

Spiros A. Pergantis
Professor of Environmental Analytical Chemistry

Current Address:

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Academic Qualifications:

- May 1989 - April 1994, Ph.D. Degree in Environmental Analytical Chemistry (supervisor Prof. William R. Cullen), Department of Chemistry, University of British Columbia, Vancouver B.C., Canada.
- Sept. 1984 - July 1988, B.Sc. Degree in Chemistry, University of Ioannina, Greece.

Research and Academic Positions:

- Sept. 2021 – June 2022 (extended from Aug. 2022 until Dec. 2022): Sabbatical, Visiting Professor, New York University Abu Dhabi, UAE.
- **Sept. 2014 to date: Professor of Analytical Chemistry, Dept. of Chemistry, University of Crete, Greece.**
- Oct. 2008 – Sept. 2014: Associate Professor of Analytical Chemistry, Dept. of Chemistry, University of Crete, Heraklion, Greece.
- 2010-2011 (9-month sabbatical): Resident Senior Research Associate, United States Environmental Protection Agency, National Exposure Research Laboratory, Las Vegas, NV.
- Mar. 2003 – Oct. 2008: Assistant Professor of Analytical Chemistry, Dept. of Chemistry, University of Crete, Heraklion, Greece. (Tenure granted Feb. 2007)
- Oct. 1997 – Mar. 2003: Lecturer of Analytical Chemistry (tenured), Birkbeck College, University of London, School of Biological and Chemical Sciences, London, UK.
- Apr. 1997 – Sep. 1997: Postdoctoral Fellow under the European Union "Training and Mobility of Researchers" at the Institute for Environmental Studies, Free University, Amsterdam, The Netherlands.
- Jul. 1996 – Mar. 1997: Postdoctoral Fellow with the Mass Spectrometry Group, Department of Chemistry, Utrecht University, The Netherlands.
- May 1994 - June 1996: Research Associate with the U.S. Environmental Protection Agency, at the National Exposure Research Laboratory, Characterization Research Division in Las Vegas, NV, USA.
- May 1, 1991 - Aug. 30, 1993: Research Assistant (Part-time position), British Columbia Regional Mass Spectrometry Centre, Department of Chemistry, University of British Columbia, Vancouver, Canada.

Awards, Fellowships and Grants:

<i>Awarded while at the University of Crete</i>	
Period: Aug. 2019-23	Duration: 36 months
Programme:	Research-Creation-Innovation
Funding Source:	General Secretariat for Research and Technology (GSRT), Ministry of Education, Greece
Title:	Correlation of Physicochemical Parameters with the Presence of Legionella in the Water Systems of Hotel Units in Crete
Principal Investigator:	S. A. Pergantis
Funding:	Funding for S. Pergantis group: 108,000 €

Period: Aug. 2012-15	
Programme:	SYNERGASIA (Cooperation)
Funding Source:	General Secretariat for Research and Technology (GSRT), Ministry of Education, Greece
Title:	Development of Advanced Mass Spectrometric Techniques for Detecting Metalloproteomes, Studying their Structure and their Interactions
Principal Investigator:	S. A. Pergantis
Funding:	Total funding for 3 partners: 607,125 € Funding for S. Pergantis group: 221,000 €
Period: 2011-12	Duration: 24 months
Programme:	Small Research Grants, University of Crete, Special Account for Research
Funding Source:	University of Crete, Special Account for Research
Title:	Easy Ambient Sonic Spray Ionization – Mass Spectrometry
Principal Investigator:	S. A. Pergantis
Funding:	2,500 €
Used for:	Conference attendance (American Society for Mass Spectrometry)
Period: 2010-13	Duration: 36 months
Programme:	HRAKLEITOS II Funding for a PhD studentship
Funding Source:	Ministry of Education, Greece
Title:	Development of Ion Mobility Spectrometry for the Determination of Size and Composition of Nanoparticles
Principal Investigator:	S. A. Pergantis (PhD fellowship for E. Kapellios)
Funding:	30,000 €
Period: 2010-11	Duration: 9 months
Programme:	United States National Research Council Resident Senior Research Associateship Award; Funding for S.A. Pergantis 9 month sabbatical with the US Environmental Protection Agency, National Exposure Research Laboratory, Las Vegas, NV
Funding Source:	US National Research Council
Title:	Development, Evaluation and Application of Hydrodynamic Chromatography On-line With ICP MS for the Detection of Manufactured Metal-containing Nanoparticles in Environmental Matrices
Principal Investigator:	S. A. Pergantis
Funding:	\$ 75,000
Period: 2009	Duration: 3 weeks
Programme:	Royal Society of Chemistry International Author Grant
Funding Source:	Royal Society of Chemistry Journals
Title:	Ultra-High Resolution Mass Spectrometry for Metallomics Research (HiRes Metals)
Principal Investigator:	S. A. Pergantis
Funding:	£ 2,000
Period: 2007-08	Duration: 24 months
Programme:	Research Grant Programme, University of Crete, Special Account for Research
Funding Source:	University of Crete, Special Account for Research
Title:	Development of Novel Carbon Nanotube Assisted Mass Spectrometric Techniques for the Determination of Ultra-trace levels of Metals
Principal Investigator:	S. A. Pergantis
Funding:	5,000 €

Period: 2005-07	Duration: 36 months
Programme:	PYTHAGORAS II
Funding Source:	Greek Ministry of Education
Title:	Development and Application of Analytical Mass Spectrometric Techniques for the Determination of Selenium Species in Food Products
Principal Investigator:	S. A. Pergantis
Funding:	50,000 €

Period: 2004-08	Duration: 48 months
Programme:	Marie Curie Excellence Grant (MEXT-CT-2003-2788), FP6
Funding Source:	European Commission
Title:	Development of Advanced Analytical Method for Determining Metal Species and Their Interactions in Environmental and Biological Systems (ACE-METALS)
Principal Investigator:	S. A. Pergantis
Funding:	857,321 €

Awarded while at Birkbeck, University of London

Period: 2000-03	Duration: 36-48 months
Programme:	UK EPSRC Research Grant (Grant Ref. Number GR/N08674)
Funding Source:	UK EPSRC
Title:	Application of HPLC-ICP-MS and ES-MS/MS Methods for Investigating Arsenic Species Transformations in Foods
Principal Investigator:	S. A. Pergantis
Funding:	£ 59,071

Period: 1999-02	Duration: 36-48 months
Programme:	CASE Studentship for New Academic Appointees
Funding Source:	UK EPSRC with Industrial Support (VG Elemental)
Title:	-
Principal Investigator:	S. A. Pergantis
Funding:	£ 40,000 + £ 13,200 (industrial partner contribution)

Other Smaller Grants awarded while at Birkbeck, University of London:

- 1999-2000: Birkbeck College Research Grant. Total: £3,220.
 - 1998-2000: Departmental Funding to replace existing ICP-MS with state-of-the-art ICP-MS. Total: £65,000.
 - 1998-99: College Research Grant. Total: £7,500.
 - British Council support for visiting Chiang Mai University, Thailand from 1-7 Feb. 1999. Total £800.
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Awarded while a Postdoctoral Fellow

