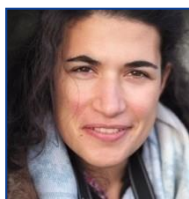


PERSONAL INFORMATION

Chrysovalantou - Anastasia Chatziioannou



✉ c.a.chatziioannou@hotmail.com

📍 Lyon, France

🌐 <https://gr.linkedin.com/in/cchatziioannou>🔍 [visit Google Scholar profile](#)

EDUCATION AND TRAINING

Sept 2020–ongoing

Postdoctoral Scientist in metabolomics application in cancer and nutrition epidemiological studies**International Agency for Research on Cancer ([IARC](#)), World Health Organization (WHO), France**

Exploration of metabolic factors that may mediate the role of risk factors such as obesity, type 2 diabetes, and dietary factors in cancer aetiology through untargeted metabolomics approaches. Additionally, being part of the European [EXPANSE](#) project, collaborating with 20 international partners in 14 countries towards the decoding of the exposome, expecting to bring insight to unidentified environmental factors affecting the human health.

Jan 2018–Sept 2020

Industrial postdoc in Milk Oligosaccharides Analysis - Glycomics**[CarbExplore](#) Research BV company and University of Groningen, the Netherlands**

Industrial post-doctoral research on human and animal-originated milk oligosaccharides composition. Methods for the sample preparation and the HILIC-UPLC-FLD-MS analysis were developed for the milk of different origins. The derived information aims to improve the composition of infant formulae and to promote neonates' health. This work resulted in filling a patent as inventor and 2 published manuscripts, while bringing more than 250,000 € from industrial partners.

Dec 2014–Feb 2019

PhD in Analytical Chemistry - Metabolomics & Proteomics**Laboratory of Analytical Chemistry, Department of Chemistry, Aristotle University of Thessaloniki, Greece**

Title: Development of holistic analytical technologies (MS- and NMR- metabolomics and proteomics) for the discovery of biomarkers in biological samples from neonates (Necrotizing Enterocolitis and Late-Onset-Sepsis).

Sep 2016–Mar 2017

Erasmus+ Exchange PhD student**Analytical Biochemistry Laboratory, University of Groningen, The Netherlands**

Training on targeted proteomics. LC-MS/MS method development for targeted proteomics and its application in validation of neonatal diseases biomarkers (part of the PhD research).

Jul 2015-Aug 2015

Short term academic visit**Department of Surgery & Cancer of Imperial College of London, United Kingdom**

Training on advanced data processing and statistical tools and methods for data obtained with targeted and untargeted UPLC-MS- & NMR-metabolomics.

Sep 2012–Jun 2014

Master of science: "Chemical analysis & Quality control" (9.07/10)**National & Kapodistrian University of Athens and Aristotle University of Thessaloniki, Greece**

- Specialization: Quality Control of Drugs and Quality Control of Foods and Beverages

- MSc Thesis: Published (Journal of Proteome Research 2016 and Scientific Reports 2018)

Sep 2006–Dec 2011

Bachelor of Science in Chemistry (7.00/10)**Department of Chemistry, Faculty of Science, Aristotle University of Thessaloniki, Greece**

- BSc thesis: Published (Journal of Chromatography B 2014)

WORK EXPERIENCE

Overall Practical Work on Bio-analytical Techniques

Aristotle University of Thessaloniki, University of Athens, National Hellenic Research Foundation, University of Groningen, CarbExplore Research BV, IARC-WHO

- **LC-TOF-MS metabolomics** on Bruker (~200 urine samples)
- **LC-TOF-MS metabolomics** on Agilent (~2,000 blood samples, ongoing ~10,000 blood samples)
- **LC-MS/MS metabolomics & proteomics** on Waters and Thermo (~250 urine and 250 blood serum samples)
- **GC-MS metabolomics** on Agilent (~350 blood plasma, 250 urine and 100 fecal samples)
- **GC-MS drug & pharmaceuticals screening** on Agilent (~500 blood, 400 urine and 150 tissue samples)
- **GC-MS monosaccharides and linkage analysis of carbohydrates** on Shimadzu (~100 samples)
- **NMR metabolomics** on Bruker and Varian (~1000 urine samples, 200 blood plasma, 100 fecal, 100 human amniotic fluid samples and 200 milk samples)
- **NMR carbohydrates structure elucidation** on Bruker (~20 poly- and 30 oligosaccharides)
- **HPAEC-PAD oligosaccharides analysis** on Dionex (~200 milk and beer samples)
- **UPLC-FLD oligosaccharides profiling** on Thermo Scientific (~700 milk samples)

