

CURRICULUM VITAE

Personal Details

- **Name:** Salah Abdelrazig, PhD., MSc., MPharm., BPharm.
- **E-mails:** Salah.abdelrazig@nyu.edu
- **Phone:** +971 (0) 26810373

Motto: “Cogito ergo sum”⁽¹⁾.

Current position and addresses in the last 5 years:

1. Research Associate: **(March 2023 – date)**

Metabolomics, Marine Microbiomics Lab, Biology Program, New York University Abu Dhabi (NYUAD), P.O. Box 129188, Abu Dhabi, United Arab Emirates

(Current address)

2. Met-ID Technical Specialist: **(Aug 2022-Jan 2023)**

Pharmaron UK Ltd., Rushden, NN10 6ER, UK

3. Assistant Professor of Bioanalysis and Pharmaceutical Chemistry: **(Jan 2016 – Dec 2022)**

Dept. of Pharmaceutical Chemistry

Faculty of Pharmacy, University of Khartoum, Sudan

4. Mass Spectrometry Facility Manager: **(July 2020- April 2022)**

I. Centre for Analytical Bioscience (CAB), The Advanced Materials and Healthcare Technologies (AMHT) Division, School of Pharmacy, University of Nottingham, University Park, Nottingham, NG7 2RD, UK.

II. Green Chemicals, Beacon of Excellence, University of Nottingham, University Park, Nottingham, NG7 2RD, UK.

Research interests

Untargeted metabolomics, quantitative analysis, high-resolution/tandem mass spectrometry, LC-MS, LC-MS/MS, ambient surface MS, chip-based infusion, direct nanoESI/ESI-MS, multivariate data analysis and pathway analysis.

Job responsibilities

Duties in the recent roles (past 5 years) include, but not limited to:

- LC-MS Metabolomics and quantitative analysis: method development, experimental design, analysis and data interpretation in different range of applications including, but not limited to: clinical, marine, microbiota, environmental, enzymatic and cell-based analysis.
- Collection and preparation of marine environmental samples (Arabian Gulf in collaboration with EAD).
- Teaching: Analytical Chemistry and Pharmaceutical Analysis, Physical Chemistry, Organic Chemistry (practical), and pharmaceutical Chemistry (practical).
- Metabolite identification using ¹⁴C and ³H radioactive tracer, metabolism.
- Experimental design, method development, analysis and data interpretation of identifying metabolites of NCEs in support for *in vitro*, *in vivo* and clinical trials.
- Operation of different fraction collectors and Packard TopCount NXT Scintillation Counters.
- Operation and maintenance of 5 mass spectrometers coupled to UHPLC systems and/or LESA robotic system.

(1) Classical Latin dictum coined by René Descartes referred in English as “I think, therefore, I’m”

- Training, supervision, instruction, and troubleshooting for undergraduate students, postgraduate MRes/PhD students and postdoctoral researchers in the experimental design, sample preparation, data acquisition, data analysis and biological interpretation. This involves supervision and overseeing projects.
- Finance Management including the budget, charges, bookings and consumables.
- Commercial external and internal MS service and consultancy.

Qualifications

1. PhD in Pharmacy, School of Pharmacy, University of Nottingham, UK (February 2012- December 2015)

Thesis title: Mass Spectrometry for High-Throughput Metabolomics Analysis of Urine.

2. M.Sc. Analytical & Pharmaceutical Science, Loughborough University, UK (September 2007- December 2008)

Degree Mark: Distinction 80.8%.

Rank: top of the class. University Merit Prize

3. Master of Pharmacy, University of Khartoum, Sudan (June 2006- August 2007)

Thesis title: Spectrophotometric estimation of captopril in bulk and dosage form.

(Awarded May 2008)

4. Bachelor of Pharmacy (Hons.), University of Khartoum, Sudan (July 1997- December 2003)

Degree Mark: First Class (80% and above).

Rank: top of the class. University Prize

Scholarships and Study Grants

1. The Gordon Memorial College Trust Fund, UK, PhD bursary **(April 2015)**
2. Merit Scholarship Programme for High Technology, IDB, Jeddah, KSA, PhD full scholarship **(February 2012)**
3. School of Chemistry research Scholarship, University of Manchester, UK **(September 2008)**
4. Novartis Pharmaceuticals, Horsham, UK, PhD scholarship **(September 2008)**
5. Loughborough University Africa Trust Scholarship, Loughborough, UK **(September 2007)**
6. Japanese Government (Monbukagakusho) Scholarship, Japan **(April 2007)**
7. Ministry of Higher Education and Scientific Research, Khartoum, Sudan **(August 2005)**

Awards and Prizes

1. Safety Performer, Health and Safety, New York University Abu Dhabi, UAE **(2023-2024)**
2. Best performance, year 2018/19 (Rating 1), University of Nottingham, UK **(2018-2019)**
3. MSc Chemical Sciences Merit Prize (Top student, Loughborough University, UK) **(December 2008)**
4. Pharmacy Prize (Top student, University of Khartoum, Sudan) **(December 2003)**
5. Pharmacology & Pharmaceutical Chemistry Prize (Amipharma Lab., Sudan) **(September 2002 – December 2003)**