- 1996: European Union "Training and Mobility of Researchers" grant.
 - 1995: Renewal of US National Research Council Resident Research Associateship award.
 - 1994: United States National Research Council Resident Research Associateship award for research to be conducted at the US Environmental Protection Agency, National Exposure Research Laboratory, Las Vegas, NV.
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Services to the International Scientific Community:

- Member of the Scientific Committees of the (a) 11th International Conference on Instrumental Methods Analysis, 22-25 Sep. 2019, Ioannina, Greece; (b) 7th Greek Metrology Conference, 11-12 May 2018, Athens, Greece; (c) 11th Aegean Analytical Chemistry Days, 25-29 Sept. 2018, Chania, Crete, Greece.
- Chairman of the 10th International Conference on Instrumental Methods of Analysis, 17-21 Sept. 2017, Heraklion, Greece.
- July 2012: Editorial Board Member of the journal *Environmental Science and Pollution Research* (Official organ of the EuCheMS Division of Chemistry and the Environment).
- Nov. 2007 to date: Advisory Board Member of the *Journal of Analytical Atomic Spectrometry* (A journal of the Royal Society of Chemistry).
- Member of the Scientific Committee of the 4th International Conference on Trace Element Speciation in Biomedical, Nutritional and Environmental Sciences, May 25th – 29th 2008, GSF - National Research Center for Environment and Health, Institute of Ecological Chemistry, Munich-Neuherberg, Germany.
- Chairman and Organizer of the 7th International Conference on Environmental and Biological Aspects of Main-Group Organometallics (ICEBAMO), 10-12 Oct. 2006, Heraklion, Crete, Greece.
- 2000-2006: Editorial Board Member of the *Journal of Analytical Atomic Spectrometry*.
- 1999: Member of IUPAC (International Union of Pure and Applied Chemistry).
- 1997: Appointed Member of IUPAC Commission V2: Microchemical Techniques and Trace Analysis.
- Manuscript reviewer for the following journals: *Analytical Chemistry*, *Journal of Analytical Atomic Spectrometry*, *Rapid Communications in Mass Spectrometry*, *Environmental Chemistry*, *Environmental Science and Technology*, *Spectrochimica Acta B*, *The Analyst*, *Analytica Chimica Acta*, *Analytical and Bioanalytical Chemistry*, *Environmental Science and Pollution Research*.
- Reviewer for proposals submitted to the following Science Councils: NSERC (Canada), Czech Science Foundation, European Research Council, General Secretariat for Research and Technology (Greece), Hellenic Foundation for Research & Innovation, Swiss National Science Foundation (SNSF), Austrian Society for Research Promotion.

Professional Affiliations:

- Member of the Greek Chemistry Society (since 1989)
- Member of The American Society for Mass Spectrometry (since 2005)

Publications in Peer Reviewed Journals: (papers #107 and #92 are education research papers)

Note: S. Pergantis group members/students are underlined as follows: Undergraduates, MSc and PhD candidates, Postdoctoral fellows.

University of Crete

108. "Modernizing Titrations in the Undergraduate Laboratory: No more burets and endpoint confusion, just a top-loading balance and a smartphone", E. Larkin, D. Ahn, N. Ahn, F. Alzarooni, Y. Busaibe, S. Cho, S. Lee, B. Madani, J. Mun, K. Q. Canales, N. Rabeh, Z. Raef, Y. Shen, M. Shupac, A. Villanueva, **S. A. Pergantis***, *J. Chem. Ed.* (American Chemical Society), Accepted for publication.
107. "Selenium, Selenoproteins and 10-year Cardiovascular Risk: Results from the ATTICA Study", P. Detopoulou, S. Letsiou, T. Nomikos, A. Karagiannis, **S.A. Pergantis**, C. Pitsavos, D.B. Panagiotakos, S. Antonopoulou*, *Current Vascular Pharmacology*, 2023, 21, 5, 346-355.
106. "Chlorfenapyr metabolism by mosquito P450s associated with pyrethroid resistance identifies potential activation markers" C. Yunta, J. M. F. Ooi, F. Oladepo, S. Grafanaki, **S.A. Pergantis**, D. Tsakireli, H.M. Ismail*, M.J.I. Paine. *Scientific Reports* (Nature Portfolio), 2023, 13:14124.
105. "Increased metabolism in combination with the novel cytochrome *b* target-site mutation L258F confers cross-resistance between the Q_o inhibitors acequinocyl and bifentazate in *Tetranychus urticae*", X. Lu, M. Vandenhole, D. Tsakireli, **S.A. Pergantis**, J. Vontas, W. Jonckheere, T. Van Leeuwen*, *Pesticide Biochemistry and Physiology*, 2023, 192, 105411.
104. "Investigating the behavior of ultratrace levels of nanoparticulate and ionic silver in a seawater