Sep 2020-ongoing

Postdoctoral Scientist in metabolomics application in cancer and nutritional epidemiological studies

International Agency for Research on Cancer ([IARC](#)), World Health Organization (WHO), France

(Description provided on the training section)

Jan 2018–Sep 2020

Project Manager, Galacto-oligosaccharides/Human Milk Oligosaccharides CarbExplore Research BV company, Groningen, the Netherlands

Method development on sample preparation, chromatographic separation, and analysis (HILIC-UPLC-FLD-MS and HPAEC-PAD) of oligosaccharides, polysaccharides and in-house developed carbohydrates. Carbohydrates structure elucidation with NMR, GC-MS, MALDI-MS and enzymatic cleavage technologies. Detection and annotation of unwanted traces in carbohydrate products. Pitching and establishing numerous partnerships with the largest carbohydrates' producers/users in the Netherlands and abroad.

Jul 2014–Jul 2015

Researcher (Analytical Chemist)

Excellence II - Metabostandards 5204, Aristotle University of Thessaloniki, Greece

Standardising analytical metabolomics on working packages:

WP1: Development of analytical methodologies, WP2: Data extraction, WP4: Data fusion, WP5: Metabolite identification (<http://users.auth.gr/gkikae/aristeia/>)

Sep 2013–May 2014

External Researcher on the EmbryoMetabolomics project

Embryometabolomics project, Aristotle University of Thessaloniki, Greece

NMR metabolomics analysis of amniotic fluid and blood from pregnant women, searching for biomarkers of embryo growth related to the diet of the women.

Oct 2012–Mar 2014

Analytical chemist

Laboratory of Forensic Medicine and Toxicology, School of Medicine, Aristotle University of Thessaloniki, Greece

- Preparation of human biological clinical and necrotic samples for GC-MS screening/analysis and immunoassay drug testing
- GC-MS screening/analysis
- Immunoassay drug testing
- Assessment of obtained GC-MS spectra and export of results

May 2011–Jul 2011

Student Internship**Laboratory of Forensic Medicine and Toxicology, School of Medicine, Aristotle University of Thessaloniki, Greece**

Familiarization with chemical analysis of biological samples for the detection of pharmaceuticals and drugs.

TEACHING EXPERIENCEOct 2019–Nov 2019 &
Oct 2020–Nov 2020**Invited speaker (Analytical Chemistry-Metabolomics)****University of Groningen, Netherlands**

Lecturing the TopMaster class of MSc Biomedical Sciences, Microbiome and diet in host and disease (35 international students). The lecture referred to the analytical techniques that are used in the field of human microbiome and the application and potential of -omics in this topic.

Sep 2015–Jun 2016

Laboratory and Master Thesis supervision**Laboratory of Forensic Medicine and Toxicology Aristotle University of Thessaloniki, Greece**

Day-to-day supervision of a master student and responsible for his familiarization with GC-MS metabolomics protocols and analysis. Resulted in a publication (Bioanalysis, 2016, Cited by: 41, 14/9/2021)

Apr 2015–Jun 2015

Instructor in the lifelong learning program for adults in the course “Aromatic and Medicinal Plants” (25 lecturing hours)**Youth and Lifelong Learning Foundation (INEDIVIM), Greece**

Gathering and presenting information concerning ethnopharmacology, including various plants utilized since ancient Greece, their appearance, and ways to recognize them, reported properties and preparations (20 adults).

Sep 2013–Mar 2014

Teaching assistant on the Occupational and Environmental Medicine specialty**AHEPA-University General Hospital of Thessaloniki & Laboratory of Forensic Medicine and Toxicology Aristotle University of Thessaloniki, Greece**

Assistance on the novel specialty of AHEPA hospital on occupational medicine for the courses:

- 1) Organic Solvents & Toxicity (December 2013), and
- 2) Toxic Gases (January 2014).

Sep 2012–May 2013

Teaching assistant on Analytical Chemistry topics**Department of Chemistry, Aristotle University of Thessaloniki, Greece**

Assistance on undergraduate students' laboratory work, as part of the master program followed on courses:

- 1) Basic Principles of Analytical Chemistry (September 2012 - January 2013)
- 2) Instrumental Chemical Analysis I {Fluorimetry} (February 2013 - May 2013).

