – Wastewaters – Drugs & Contaminants

**2017–2021 Academic researcher,** Department of Congenital Disorders, Metabolomics unit, Statens Serum Institut, Copenhagen, Denmark

LC-MS/MS untargeted and targeted metabolomics – Dried blood spots and plasma – Psychiatric disorders – Inborn errors of metabolism

- Study design (1000+ samples), grant applications, publications, IT troubleshooting
- Data processing: MZmine, Compound Discoverer, Trace Finder, MetIDQ (p400 Biocrates), GNPS, MS2LDA, MolNetEnhancer, SIRIUS:CSI-FingerID, openMS
- Uni-/multivariate statistical analyses: R markdown, Jupyter notebooks, various R packages and scripts (batch correction, PCoAs, PLSA-DA, PERMANOVA, quality control, etc.), QIIME2, MetaboAnalyst (web and R), Supercomputers
- Development of the Metabolomics Unit, recruitment of staff and management of technician, set up of targeted and untargeted metabolomics pipeline, QA/QC
- Transfer of methods, assessment and optimisation, new matrices, compound libraries for enhanced annotations
- International conference organization (CMC2018, CMC2020, CMC2021, NMS2022)
- Creation and management of the Danish national network for clinical metabolomics, Clime.dk

**2015–2017 Postdoctoral fellow, Xlab**, Biomedical Sciences, Univ. of Copenhagen, Denmark

Metabolic and dietary profile - Lipid metabolism in the muscle - Muscle mitochondria

- Design of research projects, fundraising
- Food frequency questionnaires, confocal microscopy, immunohistochemical staining, protein electrophoresis
- Data management, statistical analyses (SPSS, linear regression, ANCOVAs), publications

**2014–2015** Freelance consultant for the pharmaceutical industry (NFL Biosciences) and teacher for the University of Montpellier, Pharmacy school and School of Cancer, EFEC, France

Medical writing – Regulatory affairs – Quality

- Organisational and regulatory support for a phase-1 clinical trial (CESTO NCT02521701)
- Teaching and training on the following topics: management of research projects, management of scientific information, artificial nutrition

#### 2012–2014 Manager in clinical research and medical writer, Clinical research department, Montpellier Cancer Institute, France

Clinical research – Clinical nutrition – Medical oncology – Ethics

- Wrote and reviewed 20 publications, 10 grant applications, and 15 clinical study protocols
- Publication and research strategy, development of collaborations, communication to the public on the institute's website and to research centres in the region, training staff in writing

**2010–2013 Junior researcher,** Prevention of Malnutrition and Associated Pathologies unit, Institute of Research for Development (IRD), Montpellier, France

Food biochemistry – Vitamin A, E, carotenoids, fatty acids – HPLC-DAD and GC Analytics

- Ph.D. title: Study of carotenoids and retinoids behaviour during in vitro digestion : stability, bioaccessibility and antioxidant properties in the intestine
- Design and validation of new analytical methods, food analysis, in vitro model development, dynamic light scattering, technical troubleshooting, statistical analyses (R)
- Design and management of a 4-site research project including new collaborations, grant applications and publication of results

□ Page 2 | +306945489073

- Teaching at university (to bachelor and Ph.D. students)

**2008–2013 Pharmacy resident in medical pharmacology and toxicology,** Montpellier University hospital, France (6 months full-time and shifts for 4 years)

Analytical chemistry - Medical Toxicology & Pharmacology - Emergencies at night

- Analysis of biological samples (blood, urine, gastric liquid) using various methods (immunohistochemistry, HPLC, GC) both day and night (alone)
- Writing and implementation of QA/QC procedures, training of new residents

**2008–2009 Pharmacy resident in the central pharmacy,** Montpellier University hospital, France (6 months)

Pharmacology – Parenteral nutrition in neonatology – Cardiology – Quality

- Validation of hospital prescriptions in cardiology and neonatology (day and night)
- Audit of the local pharmacies in clinical services
- Supervision and validation of the production of pharmaceutical preparations

