

Dr Diane Coral Turner BSc(Hons) MSc PhD FRSC

Anthias Consulting Limited

Profile

An analytical chemist with extensive knowledge of gas chromatography (GC), liquid chromatography (LC), mass spectrometry (MS), sample preparation, spectroscopy & inductively-couple plasma (ICP) techniques. Conscientious, motivated, organised & an excellent problem solver, able to put her expertise to solving analytical problems in any field anywhere around the world. A good communicator both written & through giving presentations & training, proficient at working on own initiative & as part of a team.

Geographical areas of work: UK nationwide and International

Skills & Expertise

- Bond Solon Expert Witness Excellence in Report Writing & Courtroom Skills
- Training others in analytical techniques, instrument hardware & software.
- Applications, technical & information support for analysts worldwide.
- Method development, optimisation, workflow, quality control & validation.
- Problem solving & critical review, able to take a holistic view & look at the bigger picture from applications to troubleshooting to publications, training material and books.
- Presentation of work at international conferences, symposia, meetings, workshops & online.
- Customer consultancy, scientific research, applications & project work.
- Writing & organisation of degree modules, application notes, SOPs, manuals & guides.
- Criminal & civil support covering: road traffic, drug, sexual and environmental offences, family court, air pollution and indoor air quality, clinical, pharmaceutical and biochemical, anti-doping and food and fragrances testing.

Analytical techniques: GC, GC-MS, GC-ToFMS, GC-QToFMS, GC-QQQMS, GCxGC-ToFMS/MS/FID/ECD, HPLC, LC-MS, ICP-OES, ICP-MS, FTIR and Sample preparation techniques including headspace (HS), purge & trap, thermal desorption (TD), pyrolysis, solid phase extraction (SPE), SPME, SBSE, membrane extraction, liquid-liquid extraction (LLE) & derivatisation.

Relevant career history

Director & Senior Consultant, Anthias Consulting Ltd.

April 2005 - onwards

- Consulting, hands-on instrument training, method development, maintenance & troubleshooting in analytical techniques both directly for analysts & on behalf of instrument manufacturers.
- Writing & teaching training courses to analysts, students, service engineers & sales staff.
- Instrument demonstrations, applications & training programmes development for manufacturers.
- Development & validation of methods for customers.
- Conference support & presenting at seminars for analytical instrument manufacturers.
- Technical authoring; proofreading & formatting of scientific documents & marketing materials; & testing of instrument user manuals.
- Presenting at international conferences, symposia, meetings and online events.
- Responsible for health & safety, as described at 'Anatune'.

Consultant & Visiting Fellow, SPS, The Open University

August 2006 - onwards

- Responsible for the setting-up, running & maintenance of the GC(-MS), LC(-MS) & peripheral instrumentation.
- Training staff & PhD students in the use of these instruments, method development, maintenance, troubleshooting & data analysis.
- Consultant for the development of miniature analytical instruments for space.
- Development of methods & analysis of samples across many industries and applications.
- Writing degree modules for GC, HPLC & MS, organisation of documentation & reports.

Applications Chemist, Anatune Ltd. (formerly ATAS UK)

January 2000 – March 2005

- Responsible for setting-up & running the applications laboratory; instrument installation & maintenance as required.
- Applications development using the above techniques on the instruments sold by Anatune, including GC, GC-MS, GCxGC-ToFMS, PTV, LVI, HS, P&T, SPE, SPME, SBSE.
- Performing customer demonstrations both on & off-site & running customer workshops, mainly in the environmental & food industries, but in all industries where GC is used.
- Beta testing of suppliers' instruments & software & development of techniques & instruments & their accessories.
- Writing application notes & SOPs for the applications work performed, instrument manuals & guides, consumables & kit lists, quotes & ordering guides; organisation of all documents on instruments & techniques including service notes.
- Presenting work at conferences, meetings, seminars & workshops.
- Responsible for all customer training on their new instruments & techniques; & in-house training, including the ATAS group.
- Technical support for UK customers, Anatune's service engineers & sales staff, & eApplication members worldwide.
- Organising & running the three email applications groups providing up-to-date information on applications & techniques to hundreds of members worldwide.
- Responsible for setting-up & maintaining Anatune's health & safety. Risk assessment, implementation & regular review on all parts of the business: fire, emergency procedures, ergonomics, manual handling, PPE, COSHH, work equipment & first aid. Writing health & safety policies & statements. Staff training on all aspects of health & safety.
- IT support for general office applications, computer maintenance & instrument software.