ADDITIONAL INFORMATION

Scientific interests

- **Application of modern analytical technologies and software in:**
 - Metabolomics studies of biological matrices.
 - Disease biomarkers discovery.
 - Detection of drugs and pharmaceuticals.
 - Establishment, improvement, and validation of analytical protocols.
 - Oligosaccharides profiling in milk matrices and neonatal nutrition formulae.
- Sample preparation protocols and sample-handling techniques for biological matrices.
- Topic Editor for “Systems Biology Women In Science: Integrative Genetics and Genomics” research topic of Frontiers in Systems Biology journal (**2021**).
- Co-Topic Editor for “Neuroscience: Neuroenergetics, Nutrition and Brain Health” research topic of Frontiers in Neuroscience journal (**2021**).
- Refereeing for 4 Scientific Journals (Scientific Reports, Journal of Chromatography B, Analytica Chimica Acta and Trends in Analytical Chemistry).
- Participating as mentor and mentee in the International Agency for Research on Cancer mentoring program (**2021**).
- Participating as mentor and mentee in the international group of Females in Mass Spectrometry mentoring program (**2021**).
- Training and mentoring of early-career scientists/students.
- Organizing brainstorm sessions for several scientific topics, applying analytical thinking, setting goals, and managing expectations while exploring new areas of science.

Scholarships

- Scholarship for PhD Studies (18 months) from the State Scholarship Foundation (IKY) | **2017-2018**.
- Scholarship for Master Studies (12 months) from the State Scholarship Foundation (IKY) | **2013-2014**.

Honors and awards

- Full grant for participating the 3rd International Mass Spectrometry School (IMSS) (Selection in the top ten posters and oral presentations) | July **2017** (Croatia).
- Full grant and travel bursary for participating the Symbiomes: Systems Biology of Host-Microbiome Interactions European Science Foundation (ESF) | June **2015** (Poland).
- Full grant and travel bursary for attending the EMBO Practical Course on Metabolomics Bioinformatics for Life Scientists European Molecular Biology Organization (EMBO) | March **2014** (United Kingdom).
- Bursary of The Chromatographic Society for participating to the Reid Bioanalytical Forum, University of Surrey, Guildford | September **2013** (United Kingdom).

PERSONAL SKILLS

Mothertongue(s) Greek

Foreign language(s) English (C2 – Proficient user)
French (B2 – Independent user)
Dutch (Beginner)

Digital skills

- Excellent handling of multiple analytical instrument software (Agilent ChemStation, Agilent MassHunter, Agilent Vnmr, Bruker TopSpin, Chenomx, MestReNova, Thermo Chromeleon, Waters MassLynx, XCalibur) and great interest in gaining knowledge with additional software.
- Independent handling of programming language R for statistical analysis and data interpretation, as well as XCMS package for processing mass-spectrometry metabolomics data.
- Independent user of MATLAB for processing NMR metabolomics data.
- Excellent handling of several multivariate and univariate statistical tools (R, SPSS, SIMCA).
- ChemBioOffice.
- ChemCAD.
- Image editing software (i.e. Illustrator CC, Photoshop CC).

Organizational skills

- Chair of Journal Club committee of Oncometabolomics Group, International Agency for Research on Cancer I **2021**
- Co-chair of Journal Club committee of Nutrition and Metabolism Branch, International Agency for Research on Cancer I **2021**
- Assistant in the organization of the 4th Workshop on Holistic Analytical Methods for Systems Biology studies I April **2016**
- Assistant in the organization of the 2nd High School Experiment Competition, 1st Pilot Experimental High School of Thessaloniki "Manolis Andronikos" I January **2015**

Volunteer Experience & Causes |
Interests

- Basic life support and automated external defibrillation (BLS/AED) training & certification of the ERC European Resuscitation Council I **2016**
- Being a member of Philharmonic Orchestra of Neapoli – Sykies Municipality I **2005 – 2017**.
- Practicing athletics (heptathlon) on national (2nd – 2006) and on Balkan level (4th – 2006) – Member of national team I **2006**.
- Training young athletes on multiple events of athletics I **2007-2011**.
- Practicing piano, saxophone, traditional musical instruments, and pursuing theoretical studies in music (Degree on Advanced Harmony, Grade: Excellence I **2003**).
- Photography – night photography.

PUBLICATIONS

Patents

1. **Principal inventor of patent no. EP20386055.6, entitled 'Increased 2'-FL production by goats' I** filled in 11.12.2020, publicly available in June 2022.