2007-2008 Pre-residency in pharmaceutical sciences (part-time hospital, 3 months each)

Chemotherapy preparation unit	Dr. Thomaré, University of Nantes, France
Immunology laboratory	Prof. Josien, University of Nantes, France
Thoracic transplantation unit	Prof. Baron, University of Nantes, France
Internal medicine and reanimation unit	Dr. Wall, Drake University, Des Moines, IA, USA

#### **Awards**

**2023** Honorable mention (for my talk) at the 73<sup>rd</sup> EEBMB annual meeting (84 competitors)

**2022** Females in Mass Spectrometry (FeMS) empowerment award

**2013** Award of the **2**<sup>nd</sup> **best oral communication**, Graduate school annual meeting (>30 competitors), Montpellier (France)

#### Interviews

**2022** The Metabolomist – **<u>Episode 3</u>** – Biocrates podcast – *Study Design & Clinical Metabolomics* 

2020 French Institute in Denmark – French Researchers in Denmark

### Other activities and memberships from 2020 onwards

**2023-now** Active member of the **EPAN** (European Proteomics Amyloid Network), member of the International Society of Amyloidosis (**ISA**), of the Hellenic Proteomics Society (**HPS**), and of the Hellenic Society for Biochemistry and Molecular Biology (**EEBMB**)

2024-2025 Mentor within the mentoring program of Females in Mass Spectrometry (FeMS)
2021–2023 Chair (Events committee, 2022-2023) & active member (Award committee) of the

Females in Mass Spectrometry (FeMS) non-profit international organization
2021-2022 Organiser & graphic designer for the four-day 2<sup>nd</sup> Nordic Metabolomics
Conference (2022) - <u>NMC2022</u> - Copenhagen, Denmark

2015–2022 Core member of Copenhagen Food Co-op (KBHFF) – distribution and IT

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2019–2021	<b>Organizer of the two-day Clinical Metabolomics Copenhagen online</b> <b>conference</b> – <u>CMC2020</u> (rescheduled to 2021 due to COVID-19) – Novo Nordisk Foundation grant
2018-2021	<b>Founder and chair of the Danish Clinical Metabolomics network -</b> <u>Clime.dk</u> – approx, 150 members
2018–2019	Organizer of the two-day Clinical Metabolomics Copenhagen conference – CMC2018 – 150 attendees – Novo Nordisk Foundation grant
2017	Organizing committee of the Young Investigators Network – Lifestyle, Obesity and Metabolic research (LOM), Copenhagen University, Denmark
2016–2019	Board member and event organiser at the non-profit Centre for Acceleration of Sustainable Change (think.dk), Copenhagen, Denmark
2015-now	Core member of Copenhagen Food Co-op (KBHFF) – distribution and IT
2012–2015	Founder and CEO of my own boardgame publishing company (Editions la Donzelle, SARL), France
2011–2013	<b>Elected member of the Scientific Board of the University of Montpellier I,</b> France
2013	<b>Participated in the organization of the 29th EFFoST International Conference</b> in Montpellier, France
2012	Organizer of the national meeting of pharmacy residents in Montpellier, France
2010–2012	Vice-president and webmaster of the pharmacy residents association (AIPHMN), Montpellier, France
2004–2008	Student representative and elected member of the School of Pharmacy Board of Nantes (France) and local manager of the Student Exchange Program

# **Professional Affiliations**

European Proteomics Amyloid Network (EPAN) 2023-Present International Society of Amyloidosis (ISA) 2023-Present Hellenic Proteomics Society (HPS) 2025-Present Hellenic Society for Biochemistry and Molecular Biology (EEBMB) 2023-Present Females in Mass Spectrometry, 2020-Present Nordic Metabolomics Society, 2020-Present Metabolomics Society, 2018-2021 Danish Clinical Metabolomics network, co-founder and chair, 2018-2021