MSc Project, Zeneca Agrochemicals (now Syngenta)

April –October 1999

- Titled 'The Optimisation of Hyphenation Techniques for Zeneca Agrochemicals':
 - (1) To investigate the addition of buffers to trial compounds to enhance their LC-MS response, using different organic modifiers & interfaces.
 - (2) Use of a PTV on a GC-MS to enhance the response of trace volatile impurities - this led to development of the 'Selective exclusion' GC technique.
- The 5-month MSc project led into short-term of work at Zeneca Agrochemicals using ion chromatography.

MSc IAMBEC at the University of Warwick (see below)

September 1998 – September 1999

Analytical Chemist, Severn Trent Laboratories (Environmental)

May - September 1998

Range of analytical & sample preparation techniques in the contaminated land section, including pH, UV-Vis, Soxhlet extraction & LLE.

Returned multiple times from 2000-onwards as a consultant developing GC-MS methods & training.

Education and qualifications

Mar 2024	Air Products Compressed Gases Safety e-Learning
Dec 2023	Certified by Thermo Fisher Scientific to teach their TEA courses
July 2023	Train the trainer programme for teaching FTIR
Nov 2022	Manufacturer's training on Agilent Intuvo & Hydro Inert GC-MS ion source
Feb 2021-23	Unconscious bias training with RSC
Nov 2020-	The Open University Information Security Awareness & Equality Essentials courses
Sept 2019	Manufacturer's training on Leco PegBT GCxGC-MS
July 2019	Bond Solon Expert Witness Excellence in Report Writing & Courtroom Skills
June 2019	Manufacturer's training on Agilent MPP software
June 2019	Manufacturer's training on SepSolve GCxGC
Dec 2017-	First-aid at work qualifications with St John Ambulance
Nov 2017	Tuck School of Business, Building a High Performing Minority Business course
May 2016	Manufacturer's training on Markes International BenchTOF GC-MS

May 2016	Manufacturer's training on CTC Pal3 RTC
Feb 2016	Manufacturer's training on OI Analytical Purge & Trap, PFPD & XSD/PID
Sept 2015	Manufacturer's training on Markes International TargetView software
Jan 2015	Manufacturer's update training on Shimadzu GC & GC-MS instruments
April 2014	Manufacturer's training on ACD/Labs software (advanced)
Nov 2013	Attended & assisted in teaching Zoex GCImage course
Nov 2013	Manufacturer's training on Agilent GC-QQQ & MassHunter
July 2013	Manufacturer's training on Thermo LC-QQQ & GC-QQQ instruments
Jan 2013	Manufacturer's training on Shimadzu GC & MS instruments
Jan 2013	Manufacturer's training on ACD/Labs software
July 2011	Thermo HPLC workshop & training
May 2008	GCxGC training & attendance at GCxGC symposium & ISCC in Riva del Garda
Mar 2008-	Training by Markes International to teach their instruments to customers
Nov 2008	Admitted as Associate Member of the Royal Society of Medicine
Feb 2007-15	Agilent Train the Trainer programmes to teach Agilent GC, GC-MS, GCxGC, ...
Jan 2006	Admitted as Member of the Institute of Advanced Motorists
Aug 2005	A+ Certification in PC Fundamentals, Hardware & Software Support
Jun 2003	Chartered Institute of Environmental Health Level 1 Foundation Certificate in Health & Safety in the Workplace
Feb 2003	Training at Gerstel, Germany to install & teach their products to customers
Sept 2002	Training at Horizon Technologies, USA to develop methods for & teach SPE
Sept 2002	Training at Leco, USA to install, use & teach the Pegasus GCxGC-ToFMS

The Open University

2009-2017	Part-time PhD on urine analysis for disease diagnosis, titled: 'The development and evaluation of non-invasive methods to characterise the disease states of patients utilising selective discrimination, gas chromatography-mass spectrometry and chemometrics'.
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University of Warwick

1998-1999	MSc Instrumental and Analytical Methods in Biological and Environmental Chemistry (Pharmaceutical Analysis) (IAMBEC).
1994-1997	BSc (Hons) Chemistry with Medicinal Chemistry. Received the Andrew McCamley Prize for an outstanding final-year project titled 'Novel Method for the Immobilisation of Glycolipid Analogues'.