Publications

12 publications + 1 under revision, 4 first author, 5 second author

1. **Extraction and Quantitative Analysis of Goat Milk Oligosaccharides: Composition, Variation, Associations, and 2'-FL Variability**, Journal of Agricultural and Food Chemistry, 2021
Authors: **A.C. Chatziioannou**, E. Benjamins, L. Pellis, A Haandrikman, L. Dijkhuizen, S.S.van Leeuwen
 2. **The GtfC enzyme of Geobacillus sp. 12AMOR1 represents a novel thermostable type of GH70 4,6- α -glucanotransferase that synthesizes a linear alternating ($\alpha 1 \rightarrow 6$)/($\alpha 1 \rightarrow 4$) α -glucan and delays bread staling**, Journal of Agricultural and Food Chemistry, 2021
Authors: E. te Poele, S.E. van der Hoek, **A.C. Chatziioannou**, G.J.Gerwig, W.J. Duisterwinkel, L.A.A.C.M. Oudhuis, J. Gangoiti, L. Dijkhuizen, H. Leemhuis
 3. **Goat milk oligosaccharides: Their diversity, quantity, and functional properties in comparison to human milk oligosaccharides**, Journal of Agricultural and Food Chemistry, 2020
Authors: S.S. van Leeuwen*, E.M. te Poele*, **A.C. Chatziioannou**, E. Benjamins, A. Haandrikman, L. Dijkhuizen I ***equal contribution authors**
 4. **A pilot case-control study of urine metabolomics in preterm neonates with necrotizing enterocolitis**, Journal of Chromatography B, 2019
Authors: **A.C. Chatziioannou***, A. Thomaidou*, O. Deda, D. Benaki, H. Gika, E. Mikros, C. Agakidis, N. Raikos, G. Theodoridis, K. Sarafidis I ***equal contribution authors**
 5. **Targeted LC-MS/MS for the evaluation of proteomics biomarkers in the blood of neonates with necrotizing enterocolitis and late-onset sepsis**, Analytical and Bioanalytical Chemistry, 2018
Authors: **A.C. Chatziioannou**, J.C. Wolters, K. Sarafidis, A. Thomaidou, C. Agakidis, N. Govorukhina, J.A. Kuivenhoven, R. Bischoff, G. Theodoridis
 6. **^1H NMR-based metabolomics reveals the effect of maternal habitual dietary patterns on human amniotic fluid profile**, Scientific Reports, 2018
Authors: M. Fotiou, C. Fotakis, F. Tsakoumaki, E. Athanasiadou, C. Kyrkou, A. Dimitropoulou, T. Tsiaka, **A.C. Chatziioannou**, K. Sarafidis, G. Menexes, G. Theodoridis, C.G. Biliaderis, P. Zoumpoulakis, A.P. Athanasiadis, A.M. Michaelidou
 7. **Urine metabolomics in neonates with late-onset sepsis**, Scientific Reports, 2017
Authors: **A.C. Chatziioannou***, K. Sarafidis*, A. Thomaidou, H. Gika, E. Mikros, D. Benaki, E. Diamanti, C. Agakidis, N. Raikos, V. Drossou, G. Theodoridis I ***equal contribution authors**
 8. **Sample preparation optimization in fecal metabolic profiling**, Journal of Chromatography B, 2016
Authors: O. Deda, **A.C. Chatziioannou**, S. Fasoula, D. Palachanis, N. Raikos, G.A. Theodoridis, H.G. Gika
 9. **Global metabolic stress of isoeffort continuous and high intensity interval aerobic exercise: a comparative ^1H NMR metabolomic study**, Journal of Proteome Research, 2016
Authors: A. Zafeiridis, **A.C. Chatziioannou**, H. Sarivasilou, A. Kyparos, M.G. Nikolaidis, I.S. Vrabas, A. Pechlivanis, P. Zoumpoulakis, C. Baskakis, K. Dipla, G.A. Theodoridis
 10. **Investigation of the derivatization conditions for GC-MS metabolomics of biological samples**, Bioanalysis Journal, 2016
Authors: G. Moros, **A.C. Chatziioannou**, H.G. Gika, N. Raikos, G.A. Theodoridis
 11. **Metabolic profile of human coelomic fluid**, Bioanalysis Journal, 2016
Authors: C. Virgiliou, L. Valianou, M. Witting, F. Moritz, C. Fotakis, P. Zoumpoulakis, **A.C. Chatziioannou**, L. Lazaros, G. Makrydimas, K. Chatzimeletiou, N. Raikos, G.A. Theodoridis
 12. **GC-MS analysis of blood for the metabolomic investigation of the effects of physical exercise and allopurinol administration on rats**, Journal of Chromatography B, 2014
Authors: A. Pechlivanis, **A.C. Chatziioannou**, A.S. Veskoukis, D. Kouretas, V. Mougios, G.A. Theodoridis
- * **Analysis, stability and distribution of pharmaceuticals and drugs of abuse over a period of one year in formalin-fixed liver and formalin solutions**, Journal of Analytical Toxicology, submitted. Authors: Amvrosios Orfanidis, Helen Gika, Georgios Theodoridis, **Anastasia Chrysovalantou Chatziioannou**, Nikolaos Raikos