6. Pharmacology and Pharmaceutical Chemistry Prize (Sigma Tau Lab, Sudan) **(September 2002 – December 2003)**
7. Pharmaceutical Chemistry Merit Prize (University of Khartoum, Sudan) **(September 2002 – December 2003)**
8. Pharmaceuticals Merit Prize (University of Khartoum, Sudan) **(December 2003)**
9. Pharmacognosy Merit Prize (University of Khartoum, Sudan) **(December 2003)**
10. Pharmacy Prize (4th year, University of Khartoum, Sudan) **(September 2001 – August 2002)**
11. Mohammed E. Hamid Prize (4th year, University of Khartoum, Sudan) **(August 2002)**
Pharmacy Prize (2nd year, University of Khartoum, Sudan) **(1999) (August 2000)**

Professional & Academic Posts Held

- **Research Associate:** New York University Abu Dhabi, Abu Dhabi, UAE **(March 2023 – date)**
- **Assistant Professor:** Dept. of Pharmaceutical Chemistry, Faculty of Pharmacy, University of Khartoum, Sudan **(Jan 2016 – Dec 2022)**
- **Met-ID Technical Specialist:** Pharmaron UK Ltd., Rushden, UK **(Aug 2022- Jan 2023)**
- **Mass Spectrometry Facility Manager:** The Centre for Analytical Bioscience, School of Pharmacy, University of Nottingham, UK **(July 2020- April 2022)**
- **Mass Spectrometry Facility Manager:** Green Chemicals, Beacon of Excellence, University of Nottingham, University Park, Nottingham, NG7 2RD, UK **(July 2019- April 2022)**
- **Mass Spectrometry Research Officer:** The Centre for Analytical Bioscience, School of Pharmacy, University of Nottingham, UK **(Sep 2017- June 2020)**
- **Postdoctoral BBSRC Research Fellow:** Centre for Analytical Bioscience, School of Pharmacy, University of Nottingham, UK **(Dec 2015- Aug 2017)**
- **Mass spectrometry research assistant:** Centre for Analytical Biosciences (CAB), School of Pharmacy, University of Nottingham, UK **(May 2015- July 2015)**
- **PhD researcher:** Centre for Analytical Biosciences (CAB), School of Pharmacy, University of Nottingham, UK **(Feb 2012 – Dec 2015)**
- **Lecturer:** Faculty of Pharmacy, University of Khartoum, Sudan **(May 2008 – Feb 2012)**
- **Surgical product specialist:** OLYMPUS UK surgical endoscopy products specialist, Atlas Medical Co., Khartoum, Sudan **(Oct 2009- Feb 2012)**
- **FIGO project co-ordinator:** The International Federation of Gynaecology and Obstetrics (FIGO) & Olympus Surgical Technologies Europe minimally invasive surgery training centre, Soba University Hospital, Sudan **(May 2011- Feb 2012)**
- **OLYMPUS sales and product specialist:** Surgical and gastroenterology endoscopy, Atlas Medical Co., Khartoum, Sudan **(April 2005- Sep 2007)**
- **Medical representative:** Alkanar Drugs & Chemicals Co., Sudan **(Aug 2004- April 2005)**
- **Medical representative:** United Pharmaceutical Co., Sudan **(April 2004- Aug 2004)**
- **Teaching assistant:** Dept. of Pharmaceutical Chemistry, Faculty of Pharmacy, University of Khartoum **(Aug 2004 – May 2008)**

Teaching, supervision, research and training experience

- **Undergraduate teaching:** Analytical Chemistry and Pharmaceutical Analysis, Physical Chemistry, Organic Chemistry (practical), and pharmaceutical Chemistry (practical).
- **Supervision:** undergraduate, MPharm, PhD students and post-doctoral researchers: New York University Abu Dhabi, University of Nottingham, University of Khartoum.
- **Postdoctoral research experience:** 8+ years of postdoctoral research experience in Analytical chemistry, LC-MS metabolomics, metabolism and metabolite identification (Met-ID) using radioactive tracer and LC-MS quantitative analysis.
- **Training (Mass spectrometry instrumentation and software) and supervision:** Undergraduate, MPharm, PhD students and post-doctoral researchers University of Nottingham, New York University Abu Dhabi [**100+ students and postdoctoral researchers**].

Research Skills and Expertise

I. Instrumentation:

1. High-resolution MS (quantitative and untargeted analysis):

- **Quadrupole-iontrap-orbital trap Tribrid MS (Vanquish LC-Fusion Lumos MS):**
 - 1.5+ years of practical experience in operating, troubleshooting, maintenance and executing analysis (**March 2023- date**).
- **Quadrupole-orbital trap MS (UHPLC-Q-Exactive Plus Orbitrap MS):**
 - 8+ years of practical experience in operating, troubleshooting, maintenance and executing analysis (**Dec 2015- date**).
 - 6+ years as the official trainer, +100 trainings and hands-on sessions for undergraduates, postgraduates and postdoctoral staff (**Dec 2015- April 2022**).
- **Orbital trap MS (UHPLC-Exactive Orbitrap MS):**
 - 10+ years of practical experience in operating, troubleshooting and executing analysis (**Feb 2012- April 2022**).
 - 6+ years as the official trainer, +50 trainings and hands-on sessions for undergraduates, postgraduates and postdoctoral staff (**Dec 2015- April 2022**).
- **Quadrupole time-of-flight MS (Q-ToF MS Premier):**
 - 2 years of practical experience (**Feb 2012- Feb 2014**).