- mesocosm using single particle inductively coupled plasma – mass spectrometry” M.I. Chronakis, E. Mavrakis, R. A.-F. García, M. Montes-Bayon, J. Bettmer, P. Pitta, M. Tsapakis, I. Kalantzi, A. Tsiola, **S.A. Pergantis***, *Chemosphere*, 2023, 336, 139109.
103. “A chip-based supersonic microfluidic nebulizer for efficient sample introduction into inductively coupled plasma – Mass spectrometry” E. Mavrakis, Z. Toprakcioglu, N. Lydakis-Simantiris, T.P.J. Knowles*, **S.A. Pergantis***, *Analytica Chimica Acta*, 2022, 1229, 340342.
 102. “Gold nanoclusters as elemental label for the sequential quantification of apolipoprotein E and metallothionein 2A in individual human cells of the retinal pigment epithelium using single cell-ICP-MS” A. Lores-Padín, E. Mavrakis, B. Fernández, M. García, H. González-Iglesias, R. Pereiro*, **S.A. Pergantis***, *Analytica Chimica Acta*, 2022, 1203, 339701.
 101. “Sardine and anchovy as bioindicators of metal content in Greek coastal waters” K. Sofoulaki, I. Kalantzi, C. Zeri, A. Machias, **S. A. Pergantis**, M. Tsapakis, *Mediterranean Marine Science*, 2022, 23, 3, 546 – 560.
 100. “Metals in tissues of marine fish from the Thermaikos Gulf, Eastern Mediterranean Sea: Detection of changes with trophic level” E. Vetsis, I. Kalantzi, **S. A. Pergantis**, L. Kokokiris, I. Karakassis, *Marine Pollution Bulletin*, 2021, 173, 113024.
 99. “Chip-based microfluidics on-line with inductively coupled plasma - mass spectrometry for standard dilution analysis” E. Mavrakis, **S. A. Pergantis***, *Analytica Chimica Acta*, 2021, 1179, 338830.
 98. “Versatile dual-inlet sample introduction system for multi-mode single particle inductively coupled plasma mass spectrometry analysis and validation” Rosenkranz, D., Kriegel, F.L., Mavrakis, E., **Pergantis, S.A.**, Reichardt, P., Tentschert, J., Jakubowski, N., Laux, P., Panne, U., Luch, A., *Journal of Visualized Experiments*, 2020, 163, 1–19, e61653.
 97. Fish farming, metals and antibiotics in the Eastern Mediterranean Sea: Is there a threat to sediment wildlife? I. Kalantzi*, A. Rico, K. Mylona, **S. A. Pergantis**, M. Tsapakis, *Science of the Total Environment* 2021, 764, 142843.
 96. “Improved validation for single particle ICP-MS analysis using a pneumatic nebulizer / microdroplet generator sample introduction system for multi-mode nanoparticle determination” D. Rosenkranz*, F.L. Kriegel, E. Mavrakis, **S.A. Pergantis**, P. Reichardt, J. Tentschert, N. Jakubowski, P. Laux, U. Panne, A. Luch, *Anal. Chim. Acta*, 2020, 1099, 16-25.
 95. “Biodegradation of phenol by *Chlamydomonas reinhardtii*” T. T. Nazos, L. Mavroudakis, **S. A. Pergantis**, D. F. Ghanotakis*, *Photosynthesis Research*, 2020, 144, 383–395.
 94. “Investigating the Uptake of Arsenate by *Chlamydomonas reinhardtii* Cells and its Effect on their Lipid Profile using Single Cell ICP-MS and Easy Ambient Sonic-Spray Ionization - MS” Mavrakis, E., Mavroudakis, L., Lydakis - Simantiris, N., **Pergantis, S. A.***, *Anal. Chem.*, 2019, 91, 15, 9590-9598.
 93. “The Effect of Nitrogen Starvation on Membrane Lipids of *Synechocystis sp* PCC 6803 Investigated by Using Easy Ambient Sonic-Spray Ionization Mass Spectrometry”, L. Mavroudakis, E. Valsami, S. Grafanaki, T. Andreadaki, D. F. Ghanotakis, **S. A. Pergantis***, *BBA – Biomembranes*, 2019, 1861(10), 183027.
 92. “Buffer Squares: A Graphical Approach for the Determination of Buffer pH Using Logarithmic Concentration Diagrams” **S. A. Pergantis***, I. Saridakis, A. Lyratzakis, L. Mavroudakis, T. Montagnon, *J. Chem. Edu.*, 2019, 96, 936-943.
 91. “Elemental distribution in the different tissues of brood stock from Greek hatcheries” I. Kalantzi*, K. Mylona, **S. A. Pergantis**, A. Coli, S. Panopoulos, M. Tsapakis, *Aquaculture*, 2019, 503, 175–185.
 90. “Metals in sardine and anchovy from Greek coastal areas: Public health risk and nutritional benefits assessment” K. Sofoulaki, I. Kalantzi*, A. Machias, **S. A. Pergantis**, M. Tsapakis, *Food and Chemical Toxicology*, 2019, 123, 113–124.
 89. “Metals and elements in sardine and anchovy: species specific differences and correlations with proximate composition and size” K. Sofoulaki, I. Kalantzi, A. Machias, M. Mastoraki, S. Chatzifotis, K. Mylona, **S. A. Pergantis**, M. Tsapakis*, *Science of the Total Environment* 2018, 645, 15, 329-338.
 88. “Low-dose addition of silver nanoparticles stresses marine plankton communities” A. Tsiola, C. Toncelli, S. Fodelianakis, G. Michoud, T. D. Bucheli, A. Gavriilidou, M. Kagiorgi, I. Kalantzi, K. Knauer, G. Kotoulas, K. Mylona, E. Papadopoulou, S. Psarra, I. Santi, M. Tsapakis*, D. Daffonchio, **S. A. Pergantis** and P. Pitta, *Environ. Sci.: Nano*, 2018, 5, 1965-1980.
 87. “One-Pot Synthesis of Diverse γ -Lactam Scaffolds Facilitated by a Nebulizer-Based Continuous Flow Photoreactor” G. I. Ioannou, T. Montagnon, D. Kalaitzakis, **S. A. Pergantis** and G. Vassilikogiannakis*, *ChemPhotoChem* 2018, 2, 860–864.
 86. “Synthesis of cyclopent-2-enones from furans using a nebulizer based continuous flow photoreactor”

- G. I. Ioannou, T. Montagnon, D. Kalaitzakis, **S. A. Pergantis** and G. Vassilikogiannakis*, *Organic & Biomolecular Chemistry*, 2017, 15, 10151-10155.
85. "The impact of silver nanoparticles on marine plankton dynamics: Dependence on coating, size and concentration" A. Tsiola*, P. Pitta, A. J. Callol, M. Kagiorgi, I. Kalantzi, K. Mylona, I. Santia, C. Toncelli, **S. A. Pergantis**, M. Tsapakis, *Science of the Total Environment* 2017, 601–602, 1838–1848.
 84. "Silver nanoparticles in seawater: a dynamic mass balance at part per trillion silver concentrations" C. Toncelli, K. Mylona, I. Kalantzi, A. Tsiola, P. Pitta, M. Tsapakis, **S. A. Pergantis***, *Science of the Total Environment* 2017, 601-602, 15-21.
 83. "Antimony speciation in spirits stored in PET bottles: identification of a novel antimony complex" S. Carneado, J. F. López-Sánchez, A. Sahuquillo, E. Klontzas, G. E. Froudakis, **S. A. Pergantis***, *J. Anal. At. Spectrom.*, 2017, 32, 1109-1118.
 82. "Arsenic speciation in fish from Greek coastal areas" I. Kalantzi, K. Mylona, K. Sofoulaki, M. Tsapakis, **S. A. Pergantis***, *J. Environ. Sci.* 2017, 56, 300-312.
 81. "Determination of chlorate, perchlorate and bromate anions in water samples by microbore reversed-phase liquid chromatography coupled to sonic-spray ionization mass spectrometry" L. Mavroudakis, E. Mavrakis, A. Kouvarakis and **S. A. Pergantis***, *Rapid Commun. Mass Spectrom.* 2017, 31, 911–918.
 80. "Unusual α -Carbon Hydroxylation of Proline Promotes Active-Site Maturation" V. E. Fadouloglou, S. Balomenou, M. Aivaliotis, D. Kotsifaki, S. Arnaouteli, A. Tomatsidou, G. Efstathiou, N. Kountourakis, S. Miliara, M. Griniezaki, A. Tsalafouta, **S. A. Pergantis**, I. G. Boneca, N. M. Glykos, V. Bouriotis, and M. Kokkinidis*, *J. Am. Chem. Soc.* 2017, 139 (15), 5330–5337.
 79. "A Novel Nebulizer-Based Continuous Flow Reactor: Introducing the Use of Pneumatically Generated Aerosols for Highly Productive Photooxidations" G. I. Ioannou, T. Montagnon, D. Kalaitzakis and **S. A. Pergantis*** and G. Vassilikogiannakis*, *ChemPhotoChem*, 2017, 1, 5, 173-177.
 78. "Elemental and Molecular Analysis of Metal Containing Biomolecules Using Laser Induced Breakdown Spectroscopy and Sonic Spray Ionization Mass Spectrometry: A Step Towards Full Integration and Simultaneous Analysis" K. Marmatakis, **S. A. Pergantis***, D. Anglos*, *Spectrochimica Acta Part B: Atomic Spectroscopy*, 2016, 126, 103-109.
 77. "Flow injection with on-line dilution and single particle inductively coupled plasma – mass spectrometry for monitoring silver nanoparticles in seawater and in marine microorganisms" C. Toncelli, K. Mylona, M. Tsapakis, **S.A. Pergantis***, *J. Anal. At. Spectrom.*, 2016, 31, 1430-1439.
 76. "Detection and Quantification of Silver Nanoparticles at Environmentally Relevant Concentrations Using Asymmetric Flow Field–Flow Fractionation Online with Single Particle Inductively Coupled Plasma Mass Spectrometry" K.A. Huynh*, E. Siska, E. Heithmar, S. Tadjiki, **S.A. Pergantis**, *Anal. Chem.*, 2016, 88 (9), 4909-4916.
 75. "Metals in tissues of seabass and seabream reared in sites with oxic and anoxic substrata and risk assessment for consumers" I. Kalantzi*, **S.A. Pergantis**, K.D. Black, T.M. Shimmiel, N. Papageorgiou, M. Tsapakis, I. Karakassis, *Food Chemistry*, 2016, 194, 659–670.
 74. "Using Nanoparticles to Determine the Transport Efficiency of Microflow and Nanoflow Nebulizers in Inductively Coupled Plasma – Mass Spectrometry" K. Kanaki, **S.A. Pergantis***, *J. Anal. At. Spectrom.*, 2016, 31, 1041-1046.
 73. "Investigating the Occurrence and Environmental Significance of Methylated Arsenic Species in Atmospheric Particles by Overcoming Analytical Method Limitations" T. Tziaras, **S. A. Pergantis***, E. G. Stephanou, *Environ. Sci. Technol.*, 2015, 49 (19), 11640–11648.
 72. "Investigation of a Combined Microdroplet Generator and Pneumatic Nebulization System for Quantitative Determination of Metal-Containing Nanoparticles Using ICPMS" B. Ramkorun-Schmidt, **S. A. Pergantis**, D. Esteban-Fernández, N. Jakubowski, and D. Günther, *Anal. Chem.*, 2015, 87 (17), 8687–8694.
 71. "Elemental and molecular mass spectrometry for integrated selenosugar speciation in liver and kidney tissues of maternal feeding and supplemented rats", H. González-Iglesias, M. Luisa Fernández-Sánchez, Y. Lu, S. Fernández Menendez, **S. A. Pergantis**, A. Sanz-Medel*, *J. Anal. At. Spectrom.*, 2015, 30, 267-276.
 70. "Concurrent quantitative HPLC-mass spectrometry profiling of small selenium species in human serum and urine after ingestion of selenium supplements" S. Kokarnig, A. Tsirigotaki, T. Wiesenhofer, V. Lackner, K. A. Francesconi, **S. A. Pergantis**, D. Kuehnelt*, *J. of Trace Elements in Medicine and Biology*, 2015, 29, 83–90.
 69. "Gender-specific distribution of selenium to serum selenoproteins: Associations with total selenium