Conferences- Oral presentations

- **Exploring the “dark side” of the exposome**, 2021 USA – European Exposome Symposium, Trainee and Early Investigator Lightning Talks, January 27, 2021.
- **Targeted proteomics study of neonatal sepsis and necrotizing enterocolitis**, 3rd International Mass Spectrometry School (IMSS), Dubrovnik, Croatia July 2, 2017.
- **Neonatal sepsis biomarker discovery**, 4th Workshop on Holistic Analytical Methods for Systems Biology Studies, Thessaloniki, Greece April 17, 2016.
- **Optimization of rat fecal sample preparation for metabolomics analysis using NMR & GC- MS**, Symbiomes: Systems biology of host-microbiome interactions June 9, 2015

Conferences - Poster presentations

- **Exploring the “dark side” of the exposome. Practical considerations**, Metabolomics 2021 Online, June 22, 2021
- **Goat milk naturally contains oligosaccharides**, 6th World Congress of Pediatric Gastroenterology, Hepatology and Nutrition, electronic conference, June 2, 2021
- **Targeted proteomics study of neonatal sepsis and necrotizing enterocolitis**, 3rd International Mass Spectrometry School (IMSS), Dubrovnik, Croatia July 2, 2017
- **Investigation of the derivatization conditions for GC-MS metabolomics of biological samples**, 31st International Symposium on Chromatography, Cork, Ireland August 28, 2016
- **1H-NMR-based metabolomic analysis of urine from neonates with late-onset sepsis**, 12th Annual Conference of the Metabolomics Society, Dublin, Ireland June 27, 2016
- **Urine targeted LC-MS/MS profiling of hydrophilic metabolites in neonates with late onset sepsis**, 12th Annual Conference of the Metabolomics Society, Dublin, Ireland June 27, 2016
- **Study of derivatization reactions prior to GC-MS metabolomics analysis. Preliminary results**, 4th Workshop on Holistic Analytical Methods for Systems Biology Studies, Thessaloniki, Greece April 17, 2016
- **Correlation of analytical data obtained by NMR and LC-MS/MS in metabolomics studies**, 12th Conference of Greece Cyprus Chemistry May 8, 2015
- **Study of data processing statistical algorithms to the analysis of metabolic profiles of biological samples by liquid chromatography coupled with mass spectrometry**, 12th Conference of Greece Cyprus Chemistry May 8, 2015
- **Metabolic profiling of extraembryonic coelomic fluid by UPLC-MS/MS, GC-MS and NMR analysis**, MEDMS III, Athens, Greece June 28, 2015
- **Nuclear Magnetic Resonance Spectroscopic Analysis of the Metabolic Profile of Human Amniotic Fluid and Blood Serum**, Metabomeeting 2014, London, UK September 10, 2014
- **"Continuous or interval training?" A H¹-NMR-based metabonomic study on athletes' blood plasma**, MET-GR III workshop: Metabolic and Protein Network analysis in Systems Biology, Patras, Greece September 18, 2014
- **Study of exercise biomarkers in rat fecal extracts using NMR-based metabolomics analysis**, 9th Aegean Analytical Chemistry Days, Chios, Greece September 29, 2014
- **HILIC-UPLC-MS/MS method development for targeted metabolomics**, BMSS Annual Meeting 2014, AstraZeneca Conference Facility, Alderley Park, Cheshire, UK April 1, 2014
- **UPLC-MS/MS For the detection of early biomarkers of preterm delivery in human amniotic fluid**, Reid Bioanalytical Forum 2013, University of Surrey, Guildford, UK September 9, 2013
- **Metabonomic investigation of the effect of allopurinol administration in plasma of exercising rats**, Metabomeeting 2012, Manchester Conference Centre, Manchester, UK September 25, 2012
- **Levels of histamine and tyramine in ready-to-eat seafood sold in greek retail markets**, 12th Panhellenic Veterinary Conference, Athens, Greece April 5, 2012