2. LC-MS/MS:

- **Triple quadrupole MS (HPLC-QTrap 4000).**
 - Working knowledge in operating and executing analysis.
- **Triple quadrupole MS (UHPLC-QTrap 6500+): (Dec 2015- April 2022)**
 - 3+ year of practical experience in operating and executing analysis.
 - 2+ years as the official trainer, +100 trainings and hands-on sessions for undergraduates, postgraduates and postdoctoral staff.
- **Ion trap MS (UHPLC-Velos LTQ MS):**
 - 2 years of practical experience in operating and executing analysis for MS/MS identification (**Feb 2012- Feb 2014**).

3. Packard TopCount NXT Scintillation Counter (Perkin Elmer)/Fraction collector:

- Operating, troubleshooting and executing analysis for Met ID using radioactive

tracer (Aug 2022- Jan 2023).

- Operating, troubleshooting and preparing TopCount plates using PAL fraction collector for Met ID using radioactive tracer (Aug 2022- Jan 2023).

4. **Ambient surface MS: LESA-MS and Chip-based infusion (NanoMate):**

- 9+ years of practical experience in operating, troubleshooting and executing analysis for targeted/untargeted metabolomics (January 2013- April 2022).
- 6+ years' as the official trainer: trainings and hands-on sessions for undergraduates, postgraduates and postdoctoral staff (**Dec 2015- April 2022**).

5. **Ultra-high performance liquid chromatography (UHPLC):**

- o Thermo Vanquish UHPLC system.
- o Agilent 1290 Infinity UHPLC system.
- o Sciex ExionLC UHPLC system
- o Thermo Dionex UltiMate 3000 UHPLC system.
- o Thermo Accela UHPLC system.

6. **High-performance liquid chromatography (HPLC):**

- o Shimadzu HPLC and UHPLC systems.
- o Agilent HPLC system with UV/MS detector.

7. **UV/VIS Spectrophotometers:**

- o Perkin Elmer spectrophotometer.
- o Jasco UV/VIS spectrophotometer.

II. **MS techniques (Feb 2012- present):**

Extensive experience (+12 years) in LC-MS method development and analysis using HILIC and RP-LC for untargeted metabolomics, Met ID and quantitative analysis, this includes:

1. **Isotope dilution mass spectrometry (IDMS):** use of multiple U ¹³C labelled IS extracted from bacteria for quantitative analysis using UHPLC-HRMS
2. **Method development and validation:** LC-MS and direct ESI-MS including flow injection ESI-MS (FIE-MS), chip-based infusion MS and LESA-MS.
3. **Met ID using ¹⁴C/³H radioactive tracers.**
4. **LC-MS quantitative analysis.**
5. **Untargeted clinical/bacterial metabolomics.**
6. **Ambient surface mass spectrometry.**
7. Marine metabolomics (diatoms and corals)

III. **Software (Feb 2012- present):** more than 12 years of experience in using:

1. **Compound discoverer:** Mass Spectrometric metabolomics data analysis software, Thermo Scientific, USA (more than 8 years of experience).
2. **TraceFinder:** Thermo MS quantitative data processing software, Thermo Scientific, USA (more than 8 years' experience).
3. **Xcalibur and ToxID:** Vender-specific (Thermo) MS qualitative and quantitative data processing and extraction software, Thermo Scientific, USA.
4. **IDEOM:** untargeted metabolomics data analysis software, R-environment.
5. **Simca P+13-18:** multivariate analysis and pattern recognition software (e.g. PCA, PLS-DA & OPLS-DA), Umetrics, Sweden.

6. **Laura:** construction and validation of radiochromatograms.
7. **Progenesis QI:** Mass Spectrometric metabolomics data analysis software, Nonlinear Dynamics, Waters, USA.
8. **Progenesis CoMet:** Mass Spectrometric metabolomics data analysis software, Nonlinear Dynamics, Waters, USA.
9. **Sieve:** Vendor-specific (Thermo) metabolomics data analysis software, Thermo Scientific, USA.
10. **MassLynx, QuanLynx & MarkerLynx:** Vendor-specific (Waters) MS qualitative, quantitative and metabolomics data processing software, Waters, USA.
11. **ChipSoft & LESA point:** TriVersa Nanomate control software, Advion, USA.
12. **SpecAlign:** Pre-processing and visualisation software for spectral and chromatographic datasets. It is frequently used for the alignment and processing of metabolomics type data, Dr Jason Wong, University of Oxford, UK.
13. **MetaboAnalyst 2.0-6.0:** a web-based pipeline for metabolomics data processing, statistical analysis and functional interpretation.
14. **Spectra Manager:** Jasco corporation software for UV/VIS data processing.
15. **Analyst and MultiQuant:** Sciex quantitative data processing software, Thermo Scientific, USA (working knowledge).

IV. Medical Equipment: OLYMPUS KeyMed UK Medical instruments range:

1. **Surgical Endoscopy:** Laparoscopy, Gynaecology, Urology, ENT & Arthroscopy.
2. **Gastroenterology:** Gastroscopy, Colonoscopy & Endo-therapy.