- levels, age, smoking, body mass index, and physical activity" S. Letsiou, T. Nomikos, D.B. Panagiotakos, **S.A. Pergantis**, E. Fragopoulou, C. Pitsavos, C. Stefanadis, S. Antonopoulou*, *BioFactors*, 2014, 40, 5, 524–535.
68. "A "turn-on"–turning-to-ratiometric sensor for zinc(II) ions in aqueous media" G. K. Tsikalas, P. Lazarou, E. Klontzas, **S. A. Pergantis**, I. Spanopoulos, P. N. Trikalitis, G. E. Froudakis and H. E. Katerinopoulos*, *RSC Advances*, 2014, 4, 693-696.
 67. "Use of 3-Nitrobenzonitrile as an Additive for Improved Sensitivity in Sonic-Spray Ionization - Mass Spectrometry" K. Kanaki and **S. A. Pergantis***, *Rapid Commun. Mass Spectrom.* 2014, 28, 2661–2669.
 66. "Bipolar Mass Spectrometry of Labile Co-ordination Complexes, Redox Active Inorganic Compounds and Proteins Using a Glass Nebulizer for Sonic-Spray Ionization" M. M. Antonakis, A. Tsirigotaki, K. Kanaki, C. J. Milios, **S. A. Pergantis***, *J. Am. Soc. Mass Spectrom.*, 2013, 24, 1250-1259.
 65. "LC-ICP-MS Analysis of Arsenic Compounds in Dominant Seaweeds from Thermaikos Gulf (Northern Aegean Sea, Greece)" A. Pell, G. Kokkinis, P. Malea, **S. A. Pergantis**, R. Rubio, J. F. Lopez-Sanchez*, *Chemosphere*, 2013, 93, 2187–2194.
 64. "Heavy metals, trace elements and sediment geochemistry at four Mediterranean fish farms" I. Kalantzi, T.M. Shimmiel, **S.A. Pergantis**, N. Papageorgiou, K.D. Black, I. Karakassis*, *Science of the Total Environment*, 2013, 444, 128-137.
 63. "Metals and other elements in tissues of wild fish from fish farms and comparison with farmed species in sites with oxic and anoxic sediments" I. Kalantzi, K. D. Black, **S. A. Pergantis**, T. M. Shimmiel, N. Papageorgiou, K. Sevastou, I. Karakassis*, *Food Chemistry* 2013, 141, 2, 680-694.
 62. "Characterization of Polyglycerol Polyricinoleate Formulations by Using a Combination of NMR Spectroscopy, Mass Spectrometry, and Dynamic Light Scattering" A. Orfanakis, E. Hatzakis, K. Kanaki, **S. A. Pergantis**, A. K. Rizos, P. Dais*, *J. Am. Oil Chem. Soc.*, 2013, 90, 39–51.
 61. "Hydrodynamic Chromatography On-Line with Single Particle Inductively Coupled Plasma – Mass Spectrometry for Ultratrace Detection of Metal-Containing Nanoparticles" **S. A. Pergantis***, T. L. Jones-Lepp, E. M. Heithmar, *Anal. Chem.*, 2012, 84(15), 6454-6462.
 60. "A cyclam-type "turn on" fluorescent sensor selective for mercury ions in aqueous media" S. Voutsadaki, G. K. Tsikalas, E. Klontzas, G. E. Froudakis, **S. A. Pergantis**, K. D. Demadis, H. E. Katerinopoulos*, *RSC Advances*, 2012, 2, 12679–12682.
 59. "Quantitative selenium speciation in human urine by using liquid chromatography - electrospray tandem mass spectrometry" Y. Lu, A. Rumpler, K. A. Francesconi, **S. A. Pergantis***, *Anal. Chimica Acta*, 2012, 731, 49-59.
 58. "Heptanuclear heterometallic [Cu₆Ln] clusters: Trapping lanthanides into copper cages with artificial amino acids" G. Sopsis, A. B. Canaj, M. Siczek, T. Lis, J. R. O'Brien, M. M. Antonakis, **S. A. Pergantis** and C. J. Milios*, *Inorg. Chem.*, 2012, 51, 5911.
 57. "Arsenic speciation in freshwater snails and its life cycle variation" V. W.-M. Lai, K. Kanaki, **S. A. Pergantis**, W. R. Cullen*, K. J. Reimer, *J. Environ. Monit.*, 2012, 14, 743-751 (*Featured on Journal Front Cover*).
 56. "Size and Elemental Composition of Nanoparticles Using Ion Mobility Spectrometry with Inductively Coupled Plasma Mass Spectrometry" E. A. Kapellios and **S. A. Pergantis***, *J. Anal. At. Spectrom.*, 2012, 27, 21-24 (*Featured on Journal Inside Cover*).
 55. "Unique trigonal prism encapsulated Ln complexes: A [Co^{II}₆Eu] and a [Co^{II}₆Dy] cage" M. Orfanoudaki, I. Tamiolakis, M. Siczek, T. Lis, G. Armatas, **S. A. Pergantis** and C. J. Milios*, *Dalton Trans.*, 2011, 40, 4793-4796. (*RSC Hot paper*)
 54. "Using Nanoelectrospray Ion Mobility Spectrometry (GEMMA) to Determine the Size and Relative Molecular Mass of Proteins and Protein Assemblies: A comparison with MALLS and QELS" E. Kapellios, S. Karamanou, M. F. Sardis, M. Aivaliotis, A. Economou*, **S. A. Pergantis***, *Anal. Bioanal. Chem.* 2011, 399, 2421-2433.
 53. "High Throughput Quantification of Selenium in Individual Serum Proteins from a Healthy Human Population Using High-Performance Liquid Chromatography On-line with Isotope Dilution Inductively Coupled Plasma – Mass Spectrometry" S. Letsiou, Y. Lu, T. Nomikos, S. Antonopoulou, D. Panagiotakos, C. Pitsavos, C. Stefanadis, **S. A. Pergantis***, *Proteomics* 2010, 10, 3447–3457.
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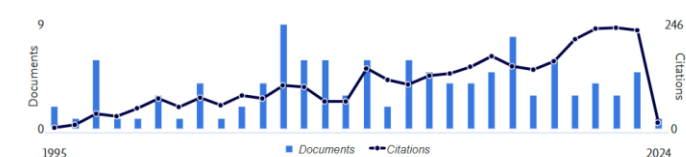
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Chapter in Book:

“Electrospray Ionization Mass Spectrometry: A Complementary Source for Trace Element Speciation Analysis” H. R. Hansen and **S. A. Pergantis***, In “Inductively Coupled Plasma Spectrometry and Its Applications” 2nd edition (2007), edited by Steve Hill, Blackwell Publishing Ltd, ISBN: 1405135948.

Published Report and Application Note:

Heithmar, E. M. and **S. Pergantis**. Characterizing Concentrations and Size Distributions of Metal-Containing Nanoparticles in Waste Water. U.S. Environmental Protection Agency, REPORT, Washington, DC, EPA/600/R-10/117, 2010.

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Other Publishing Activities:

- 2008: Editorial Board of the Atomic Spectrometry Updates for reviews on Elemental Speciation.
- Guest Editor of the 3rd Young Analytical Scientists special issue for the *Journal of Analytical Atomic Spectrometry, Royal Society of Chemistry (JAAS, 2010, vol. 25, no. 3)*.
- Guest Editor of the 2nd Young Analytical Scientists special issue for the *Journal of Analytical Atomic Spectrometry, Royal Society of Chemistry (JAAS, 2006, vol. 21, no. 11)*.
- Guest Editor for the special issue of the *Journal of Analytical Atomic Spectrometry* devoted to publishing the work of high-profile Young Analytical Scientists (*JAAS, 2002, vol. 17, no. 8*).
- Books Translated from English to Greek:
 - i. Chemistry³, Introducing Inorganic, Organic and Physical Chemistry, Oxford University Press, 3rd English Edition.
 - ii. Analytical Chemistry 2.1, D. Harvey, Electronic version 2016.

Presentations at International Conferences:

Invited Presentations:

1. 6th Field Flow Fractionation – Mass Spectrometry Workshop - Nanoanalytical Tools in life-science applications - sp-ICP-MS, 22-23 Nov., Koblenz, Germany, “A combined pneumatic nebulizer and microdroplet generator system for rapid multi-mode ICP-MS nanoparticle analysis using a flexible and robust interface” **S.A. Pergantis**.
2. International Workshop on Engineered Nanoparticles in Aquatic and Terrestrial Compartments: Fate, Effects and Analytics, 19th - 21st Sept., 2018, Landau in der Pfalz, Germany, “Progressing from determining nanoparticles using SINGLE PARTICLE ICP-MS to determining metals in cells using SINGLE CELL ICP-MS”, **S. A. Pergantis**
3. 11th Aegean Analytical Chemistry Days, 25-29 Sept. 2018, Chania, Crete, Greece, “New Roles And Requirements for Pneumatic Nebulizers in Order to Achieve Advances in Atomic and Molecular Mass Spectrometry” **S.A. Pergantis**.
4. 4th Workshop on Field-Flow Fractionation – Mass Spectrometry (FFF-MS), 29-30 Sept. 2016, Vienna, Austria, “Hydrodynamic Chromatography and Asymmetric Flow Field–Flow Fractionation Online with Single Particle Inductively Coupled Plasma Mass Spectrometry for Au and Ag Nanoparticle Detection”,