## Latest Talks and Posters relative to Publications in preparation

**Julie Courraud**. "New advances in clinical proteomics in Athens: from diagnostics in amyloidosis to research in multiple myeloma.", 3rd Panhellenic Conference organized by the Medical Society for the Study of Cancer Biology and Therapy (I.E.M.B.I.T.E.K.) in collaboration with the Plasma Cell Dyscrasias Unit and the Referral Center in Amyloidosis of the Section of Clinical Therapeutics of the Medical Department of the University of Athens, 2025

Voumvouraki, Maria, Panagiota Efstathia Nikolaou, Foteini Theodorakalou, Giorgos Kanellis, Guillaume Médard, Efstathios Kastritis, and Julie Courraud. "Diagnostic Application of Proteomics: Testing a New Sample Preparation for the Typing of Amyloid Proteins in Biopsies", LP-09. Dresden, Germany, 2024.

Page 4 | +306945489073

Karousi, Paraskevi, Ioannis Kollias, Panagiota Efstathia Nikolaou, Foteini Paradeisi, Maria Voumvouraki, Jérôme Zoidakis, Efstathios Kastritis, Nikolaos Thomaidis, Guillaume Médard, and **Julie Courraud**. "Technical Repeatability and Efficiency in Proteomics: A Comparative Study of Various Biological Matrices," P-I-0133. Dresden, Germany, 2024.

- **Courraud, Julie,** Panagiota Efstathia Nikolaou, Diana Canetti, Guillaume Médard, Janet Gilbertson, Ashutosh Wechalekar, Jerome Zoidakis, Ioanna Andreadou, Nikolaos Thomaidis, and Efstathios Kastritis. "Setting up Proteomic Typing from Scratch in Greece: Challenges and Opportunities," 31, sup1:S156. Rochester, MA, USA: Amyloid, 2024. https://doi.org/10.1080/13506129.2024.2347124.
- **Courraud, Julie,** Panagiota Efstathia Nikolaou, Diana Canetti, Guillaume Médard, Janet Gilbertson, Ashutosh Wechalekar, Jérôme Zoidakis, Ioanna Andreadou, Nikolaos Thomaidis, and Efstathios Kastritis. "Amyloidosis: How Proteomics Can Make a Difference in Clinical Practice," ST39. Athens, Greece, 2024
- **Courraud, Julie**, Guillaume Médard, Foteini Paradeisi, Sotiris Karapatakis, and Jerome Zoidakis. "Evaluation of a Protocol for Proteomics Analysis of Biological Samples Using the Organic Phase Remaining after Nucleic Acid Isolation," P146. Athens, Greece, 2023.