Professional Training & Courses

Laura/TopCount NTX training	09/2022
Introduction to Data Integrity (DI) in metabolism	09/2022
Radiolabelled Clinical studies	08/2022
LTQ operation and LC-MS analysis	08/2022
Good laboratory practice (GLP) and Good Clinical Practice (GCP) training	08/2022
LC & GC Orbitrap Omics	07/2020
OPLS analysis of Omics data with few samples, Umetrics, Sartorius Stedim, UK	06/2020
Using the Content Management System to create and publish on the web, UK	11/2019
Agresso Business World: Finance Matters, UK	08/2019
QTrap 6500+ mass spectrometer training and operation (Sciex official training), UK	11/2018
Metabolomics Data Analysis, Glasgow, UK	10/2018
Using the Content Management System to create and publish on the web, UK	08/2018
Finance Matters: Agresso (University of Nottingham Finance System), UK	06/2018
Introduction to MATLAB, UK	11/2017
Microsoft Project, UK	11/2017
Working with Microsoft Office 365, UK	11/2017
Preparing for Your PDPR Meeting, UK	03/2016

Q-Exactive training (Thermo official training), UK	07/2016
Software training: FreeStyle 1.1, mzcloud and Lipid Search (Thermo official training), UK	07/2016
Software training: Compound Discoverer (Thermo official training), UK	07/2016
Software training: TraceFinder (Thermo official training), UK	07/2016
Marking and Assessment for Scientists, UK	10/2014
Demonstrating in laboratory practicals – Pharmacy, UK	09/2014
Microscopy: Optical & Electron Course (Prof Phil Williams), UK	12/2013
Microsoft Access: Introduction, UK	06/2013
Identifying and managing intellectual property issues in research, UK	05/2013
Introduction to quantitative research, UK	04/2013
Rational Drug Design Course (Prof Peter Fischer), UK	03/2013
Nanoparticles: Production, Characterisation & Applications course (Dr. S. Stolnik), UK	02/2013
Introduction to Unix (Dr Ian Withers), UK	01/2013
Cancer Biology and Current Chemotherapy Course (Dr Tracey Bradshaw), UK	01/2013
Solid-Phase Peptide Synthesis (Dr Weng Chan), UK	12/2012
Intellectual property copyright: for new Science, Eng & M&HS researchers, UK	11/2012
Targeted Therapeutics (Prof Cameron Alexander), UK	10/2012
Understanding your research degree, UK	10/2012
Microsoft PowerPoint: Advanced, UK	07/2012
Practical Techniques in Molecular Biology, UK	06/2012
How to be an effective researcher, UK	06/2012
Introduction to Bioinformatics, UK	06/2012
Creating and Managing Long Documents in Microsoft Word, UK	06/2012
Creating a Poster in PowerPoint, UK	05/2012
More Functions in Excel, UK	05/2012
Referencing and citing using Endnote, UK	05/2012
Practical Techniques in Gene Regulation, UK	05/2012
Introduction to Gene Regulation Course (Prof David Heery), UK	05/2012
Introduction to High Throughput Screening (Dr Lodewijk Dekker), UK	04/2012
Report Writing (Prof Morgan Alexander), UK	03/2012
Research ethics and the ethics review process for doctoral research, UK	03/2012
Advanced Surgical training, Dubai, UAE	01/2010
SME surgical training, Cairo, Egypt	11/2010
Pharmacist pre-registration training: hospital/community pharmacies and pharmaceutical industry, Directorate of Pharmacy, MoH, Sudan	08/2004- 12/2005
Gastroenterology, Respiratory and Surgical Products, Olympus, UK	07/2005
Industrial Pharmacy Training Course: practical and training work in quality control and production lines in five different pharmaceutical manufacturers, Drug Holding Company, Egypt	09/2002

Conferences, Workshops, Meeting & Exhibitions Attended

Compound Discoverer Users' Meeting, Bremen, Germany	12/2024
Proteome Discoverer Users' Meeting, Bremen, Germany	12/2024
20th Annual International Conference of the Metabolomics Society, Osaka, Japan	06/2024
European RFMF MetaboMeeting 2020, Toulouse, France	01/2020
22nd International Mass Spectrometry Conference (IMSC 2018), Florence, Italy	08/2018
65th ASMS Conference on Mass Spectrometry and Allied Topics, Indianapolis, USA	06/2017
36 th BMSS annual meeting 2015, Birmingham, UK	09/2015
Gas and liquid chromatography workshop, Thermo Scientific, Leeds Metropolitan University, Leeds, UK	06/2014
Life Sciences conference, IDB, Cambridge, UK	05/2014
IDB scholars third annual meeting, Cambridge, UK	05/2014
IDBSA in the United Kingdom annual meeting, Birmingham, UK	06/2013
Mass Spectrometry in Omics (Metabolomics, Proteomics, Lipidomics and Beyond) workshop, Hemel Hempstead, UK	11/2012
Nuclear Magnetic Resonance workshop, University of Nottingham, UK	11/2012
HPLC/UHPLC Method Development Tips and Tricks (seminar), UK	10/2012
IDB Scholars workshop, Nottingham, UK	04/2012
Obstetrical & Gynaecological Society of the Sudan (OGSS) meeting, FIGO project, Khartoum, Sudan	12/2011
The International Federation of Gynaecology and Obstetrics (FIGO) project meeting, Khartoum, Sudan	12/2011
The International Federation of Gynaecology and Obstetrics (FIGO) minimally invasive surgery training centre in Sudan (meeting), Soba University Hospital (SUH), Khartoum, Sudan	10/2011
Minimal invasive surgery: Advanced surgical workshop for consultants, Soba University Hospital, Khartoum, Sudan (Coordinator)	05/2011
Laparoscopic Gynaecology workshop: basic and intermediate, Soba University Hospital, Khartoum, Sudan (Coordinator)	05/2011
Arab Health Exhibition 2011, Dubai, UAE	01/2011
Endourology workshop, Ibn Sina Hospital, Khartoum, Sudan	04/2010
Gastroenterology meeting, Crown Plaza Hotel, Dubai, UAE	01/2010
Arab Health Exhibition 2010, Dubai, UAE	01/2010
Advanced Urology workshop, Mansoura, Egypt	12/2009
Advanced GMP workshop: Quality control, Quality assurance and special GMP, GLP and GSP manufacturing and regulating requirements	10/2003