S. A. Pergantis.

5. 7th Nordic Plasma Conference 2014, 1-4 June 2014, Loen, Norway, "Pneumatic Nebulizers: A Versatile Analytical Device for Integrating Atomic and Molecular Mass Spectrometry for the Analysis of Elemental Species, Metalloproteins and Engineered Nanoparticles", **S. A. Pergantis**.
6. 27th Annual Meeting of the German Society of Minerals and Trace Elements (GMS), 6-8 Oct. 2011, Freising-Weihenstephan, Germany, "Nanoparticle Detection: A new challenge for metal speciation analysis", **S. A. Pergantis** (*Plenary Lecture*).
7. 1st International Proteomics Conference in Crete, 7-8 Oct. 2010, Heraklion, Greece: "Selenoproteomics in Human Serum: An Atomic Mass Spectrometric Approach", **S. A. Pergantis** (*Invited Lecture*).
8. 7th Aegean Analytical Chemistry Days, Sept. 29 – Oct. 03, 2010, Lesvos, Greece: "Inductively Coupled Plasma Mass Spectrometry and its expanding frontiers: Going from the Analysis of Metals and Organometallics to that of Metalloproteins and Nanoparticles", **S. A. Pergantis** (*Invited Lecture*).
9. 56th International Conference on Analytical Sciences and Spectroscopy (ICASS), Aug. 15-18, 2010, Edmonton, Canada, "Separation methods on-line with ICP-MS: A story taking us from metal ions to organometallic species to metalloproteins and recently to nanoparticles", **S. A. Pergantis** (*Invited Lecture*)
10. TraceSpec 2009, Sept. 15-18 Mainz, Germany, "Analytical Approaches for Investigating the Function of Elemental Species in Biological Systems", **S. A. Pergantis** (*Plenary Lecture*)
11. 6th Aegean Analytical Chemistry Days, 09-12 Oct. 2008, Denizli, Turkey: "Electrospray and atmospheric pressure chemical ionization tandem mass spectrometry for the identification and quantification of Arsenic, Selenium and Antimony species in Biological samples", **S. A. Pergantis** (*Invited Lecture*).
12. 4th International Conference on Trace Element Speciation in Biomedical, Nutritional and Environmental Sciences, 25-29 May 2008, GSF - National Research Center for Environment and Health, Institute of Ecological Chemistry, Munich-Neuherberg, Germany: "Application of ESI- and APCI- tandem mass spectrometry for identification and quantification of element species", **S. A. Pergantis** (*Invited Lecture*).
13. 13th Biennial National Atomic Spectrometry Symposium (BNASS), Royal Society of Chemistry, Glasgow Caledonian University, 10-12 July 2006: "Strategies for Investigating the interaction of element species with bio-molecules using HPLC with ICP-MS and ES-MS/MS", **S. A. Pergantis** (*Invited Lecture*); presented by H. R. Hansen.
14. 6th International Conference on Environmental and Biological Aspects of Main-Group Organometals (ICEBAMO), Pau, France, 3-5 Dec 2003: "Advances in the Analysis of Main Group Organometals Using Enhanced Resolution Triple Quadrupole Mass Spectrometry" **S. A. Pergantis** (*Invited Lecture*).
15. PITTCO, New Orleans, Louisiana, March 17-22, 2002: "Expanding the Frontiers of Elemental Speciation with Electrospray Ion Trap Mass Spectrometry", **S.A. Pergantis**, (*Invited Lecture*).
16. 5th ICEBAMO, Graz, Austria, 5-9 June 2001: "Development and Application of Electrospray Tandem Mass Spectrometry for Arsenic Speciation" **S.A. Pergantis** (*Invited Lecture*).
17. Tenth Biennial National Atomic Spectrometry Symposium, Sheffield Hallam University, UK, 17-20 July 2000: "Advancements in Metal Speciation: Complimenting ICP-MS with Electrospray tandem Mass Spectrometry" **S.A. Pergantis** (*Invited Lecture*).
18. Fourth International Symposium on Speciation of Elements in Biological, Environmental and Toxicological Sciences, June 25 - July 1, 2000, Whistler Conference Centre, Whistler Resort, British Columbia, Canada: "Multi-stage Mass Spectrometry (MSⁿ) for Metal Speciation" **S.A. Pergantis** (*Invited Lecture*).
19. European Winter Conference on Plasma Spectrochemistry, Pau France, Jan. 10-15, 1999: "Electrospray Tandem Mass Spectrometry: New Frontiers in Metal(loid) Speciation" **S. A. Pergantis** (*Invited Lecture*).
20. International Conference on Water Management in Intermontane Basins, 2-6 February 1999, Water Research Centre, Faculty of Science, Chiang Mai University, Thailand: "Advancements in Mass Spectrometric Methods used for the Identification of Arsenic Compounds Present in the Environment" **S.A. Pergantis** (*Invited Lecture*).
21. XXIV FACSS (Federation of Analytical Chemistry and Spectroscopy Societies) Conference, Providence, Plasma Mass Spectrometry for the Speciation of Arsenic and Tin" **S. A. Pergantis**, F. Ariese, W. Cofino (*Invited Lecture*).

Oral Lectures and Posters:

- 11th International Conference on Instrumental Methods Analysis, 22-25 Sept. 2019, Ioannina, Greece, "Improvements and Applications of a Novel Orthogonal Sonic-Spray Ionization Source for Coupling Microbore and Conventional HPLC to Tandem Mass Spectrometry" S. Grafanaki, **S. A. Pergantis** (**Oral**)

Presentation)

- European Winter Conference on Plasma Spectrochemistry, Sankt Anton, Austria, Feb. 19-24, 2017, “Advances in single-cell ICP-MS for determining elemental distributions in cell populations” E. Mavrakis; N. Lydakis-Simantiris; C. Stephan; **S. A. Pergantis (Oral Presentation)**.
- 64th American Society for Mass Spectrometry Conference on Mass Spectrometry and Allied Topics, June 4-9, 2016, San Antonio, Texas “Paired-Ion Sonic-Spray Ionization Mass Spectrometry for the analysis of anionic ions: Progress towards lower limits of detection” E. Mavrakis, L. Mavroudakis, **S. A. Pergantis (Poster presentation)**.
- Euroanalysis 2015, Sept. 6-10, 2015, Bordeaux, France “Investigating the Occurrence and Environmental Significance of Methylated Arsenic Species in Atmospheric Fine Particles by Overcoming Analytical Method Limitations”, **S. A. Pergantis (Oral presentation)**, T. Tziaras and E. G. Stephanou
- 63rd American Society for Mass Spectrometry Conference on Mass Spectrometry and Allied Topics, May 31 June 4, 2015, St. Louis, Missouri “Evaluation of Sonic Spray Mass Spectrometry for Proteomics Analysis” **S. A. Pergantis (Poster presentation)**, K. Kanaki, M. Mavrakis.
- European Winter Conference on Plasma Spectrochemistry, Munster, Germany, Feb. 22-26, 2015, “Monitoring the Fate of Engineered Silver Nanoparticles in Seawater Systems using Single Particle Inductively Coupled Plasma Mass Spectrometry” C. Toncelli, K. Mylona, M. Tsapakis, **S. A. Pergantis (Oral Presentation)**.
- The 61th American Society for Mass Spectrometry (ASMS) Conference on Mass Spectrometry, Minneapolis, MN, USA, June 09-15, 2013: “Progress Towards the Development of a Combined Molecular and Atomic Spectrometry System: Sonic-Spray Ionization MS with Laser Induced Breakdown Spectroscopy” K. Kanaki, O. Kokkinaki, K. Marmatakis, D. Anglos, **S. A. Pergantis (Poster presentation)**.
- Metal nanoparticles for advanced materials: From theory to practice, NanoTP Conference, 1-3 October, 2012, Heraklion, Crete, Greece: “Current Analytical Strategies for Detecting Trace Amounts of Nanoparticles in the Environment” **S.A. Pergantis (Oral presentation)**, E.A. Kapellios.
- The 60th American Society for Mass Spectrometry (ASMS) Conference on Mass Spectrometry, Vancouver, BC, Canada, May 20-24, 2012: “Evaluating Novel Nebulizer Configurations for Sonic Spray Ionization Mass Spectrometry” M. M. Antonakis, A. Tsirigotaki, E. Kapellios, **S. A. Pergantis (Poster presentation)**.
- 2012 Winter Conference on Plasma Spectrochemistry, Tucson, Arizona, January 9-14, 2012: “Hydrodynamic Liquid Chromatography and Ion Mobility Spectrometry with ICP-MS for Determining Nanoparticle Concentration, Size and Elemental Composition” **S. A. Pergantis (Oral Presentation)**, E.A. Kapellios, T.L. Jones-Lepp, E. M. Heithmar.
- 241st ACS National Meeting & Exposition, Division of Environmental Chemistry, March 27-31, 2011, Anaheim, California, USA, “Hydrodynamic chromatography online with single particle inductively coupled plasma–mass spectrometry for ultratrace level detection of nanoparticles”, **S. A. Pergantis (Oral presentation)**, E. M. Heithmar, T. Jones-Lepp.
- Instrumental Methods of Analysis Modern Trends and Applications» (IMA 2009), Oct. 5-8, Athens, Greece, “Quantification of Selenium in Human Serum Proteins Using HPLC On-Line with Isotope Dilution ICP-MS”, **S. A. Pergantis (Oral Presentation)**.
- 2008 Winter Conference on Plasma Spectrochemistry, Temecula, California, January 7-12, 2008: “Online Coupling of a NanoElectrospray Ion Mobility Spectrometer with ICP-MS” **S. A. Pergantis (Oral Presentation)**, R. Raml, C. Carazzone.
- The 55th American Society for Mass Spectrometry (ASMS) Conference on Mass Spectrometry & Allied Topics, Indianapolis, Indiana, June 03-7, 2007: “Nano-electrospray Ion Mobility Separations On-line with Inductively Coupled Plasma Mass Spectrometry for Detecting Metal-containing Biomolecules Ranging from 8 kDa to 80 MDa” **S. A. Pergantis (Oral presentation)**.
- 6th International Symposium on Speciation of Elements in Biological and Toxicological Sciences, Bialowieza, Poland, 21-25 June 2006: “Non-Targeted Detection Of Individual Arsenosugars In Marine Samples Using Precursor Ion Scanning Mass Spectrometry” **S. A. Pergantis (Oral Presentation)**, K. Kanaki.
- 2006 Winter Conference on Plasma Spectrochemistry, Tucson, Arizona, Jan. 8–14, 2006: “Determination of Selenosugars In Human Urine: HPLC-ICP-MS Versus Atmospheric Pressure Chemical Ionization Tandem Mass Spectrometry” **S. A. Pergantis (Poster presentation)**, S. Letsiou, V. Nischwitz, P. Traar, and Kevin A. Francesconi.
- The 53rd American Society for Mass Spectrometry (ASMS) Conference on Mass Spectrometry & Allied