Memberships & Volunteering

2021-	Editorial board for the RSC book series Practical and Technical Guides for Laboratory-based Chemists
2020-	Member of the Government Chemist Programme Expert Group (GC-PEG) as RSC representative
2020-23	Chair of the Analytical Sciences Prize committee
2020-23	Member of the RSC Awards Working Group (AWG), Members Community Board (MCB), Science and Innovation Leadership Forum (SILF)
2020-22	Co-chair of the RSC-CRUK workshops on Early Detection & Diagnosis and the RSC Indoor Air Quality workshop and report
2019	Author of the book Gas Chromatography-Mass Spectrometry: How Do I Get the Best Results? written to accompany the PACN courses
2018 -	Founding member of the BEAM and Industry Advisory Boards of the Community for Analytical Measurement Science (CAMS)
2018-23	Scientific committee member/chair for the RSC Analytical Research Forum
2016-	Trustee of the Recycling Organisation for Research Opportunities (RORO)
2016-23	Trustee then Chair of the Analytical Chemistry Trust Fund (ACTF)
2016-23	Elected member then President of the Analytical Science Community (previously Analytical Division) of the Royal Society of Chemistry (RSC)

- 2016-20 Created material & consultant for the RSC programme that trained 400 analysts across Africa with the Pan-African Chemistry Network (PACN)
- 2016- Admitted as Fellow of the RSC (Member from 2005)
- 2008-10 RSC ChemNet Ambassador

Publications

Gas Chromatography–Mass Spectrometry: How Do I Get the Best Results? Diane C Turner, Mathias Schäfer, Steven Lancaster, Imran Janmohamed, Anthony Gachanja, Jason Creasey, RSC Print ISBN: 978-1-78262-928-3. EPUB eISBN: 978-1-83916-004-2.

Unlocking circular economy potential: Evaluating high-value chemical production from pyrolysis of plastics recovered from landfilled municipal solid waste. Stuart T. Wagland, Luisa Canopoli, Frederic Coulon, Diane Coral Turner, Geraint Huw Morgan, Waste Management, Volume 206, 2025, 115035.

Evaluation of gas chromatography mass spectrometry and pattern recognition for the identification of bladder cancer from urine headspace. Cauchi, M., Weber, C.M., Bolt, B. J., Spratt, P. B., Bessant, C., Turner, D. C., Willis, C. M., Britton, L. E., Turner, C., Morgan, G., Analytical Methods, 2016, 8, 4037.

Other achievements, interests & awards

- Nov 2025 Finalist at the Lab Awards 2025 for Supplier Excellence
- Jul 2025 Highly commended at the Labmate Awards for Excellence 2025 for Best supplier and end-user partnership
- Jun 2024- I'm a Scientist ambassador for careers student-led STEM enrichment activities
- 2023-24 Local organising committee member for Int. Symposium on Chromatography (ISC)
- Nov 2023 Won 'Supplier Excellence' Lab Award at Lab Innovations
- Dec 2022- Scientific committee member for Solutions in Science (SinS) conferences
- Dec 2022 Delivered 2 weeks of training in forensic labs in Baghdad for the United Nations
- 2022- Outreach with OU meteorites at Swavesey Village College to Year 7 & 8 students
- Nov 2021 Won two Lab Awards for virtual and face-to-face training
- 2021- Moderator for Top Tips for Successful GC Ask the Experts forum – 7 episodes
- July 2021 Expert witness for anti-doping case in France – online court appearance**
- Jan 2021 Published two white papers with VICI on use of hydrogen as a carrier gas in GC
- 2020- Presented at SelectScience Virtual Analytical Summits – annual events
- Jan 2020 Alumni speaker at University of Warwick, Post-graduate Graduation Ceremony
- 2019- Teaching short courses at Pittcon in USA/online each year
- 2018-19 Expert Witness at Court of Arbitration for Sport in Lausanne**
- 2017- Form the Future Ambassador for careers outreach events in local schools
- 2017-21 Section Assistant for Beaver Scouts/Assistant Leader for Cub Scouts
- 2016-18 Taught forensics/chemistry at Pendragon Primary School during Science Week
- Feb 2016 Presentation on Space at Pendragon Pre- and Primary Schools
- 2015- Annual presentation at LabInnovations Shows for the RSC
- 2014-15 Developed SPME & P&T-GC-MS methods for Ministry E&W in Kuwait
- May 2013 Presented at Met BioNet meeting
- Mar 2013 Presented & chaired at Separation Science "Mass Spec 2013" in Singapore
- 2013 Presented at various Separation Science webinars
- 2012-23 Presented at Agilent Environmental Food MS meetings
- Mar 2012 Article published in Chromatography Today on Analysis of Whisky by GCxGC
- Jan 2012 Article published in LC-GC titled "It's all about selectivity"
- 2011-17 Presented at Advances in GC RSC NW Region/Chromsoc events
- Mar 2011 Presented at "Separation Science" conferences in London & Singapore
- Nov 2008 Finalist for Enterprising Women award for SET business
- 2005-2010 Committee member of Cambridge Association of Women in Science & Engineering