Academic/Professional activities and memberships

(IN CHRONOLOGICAL ORDER)

- **Executive member** of the Scientific Pharmacy Students' Association (SPSA), Khartoum, Sudan **(September 1999- August 2001)**.
- **Contact Person and student exchange programme co-ordinator** of the international Pharmacy Students' Federation (IPSF) in Sudan **(September 1999- August 2001)**.
- **Member** of African Pharmacy Students' Federation (APSF) (2000-2001) **(September 1999- August 2001)**.
- **Member** of Sudan Medical Council **(January 2004- January 2012)**.
- **Member** of the Royal Chemistry Society (RCS) of the United Kingdom **(September 2007- August 2008)**.
- **Member** of IDB Scholars Association (IDBSA) in the UK **(February 2012- December 2015)**.
- **Member** of the Examination and Prizes Committee, Faculty of Pharmacy, University of Khartoum **(May 2008- December 2015)**.
- **Contributed** to a major revision of the curriculum of pharmaceutical chemistry, Faculty of Pharmacy, University of Khartoum **(September 2013- August 2014)**.
- **Member** of the British Mass Spectrometry Society (BMSS), UK **(September 2015- August 2016)**.
- **Member** of the American Society for Mass Spectrometry (ASMS), Santa Fe, USA **(June 2017- May 2018)**.
- **Member** of the organising committee of MetaboMeeting 2018 conference, Nottingham, UK **(January 2018- December 2018)**.
- **Member** of the organising committee of European School of Metabolomics (EuSM) March 2022 conference, France **(May 2020- March 2022)**: URL: <https://www.first-eusm.com/>
- **Academic/Research staff Member** of the Advanced Materials & Healthcare Technologies Division, School of Pharmacy, Faculty of Science, University of Nottingham **(January 2022- April 2022)**.
- **Member** of the Metabolomics Society, Boston, USA **(May 2024- date)**.

Publications

A. Journal articles

Ahmed A Shibl, Tsedenia W Deneke, Anique R Ahmad, **Salah Abdelrazig**, Christopher E Leonor, Lina Utenova, Guihao Zhang, Mamoun AbdelBaqi, Yashaswi Malla, Muhammad Arshad, Marc Arnoux, Nizar Drou, Abdishakur Abdulle, Raghieb Ali, Shady A Amin, Youssef Idaghdour, Aashish R Jha. Integrative multi-omics analysis reveals oral microbiome-metabolome signatures of obesity. **Cell Reports**, 2026, 45, 2, 116819

Salah Abdelrazig, Áine McCabe, Alia Yasin, Rajneil Chaudhary, Michael A Ochsenkühn, David Scicchitano, Shady A Amin. LC-MS Orbitrap-based metabolomics using a novel hybrid zwitterionic hydrophilic interaction liquid chromatography and rigorous metabolite identification reveals doxorubicin-induced metabolic perturbations in breast cancer cells. **RSC Advances**, 2025, 15, 26, 20745-20759

Farah Hudaib, Sanaa Bardaweel, Wesam Darwish, **Salah Abdelrazig**, Lina A Dahabiyeh. LC-MS-based metabolomics revealed promising role of leukotriene receptor antagonists against colorectal cancer. **Journal of Chromatography B**, 2025, 124824

Carly M Moreno, I Bibire, A Mustafina, **S Abdelrazig**, S Kottuparambil, M Bogosavljevic, SA Amin. Microbial community dynamics and first quantification of the toxin domoic acid in a eutrophic bay in the United Arab Emirates. **Harmful Algae**, 2025, 102921

Joris Meurs, Aishah Nasir, Graziela P Figueredo, Laurence Burroughs, **Salah A Abdelrazig**, Chris Denning, David A Winkler, David A Barrett, Dong-Hyun Kim, Morgan R Alexander. High-Throughput Analysis of Protein Adsorption to a Large Library of Polymers Using Liquid Extraction Surface Analysis–Tandem Mass Spectrometry (LESA-MS/MS). **Analytical chemistry**, 2025, 97, 24, 12776-12785

Refat M. Nimer, Hiba A. Nazazleh, Belal A. Hussain, **Salah Abdelrazig**, Lina El Salem, Lina A. Dahabiyeh. LC-MS/MS based proteomics and metabolomics of HCT-116 Colorectal Cancer Cells: A potential anticancer activity of Atorvastatin. **Pharmacia**, 2025, 72, 1-13

Hadi Hajjali, Jane McLaren, Cristina Gonzalez-García, **Salah Abdelrazig**, Dong-Hyun Kim, Matthew J Dalby, Manuel Salmerón-Sánchez, Felicity RAJ Rose. Sustained adenosine release: Revealing its impact on osteogenic signalling pathways of human mesenchymal stromal cells, **Engineered Regeneration**, 2024, 5, 2, 255-268