- Topics, San Antonio, Texas, June 05-10, 2005: "Tandem Mass Spectrometric Strategies for the Determination of Targeted and Unknown Arsenic in Environmental and Biological Samples" V. Nischwitz, K. Kanaki, **S. A. Pergantis** (*Poster presentation*).
- The 52nd American Society for Mass Spectrometry (ASMS) Conference on Mass Spectrometry & Allied Topics, Nashville, Tennessee, May 23-28, 2004: "Development of HPLC Atmospheric Pressure Ionization Tandem Mass Spectrometric Methods for the Determination of Selenosugars in Human Urine", K.A. Francesconi, P. Traar, S. Letsiou and **S.A. Pergantis** (*Poster Presentation*).
 - European Winter Conference on Plasma Spectrochemistry, Jan. 12-17, 2003, Garmisch-Partenkirchen, Germany: "Using HPLC-ICP-MS to Study the Non-enzymatic Methylation of Arsenite by Methylcobalamin", **S. A. Pergantis** (Poster presentation), M. Miguens-Rodriguez, D.T. Heitkemper, and N.P. Vela.
 - European Winter Conference on Plasma Spectrochemistry, Jan. 12-17, 2003, Garmisch-Partenkirchen, Germany: "Multi-Element Determination and Fractionation Using a Sequential Hydride Generation / Pneumatic Nebulisation (HG/PN) Inductively Coupled Plasma Mass Spectrometry System", **S. A. Pergantis** (Poster presentation) and S. L. Anderson.
 - Conference of the Association of Greek Chemists, Heraklion, November, 2002: "Speciation of As and Sb Using Electrospray Ion Trap Mass Spectrometric Methods" **S. A. Pergantis** (*Oral Presentation*).
 - XXVI FACSS (Federation of Analytical Chemistry and Spectroscopy Societies) Conference, Vancouver, British Columbia, Oct. 24-29, 1999: "Identification of Arsenosugars at the picogramme-level Using Nano-Electrospray Quadrupole Time-of-Flight Mass Spectrometry" **S. A. Pergantis** (*Oral Presentation*).
 - British Mass Spectrometry Society (BMSS) 23rd Annual Meeting, University of Warwick, Sept. 13-16, 1998: "Fast-Atom Bombardment and Electrospray Tandem Mass Spectrometry for Arsenic and Tin Speciation" **S. A. Pergantis** (*Oral Presentation*), S. Wangkarn.
 - The 44th ASMS Conference on Mass Spectrometry & Allied Topics, Portland, Oregon, May 12-16, 1996: "Speciation of Arsenic in Reference Materials by Using micro-HPLC/ICPMS", **S.A. Pergantis** (Oral Presentation), G.-M. Momplaisir, E.M. Heithmar, and T.A. Hinners (*Oral Presentation*).
 - The 44th ASMS Conference on Mass Spectrometry & Allied Topics, Portland, Oregon, May 12-16, 1996: "Investigating Arsine Generating Reactions Using Deuterium Labeled Reagents and Mass Spectrometry", **W. Winnik** (Poster), S.A. Pergantis, E.M. Heithmar, and W. R. Cullen.
 - The 44th ASMS Conference on Mass Spectrometry & Allied Topics, Portland, Oregon, May 12-16, 1996: "Assessment of Internal Standards for Arsenic in ICPMS", T.A. Hinners, **S.A. Pergantis** (Poster), and E.M. Heithmar.
 - Pittsburgh Conference and Exposition on Analytical Chemistry and Applied Spectroscopy (PITTCON), New Orleans, Louisiana, March 5-10, 1995: "Inductively Coupled Plasma - Mass Spectrometric Determination of Arsenic Animal-Feed Additives Following their Separation on Conventional and Micro High Performance Liquid Chromatography C-18 Columns", **S.A. Pergantis** (*Oral Presentation*), E.M. Heithmar, and T. A. Hinners.
 - PITTCON, New Orleans, Louisiana, March 5-10, 1995: "Characterization and Optimization of Arsenic Signal-to-Noise Ratios in ICP-MS Coupled with Liquid Chromatography", S.A. Pergantis, **E.M. Heithmar** (Oral Presentation), J. M. Nocerino, and T. A. Hinners.
 - 24th International Symposium on Environmental Analytical Chemistry, Carleton University, Ottawa, Canada, May 16-19, 1994: "Arsenic Speciation and Arsenic Cycles", **W.R. Cullen** (Oral Presentation), G.K. Eigendorf, S.A. Pergantis.
 - The 41st ASMS Conference on Mass Spectrometry & Allied Topics, San Francisco, June 1993: "Capillary Liquid Chromatographic Mass Spectrometric Identification of Arsenic Compounds Used as Animal Feed Additives", **S.A. Pergantis** (Poster), W.R. Cullen and G.K. Eigendorf.
 - The 41st ASMS Conference on Mass Spectrometry & Allied Topics, San Francisco, June 1993: "Accurate Mass Measurements in Desorption Chemical Ionization (DCI) Mode", **S.A. Pergantis** (Poster), L.L. Madilao, G.K. Eigendorf and C. Emond.

