



Advancing Health, Nutrition and Forensic Science Through Analytical Chemistry

Dr. Ari Shafaei Darestani develops advanced analytical chemistry and mass spectrometry-based approaches to identify and measure small molecules in complex biological, food, plant and forensic samples. Her research helps uncover chemical signatures that can improve our understanding of health, disease, nutrition, environmental exposures and forensic investigations.

Research creating real world impact

Many health conditions and biological processes leave measurable chemical signatures. Ari's research focuses on detecting and interpreting these molecular clues to support biomarker discovery, nutrition research, public health, and forensic science. Using advanced analytical methods, Ari analyses samples such as blood, urine, tissue, food, plants, and hair to better understand the chemical links between health, nutrition, and forensic science.

Research Expertise

- Analytical chemistry
- Mass spectrometry-based analytical methods
- Targeted and untargeted metabolomics
- Biomarker discovery
- Precision health and disease diagnostics
- Nutrition and health research
- Plant bioactives and food chemistry
- Forensic chemistry and forensic toxicology applications



Building Connections Across Health, Nutrition, Agriculture and Forensic Science

Research Leadership & Expertise

Ari is a Senior Lecturer in Chemistry and Co-Lead of the Centre for Crops and Horticulture Analytics for Nutrition and Climate Excellence (CHANCE) at Edith Cowan University. She has international research experience across Australia, Norway, and Malaysia, and her work integrates analytical chemistry, metabolomics, nutrition science, biological sample analysis, and forensic applications to address complex research challenges.

Awards, Fellowships & Recognition

- **Finalist, Women of Colour in STEM Awards 2026**
Scientific Researcher Category
- **Postdoctoral Research Fellow**
Norwegian University of Science and Technology (NTNU), Norway (2019)
- **Endeavour Postdoctoral Research Fellowship Recipient**
Awarded by the Australian Government (2018)
- **Gold Medal Recipient**
International Invention, Innovation & Technology Exhibition (ITEX) for research into plant-derived anti-hypertension therapeutics (2014)
- **PhD Fellowship Recipient**
Institute of Postgraduate Studies, Universiti Sains Malaysia (2013)

Opportunities for Collaboration

Ari welcomes collaboration with health and medical researchers, nutrition and public health researchers, agriculture, crop and horticulture specialists, forensic science and toxicology teams, industry innovators, government agencies, and clinical and translational research groups. Her multidisciplinary expertise creates opportunities for collaborative projects that translate scientific discoveries into practical solutions with real-world impact.

Your research challenges are our opportunities. Connect with Ari today.

GO FURTHER

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