Tomas Venit, Oscar Sapkota, Wael Said Abdrabou, Palanikumar Loganathan, Renu Pasricha, Syed Raza Mahmood, Nadine Hosny El Said, Shimaa Sherif, Sneha Thomas, **Salah Abdelrazig**, Shady Amin, Davide Bedognetti, Youssef Idaghdour, Mazin Magzoub, Piergiorgio Percipalle. Positive regulation of oxidative phosphorylation by nuclear myosin 1 protects cells from metabolic reprogramming and tumorigenesis in mice, **Nature Communications**, 2023, 14, 1, 6328

Laura V Randall, Dong-Hyun Kim, **Salah MA Abdelrazig**, Nicola J Bollard, Heather Hemingway-Arnold, Robert M Hyde, Jake S Thompson, Martin J Green. Predicting lameness in

dairy cattle using untargeted liquid chromatography–mass spectrometry-based metabolomics and machine learning, **Journal of Dairy Science**, **2023**, 106, 10, 7033-7042

Andrea-Lorena Garduño-Jiménez, Juan-Carlos Durán-Álvarez, Catharine A Ortori, **Salah Abdelrazig**, David A Barrett, Rachel L Gomes. Delivering on sustainable development goals in wastewater reuse for agriculture: Initial prioritization of emerging pollutants in the Tula Valley, Mexico, **Water Research**, **2023**, 238, 119903

Malak A Jaber, Bayan Y Ghanim, Mohammad Al-Natour, Duaa Abu Arqoub, Qasem Abdallah, **Salah Abdelrazig**, Jamal Alyousse Alkrad, Dong-Hyun Kim, Nidal A Qinna. Potential biomarkers and metabolomics of acetaminophen-induced liver injury during alcohol consumption: A preclinical investigation on C57/BL6 mice, **Toxicology and Applied Pharmacology**, **2023**, 465, 116451

Bayan A Al-Saafin, Amal G Al-Bakri, **Salah Abdelrazig**, Lina A Dahabiyeh. Investigating the effect of the probiotic *Lactobacillus plantarum* and the prebiotic fructooligosaccharides on *Pseudomonas aeruginosa* metabolome, virulence factors and biofilm formation as potential quorum sensing inhibitors, **Microbial Pathogenesis**, **2023**, 177, 106057

Duaa M Hijazi, Lina A Dahabiyeh, **Salah Abdelrazig**, Dana A Alqudah, Amal G Al-Bakri. Mica-fungin effect on *Pseudomonas aeruginosa* metabolome, virulence and biofilm: potential quorum sensing inhibitor, **AMB Express**, **2023**, 13, 1, 20

Malak A Jaber, Bruna de Falco, **Salah Abdelrazig**, Catharine A Ortori, David A Barrett, Dong-Hyun Kim. Advantages of using biologically generated 13 C-labelled multiple internal standards for stable isotope-assisted LC-MS-based lipidomics, **Analytical Methods**, **2023**, 15, 24, 2925-2934

James Wood, **Salah Abdelrazig**, Sergey Evseev, Catherine Ortori, Marcos Castellanos-Uribe, Sean T. May, David A. Barrett, Mohammed Diksin, Sajib Chakraborty, Dong-Hyun Kim, Richard G. Grundy, Ruman Rahman. Lipoprotein Deprivation Reveals a Cholesterol-Dependent Therapeutic Vulnerability in Diffuse Glioma Metabolism, **Cancers**, **2022**, 14, 3873.

Abuzaid, Haneen, **Abdelrazig, Salah**, Ferreira, Lenny, Collins, Hilary M., Kim, Dong-Hyun, Lim, Kuan-Hon, Kam, Toh-Seok, Turyanska, Lyudmila, Bradshaw, Tracey D. Apoferritin-Encapsulated Jerantinine A for Transferrin Receptor Targeting and Enhanced Selectivity in Breast Cancer Therapy, **ACS Omega**, **2022**, 7, 25, 21473–21482.

Feng, Wanshan, Qin, Chaolong, **Abdelrazig, Salah**, Bai, Ziyu, Raji, Mekha, Darwish, Randa, Chu, YenJu, Ji, Liuhan, Gray, David A., Stocks, Michael J., Constantinescu, Cris S., Barrett, David A., Fischer, Peter M., Gershkovich, Pavel. Vegetable oils composition affects the intestinal lymphatic transport and systemic bioavailability of co-administered lipophilic drug cannabidiol, **International Journal of Pharmaceutics**, **2022**, 624, 121947.

Mohammad A. Al-natour[§], **Salah Abdelrazig**[§], Amir M. Ghaemmaghami, Cameron Alexander, Dong-Hyun Kim. Metabolic Signatures of Surface-Modified Poly(lactic-co-glycolic acid) Nanoparticles in Differentiated THP-1 Cells Derived with Liquid Chromatography-Mass Spectrometry-based Metabolomics, **ACS Omega**, **2022**, 7, 33, 28806–28819.

[§] **Mohammad A. Al-natour and Salah Abdelrazig are joint first authors.**

Sophie Vaud, Nicole Pearcy, Marko Hanževački, Alexander M.W. Van Hagen, **Salah Abdelrazig**, Laudina Safo, Muhammad Ehsaan, Magdalene Jonczyk, Thomas Millat, Sean Craig, Edward Spence, James Fothergill, Rajesh Reddy Bommareddy, Pierre-Yves Colin, Jamie Twycross, Paul A. Dalby, Nigel P. Minton, Christof M. Jäger, Dong-Hyun Kim, Jianping Yu, Pin-Ching Maness, Sean Lynch, Carrie A. Eckert, Alex Conradie, Samantha J. Bryan. Engineering improved ethylene production: Leveraging systems biology and adaptive laboratory evolution, **Metabolic Engineering**, **2021**, 67, 308-320.