## **Publications from 2020 onwards**

- Theodorakakou, Foteini, Despina Fotiou, [...], Julie Courraud, et al. "Re-Evaluation of Mayo 2004 and Revised Mayo 2012 Staging in Patients with AL Amyloidosis in the Era of New Therapies." *Amyloid* 0, no. 0 (February 4, 2025): 1–3. <u>https://doi.org/10.1080/13506129.2025.2456790</u>.
- Ottosson, F., Russo, F., Abrahamsson, A., Jensen MacSween, N. S., Courraud, J., Cohen, A. S., Mortensen, P. B., Hougaard, D. M., & Ernst, M. (2024). Unraveling the metabolomic architecture of autism in a large Danish population-based cohort. *Accepted in BMC Medicine*.
- Courraud, J., Russo, F., Themudo, G., Laursen, S. S., Hougaard, D. M., Werge, T. M., Cohen, A. S., & Ernst, M. (2023). Metabolic signature of the pathogenic 22q11.2 deletion identifies carriers and provides insight into systemic dysregulation. *Translational Psychiatry* 13, no. 1: 391. <u>https://doi.org/10.1038/s41398-023-02697-8</u>.
- Ottosson, Filip, Francesco Russo, Anna Abrahamsson, Nadia MacSween, Julie Courraud, Zaki Krag Nielsen, David M. Hougaard, Arieh S. Cohen, and Madeleine Ernst. "Effects of Long-Term Storage on the Biobanked Neonatal Dried Blood Spot Metabolome." *Journal of the American Society for Mass Spectrometry* 34, no. 4: 685–94. <u>https://doi.org/10.1021/jasms.2c00358</u>.
- Gürdeniz, G., Ernst, M., Rago, D., Kim, M., Courraud, J., Stokholm, J., Bønnelykke, K., Björkbom, A., Trivedi, U., Sørensen, S. J., Brix, S., Hougaard, D., Rasmussen, M., Cohen, A. S., Bisgaard, H., & Chawes, B. (2022). Neonatal metabolome of caesarean section and risk of childhood asthma. *The European Respiratory Journal*, *59*(6), 2102406. https://doi.org/10.1183/13993003.02406-2021
- Fadista, J., Yakimov, V., Võsa, U., Hansen, C. S., Kasela, S., Skotte, L., Geller, F., Courraud, J., Esko, T., Kukuškina, V., Buil, A., Melbye, M., Werge, T. M., Hougaard, D. M., Milani, L., Bybjerg-Grauholm, J., Cohen, A. S., & Feenstra, B. (2021). Genetic regulation of spermine oxidase activity and cancer risk: A Mendelian randomization study. *Scientific Reports*, 11(1), 17463. https://doi.org/10.1038/s41598-021-97069-x
- Courraud, J., Ernst, M., Svane Laursen, S., Hougaard, D. M., & Cohen, A. S. (2021). Studying Autism Using Untargeted Metabolomics in Newborn Screening Samples. *Journal of Molecular Neuroscience: MN*, 71(7), 1378–1393. <u>https://doi.org/10.1007/s12031-020-01787-2</u>
- 8. Fernandez-Guerra, P., Gonzalez-Ebsen, A. C., Boonen, S. E., **Courraud, J.**, Gregersen, N., Mehlsen, 7. J., Palmfeldt, J., Olsen, R. K. J., & Brinth, L. S. (**2021**). Bioenergetic and Proteomic Profiling of Immune Cells in Myalgic Encephalomyelitis/Chronic Fatigue Syndrome

Patients: An Exploratory Study. *Biomolecules*, *11*(7), 961. <u>https://doi.org/10.3390/biom11070961</u>

- Ernst, M., Rogers, S., Lausten-Thomsen, U., Björkbom, A., Laursen, S. S., Courraud, J., Børglum, A., Nordentoft, M., Werge, T., Mortensen, P. B., Hougaard, D. M., & Cohen, A. S. (2021). Gestational age-dependent development of the neonatal metabolome. *Pediatric Research*, 89(6), 1396–1404. <u>https://doi.org/10.1038/s41390-020-01149-z</u>
- Kogelman, L. J. A., Falkenberg, K., Buil, A., Erola, P., Courraud, J., Laursen, S. S., Michoel, T., Olesen, J., & Hansen, T. F. (2021). Changes in the gene expression profile during spontaneous migraine attacks. *Scientific Reports*, 11(1), 8294. <u>https://doi.org/10.1038/s41598-021-87503-5</u>
- Fadista, J., Skotte, L., **Courraud, J.**, Geller, F., Gørtz, S., Wohlfahrt, J., Melbye, M., Cohen, A. S., & Feenstra, B. (**2021**). Integrating genetics with newborn metabolomics in infantile hypertrophic pyloric stenosis. *Metabolomics: Official Journal of the Metabolomic Society*, 17(1), 7. <u>https://doi.org/10.1007/s11306-020-01763-2</u>
- 12. Courraud, J., Quist, J. S., Kontopodi, E., Blomberg Jensen, M., Bjerrum, P. J., Helge, J. W., & Sørensen, K. (2020). Dietary habits, metabolic health and vitamin D status in Greenlandic children. *Public Health Nutrition*, 23(5), 904–913.

## **Contact information**

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□ Page 6 | +306945489073