Salah Abdelrazig, Catharine A. Ortori, Michael Doherty, Ana M. Valdes, Victoria Chapman, David A. Barrett. Metabolic signatures of osteoarthritis in urine using liquid chromatography-high resolution tandem mass spectrometry, **Metabolomics**, **2021**, 17, 29.

Alfardus H, de Los Angeles Estevez-Cebrero M, Rowlinson J, Aboalmaaly A, Lourdusamy A, **Abdelrazig S**, Ortori C, Grundy R, Kim DH, McIntyre A, Smith S. Intratumour heterogeneity in microRNAs expression regulates glioblastoma metabolism, **Scientific Reports**, **2021**, 5;11(1):15908.

Alison Woodward, Alina Pandele, **Salah Abdelrazig**, Catherine A Ortori, Iqbal Khan, Marcos Castellanos Uribe, Sean May, David A. Barrett, Richard G Grundy, Dong-Hyun Kim, Ruman Rahman. Integrated metabolomics and transcriptomics using an optimised dual extraction process to study human brain cancer cells and tissues, **Metabolites**, **2021**, 11, 240.

Laudina Safo[§], **Salah Abdelrazig**[§], Alexander Grosse-Honebrink, Thomas Millat, Anne M. Henstra, Rupert Norman, Neil R. Thomas, Klaus Winzer, Nigel P. Minton, Dong-Hyun Kim, David A. Barrett. Quantitative Bioreactor Monitoring of Intracellular Bacterial Metabolites in *Clostridium autoethanogenum* using Liquid Chromatography-Isotope Dilution Mass Spectrometry, **ACS Omega**, **2021**, DOI: 10.1021/acsomega.0c05588.

[§] **Laudina Safo and Salah Abdelrazig are joint first authors.**

Mahetab H. Amer, Marta Alvarez-Paino, Jane McLaren, Francesco Pappalardo, Sara Trujillo, Jing Qian Wong, Sumana Shrestha, **Salah Abdelrazig**, Lee A. Stevens, Jong Bong Lee, Dong-Hyun Kim, Cristina González-García, David Needham, Manuel Salmerón-Sánchez, Kevin M. Shakesheff, Morgan R. Alexander, Cameron Alexander, Felicity Raj Rose. Designing topographically textured microparticles for induction and modulation of osteogenesis in mesenchymal stem cell engineering, **Biomaterials**, **2021**, 266, 120450.

Abdelrazig, Salah, Safo, Laudina, Rance, Graham A., Fay, Michael W., Theodosiou, Eirini, Topham, Paul D., Kim, Dong-Hyun, Fernández-Castané, Alfred. Metabolic characterisation of *Magnetospirillum gryphiswaldense* MSR-1 using LC-MS-based metabolite profiling, **RSC Advances**, **2020**, 10, 32548-32560.

Sarah Schatschneider[§], **Salah Abdelrazig**[§], Laudina Safo, Anne M. Henstra, Thomas Millat, Dong-Hyun Kim, Klaus Winzer, Nigel P. Minton, David A. Barrett. Quantitative isotope dilution high-resolution mass spectrometry analysis of multiple intracellular metabolites in *Clostridium autoethanogenum* using uniformly ¹³C-labelled standards derived from Spirulina, **Analytical Chemistry**, **2018**, 90 (7), pp 4470–4477.

[§]**Sarah Schatschneider and Salah Abdelrazig are joint first authors.**

Tim J. Sloan, Jonna Jalanka, Giles A.D. Major, Shanthi Krishnasamy, Sue Pritchard, **Salah Abdelrazig**, Katri Korpela, Gulzar Singh, Claire Mulvenna, Caroline L. Hoad, Luca Marciani, David Barrett, Miranda C.E. Lomer, Willem M. de Vos, Penny A. Gowland, Robin C. Spiller. A low FODMAP diet is associated with changes in the microbiota and reduction in breath hydrogen but not colonic volume in healthy subjects, **PLOS ONE**, **2018**, 13(7), e0201410.

Salah Abdelrazig, Catharine A. Ortori, Gail Davey, Wakgari Deressa, Dhaba Mullela, David A. Barrett, Alemayehu Amberbir, Andrew W. Fogarty. A metabolomic analytical approach permits identification of urinary biomarkers for *Plasmodium falciparum* infection, **Malaria Journal**, **2017**, 16:229.

Gad Kariem, E.A., **Abdelrazig, S.M.A.**, Ibrahim, K.E.E. Spectrophotometric estimation of captopril in bulk and dosage form, **O. J. of Pharma. Sciences**, **2008**, 1(4), 397-408.

B. Conferences

- Salah Abdelrazig**, Michael Ochsenkuehn, Shady A. Amin. Enhancing untargeted metabolomics and identification of metabolites in diatoms and associated bacteria using zwitterionic hydrophilic interaction liquid chromatography, **20th Annual International Conference of the Metabolomics Society, 2024**, Osaka, Japan.
- Salah Abdelrazig**, Bruna De Falco, Laudina Safo, Dong-Hyun Kim. Evaluation of U-¹³C Spirulina (*Arthrospira platensis*) for stable isotope assisted untargeted metabolomics and liquid chromatography-isotope dilution mass spectrometry (LC-IDMS), **European RFMF MetaboMeeting, 2020**, Toulouse, France.
- Alison Woodward, Alina Pandele, **Salah Abdelrazig**, Catharine Ortori, David Barrett, Richard Grundy, Dong-Hyun Kim, Ruman Rahman. Integrated metabolomics and transcriptomics analysis of intra-tumour heterogeneity in paediatric brain tumours, **European RFMF MetaboMeeting, 2020**, Toulouse, France.
- Abelha, T., Monteiro, P., **Abdelrazig, S.**, Kim, D.-H., Alexander, C. Redox responsive nanoparticles loaded with docetaxel promote increased cytotoxicity against triple negative or basal-like breast cancer (TNBC) via a distinct metabolic pathway compared to the free drug, **47th World Chemistry Congress of IUPAC, 2019**, Paris, France.
- Woodward, A., **Abdelrazig, S.**, Ortori, C., Barrett, D., Grundy, R., Kim, D.-H., Rahman, R. Characterisation of the metabolomes of epigenetically distinct subgroups of paediatric ependymoma, **British Neuro-Oncology Society, 2019**, London, UK.
- Wood, J., **Abdelrazig, S.**, Barrett, D., Grundy, R., Rahman, R., Kim, D.-H. Metabolites: Small size but big impact on human life, **45th Korean Scientists and Engineers Association Annual Meeting, 2019**, Bristol, UK.
- Salah Abdelrazig**, Catherine Ortori and David A. Barrett. Direct Electrospray Ionisation-Mass Spectrometry for Untargeted Urinary Metabolomics Applied to Osteoarthritis, **11th MetaboMeeting, 2018**, Nottingham, UK.
- Woodward, A., **Abdelrazig, S.**, Barrett, D., Grundy, R., Kim, D.-H., Rahman, R. An integrated biomics method development to characterise the aberrant metabolome of ependymoma, **Metabomeeting, 2018**, Nottingham, UK.
- Salah Abdelrazig**, Catherine Ortori and David Barrett. Liquid Extraction Surface Analysis and direct ESI/nanoESI mass spectrometry for high throughput urinary metabolomics applied to malaria, **22nd IMSC, 2018**, Florence, Italy, 743.
- Hafeez, A., Wellham, A. D., **Abdelrazig, S.**, Gregori, A., Kim, D.-H., de Moor, C. H. Natural compounds from insect infecting fungi as novel anti-inflammatory drugs, **Metabomeeting, 2018**, Nottingham, UK.
- Wellham, P. A. D., Hafeez, A., Gregori, A., **Abdelrazig, S.**, Kim, D.-H., de Moor, C. H. Metabolic signatures of *Cordyceps militaris* sexuality and insect pathogenicity, **Metabomeeting, 2018**, Nottingham, UK.
- Carabelli, A. M., Teo, A. C. K., Halliday, N. M., Al-Natour, M., **Abdelrazig, S.**, Barrett, D. A., Kim, D.-H., Hook, A. L., Williams, P., Alexander, M. R. Investigating *Pseudomonas aeruginosa* aggregation on chemically distinct polymer surfaces, **Metabomeeting, 2018**, Nottingham, UK.

- Evseev, S., **Abdelrazig, S.**, Ortori, C., Halliday, N., Barrett, D. A., Kim, D.-H. Development of novel LC-MS-based approach involving uniformly ^{13}C -labelled organisms toward quantitative untargeted metabolite profiling, **Metabomeeting, 2017**, Birmingham, UK.
- T. Millat, **S. Abdelrazig**, L. Safo, R. O. J. Norman, A. M. Henstra, K. Winzer, D. A. Barrett and N. P. Minton. Metabolite analysis for the metabolic shift in *Clostridium autoethanogenum*, **C1net, 2017**, Nottingham, UK.
- Salah Abdelrazig**, Sarah Schatschneider, Laudina Safo, Anne M. Henstra, Thomas Millat, Sergey Evseev, Dong-Hyun Kim, Klaus Winzer, Nigel Minton and David A. Barrett. Uniformly ^{13}C labelled compounds from *Arthrospira* as multiple internal standards for quantitative isotope dilution mass spectrometry of 74 key bacterial metabolites, **65th American Society for Mass Spectrometry Conference on Mass Spectrometry and Allied Topics, 2017**, Indianapolis, USA.
- Safo, L., Grosse-Honebrink, A., **Abdelrazig, S.**, Pander, B., Henstra, A. M., Norman, R., Millat, T., Winzer, K., Kim, D.-H., Minton, N., Barrett, D. A. Quantitative LC-MS analysis of 100 intracellular metabolites of *Clostridium autoethanogenum* using multiple uniformly ^{13}C -labelled internal standards, **65th American Society for Mass Spectrometry Conference on Mass Spectrometry and Allied Topics, 2017**, Indianapolis, USA.
- Salah M.A. Abdelrazig**, Catharine A. Ortori and David A. Barrett. High throughput liquid extraction surface analysis mass spectrometry (LESA-MS) and direct ESI mass spectrometry for human urine global metabolomics, **36th BMSS, 2015**, Birmingham, UK.
- Salah M.A. Abdelrazig** and David A. Barrett (**2014**) Development of high-throughput direct infusion mass spectrometric (DIMS) approach for urine global metabolomics, **IDB Life Science, 2014**, Cambridge, UK.