Selected Group Member Presentations at International Conferences:

Presenting Author in Bold

- European Winter Conference on Plasma Spectrochemistry Ljubljana, Slovenia, January 29th – February 3rd, 2023, "Metallobiomolecule profiling in gilthead seabream and European seabass blood serum by

- online SEC – ICP – MS” **G. Panagou** (poster), I. Kalantzi, I. Fakriadis, M. Tsapakis and S.A. Pergantis.
- 11th International Conference on Instrumental Methods Analysis, 22-25 Sept. 2019, Ioannina, Greece
“Advancements and Challenges for the Determination of Metals in Individual cells Using Single Cell Inductively Coupled Plasma Mass Spectrometry” **E. Mavrakis (oral)**, N. Lydakis-Simantiris, S.A. Pergantis
 - 11th International Conference on Instrumental Methods Analysis, 22-25 Sept. 2019, Ioannina, Greece
“Application of Single Particle ICP-MS for the Detection and Characterization of Metal Containing Nanoparticles in Seawater Samples” **M.I. Chronakis (poster)**, M. Mavrakis, S.A. Pergantis, R.Á. Fernández García, M. Montes - Bayón, J. Bettmer, A. Tsiola, A. Gondikas, M. Tsapakis.
 - European Winter Conference on Plasma Spectrochemistry, 3-8 Feb. 2019, Pau, France, “Investigating arsenate uptake in *C. reinhardtii* cells using Single Cell ICP-MS and its effect on lipid remodeling using ambient MS” **E. Mavrakis (oral)**.
 - The 56th American Society for Mass Spectrometry (ASMS) Conference on Mass Spectrometry & Allied Topics, Denver, CO, June 1-6, 2008: “Evaluation of nanoElectrospray - Ion Mobility Spectrometry – Condensation Particle Counting for Determining the Size and Molecular Mass of Biomolecules” **E. Kapellios (Poster)**, C. Carazzone, R. Raml, S. A. Pergantis.
 - The 56th ASMS Conference on Mass Spectrometry & Allied Topics, Denver, CO, June 1-6, 2008: “Interactions of Metal Species with proteins and DNA: Investigated Using nanoElectrospray Ion Mobility Spectrometry with Inductively Coupled Plasma Mass Spectrometry” **C. Carazzone (Poster)**, E. Kapellios, K. Kanaki, R. Raml, S. A. Pergantis.
 - 2nd International Congress on Arsenic in the Environment: Arsenic from Nature to Humans, Valencia, 21-23 May, 2008, “Development of mass spectrometric techniques for detecting arsenicglutathione complexes and investigating their role in arsenic methylation” **K. Kanaki (Poster)**, S.A. Pergantis.
 - 4th International Conference on Trace Element Speciation in Biomedical, Nutritional and Environmental Sciences, 25-29 May 2008, GSF - National Research Center for Environment and Health, Institute of Ecological Chemistry, Munich-Neuherberg, Germany: “Determination and Characterisation of Antimony Species in the Antileishmanial Drug Glucantime and in Canine Urine”, **R. Raml**, I. Messaritakis, M. Antoniou, S. A. Pergantis (*Oral Presentation*).
 - 4th International Conference on Trace Element Speciation in Biomedical, Nutritional and Environmental Sciences, 25-29 May 2008, GSF - National Research Center for Environment and Health, Institute of Ecological Chemistry, Munich-Neuherberg, Germany: “Application of HPLC Hyphenated with ICP-MS, ESI- and APCI- Tandem Mass Spectrometry for the Separation and Quantification of Low Molecular Weight Selenium Species in Biological Samples”, **Ying Lu**, A. Rumpler, S. A. Pergantis, K. A. Francesconi (*Poster Presentation; Awarded Poster Prize*).
 - Instrumental Methods of Analysis (IMA), Modern Trends and Applications 2005, Hersonnisos, Greece, 2-6 Oct. 2005: “HPLC online with Selected Reaction Monitoring Electrospray Tandem Mass Spectrometry: An advanced Method for the Detection and Quantification of Organoarsenic Species” **V. Nischwitz (Oral presentation)**, S.A. Pergantis.
 - IMA, Modern Trends and Applications 2005, Hersonnisos, Greece, 2-6 Oct. 2005: “Characterization of antimony – biomolecule complexes by the use of multiple advanced mass spectrometric techniques” **H.R. Hansen (Oral presentation)** and S.A. Pergantis.
 - European Marie-Curie Conference, Pisa/Livorno, Italy, 28-30 Sep. 2005: “Electrospray tandem mass spectrometry as selective and sensitive online detection technique for liquid chromatography” **V. Nischwitz (Oral Presentation)**, S.A. Pergantis.
 - 1st International Workshop on Antimony in the Environment, Institute of Environmental Geochemistry, University of Heidelberg, Germany, May 16-19, 2005: “Using electrospray ionisation mass spectrometry (MS)/tandem MS for the characterisation of complexes between antimony(V) and bio-molecules” **Hansen, H. R. (Oral Presentation)** and Pergantis, S. A.
 - European Winter Conference on Plasma Spectrochemistry, Jan. 31-Feb. 3, 2005, Budapest, Hungary: “Combination Of HPLC-ES-MS/MS And HPLC-ICP-MS For The Identification and Quantification of More Than 20 Organoarsenic Species In Standard Solutions and Extracts of Marine Reference Materials” **V. Nischwitz (Poster presentation)**, K. Kanaki, S. A. Pergantis.
 - European Winter Conference on Plasma Spectrochemistry, Jan. 31-Feb. 3, 2005, Budapest, Hungary: “High Performance Liquid Chromatography With Inductively Coupled Plasma Mass Spectrometry Detection For The Determination of Novel Thio Arsenosugars” **K. Kanaki (Poster presentation)**, V. Nischwitz, S. A. Pergantis.
 - European Winter Conference on Plasma Spectrochemistry, Feb. 4-8, 2001, Lillehammer, Norway: “Sequential Hydride Generation / Pneumatic Nebulisation Inductively Coupled Plasma Mass

Spectrometry for Arsenic and Selenium Speciation”, **S. L. Anderson** (Poster Presentation) and S. A. Pergantis.

Miscellaneous Other Invited Presentations, Lectures and Outreach activities:

- “Advanced Analytical Systems for Metal Speciation Analysis for Health and the Environment”, Science Division Seminar, New York University Abu Dhabi, Abu Dhabi, 07 Dec 2021.
- “Analytical Challenges for Monitoring Silver Nanoparticles in the Marine Environment”, Joint BAM - BfR workshop on nanoparticle analysis, Berlin, 21 Mar. 2019.
- “Chromatographic Separations, with emphasis on Thin Layer Chromatography”, seminar given to Greek Secondary School Teachers, Heraklion, 2 Oct. 2013.
- “Novel Analytical Methods for Nanoparticle Determination” presented at the Federal Institute for Risk Assessment (BfR), Berlin, 23 Sept. 2013.
- “Combining Atomic and Molecular Mass Spectrometry for Elemental Speciation Analysis: From small molecules to proteins and nanoparticles” Humboldt University Berlin, Prof. Dr. M.W. Linscheid Group presentation, 6 Sept. 2013.
- “Metal speciation analysis: From small molecules to large proteins and nanoparticles” Division of Inorganic Chemical Analysis and Reference Materials Group Meeting, BAM Federal Institute for Materials Research and Testing, Berlin, Germany, 4 June 2013.
- Workshop on Multifunctional Nanostructured Materials, Department of Chemistry, University of Crete “Recent Advances in Mass Spectrometry for the Characterisation of Molecules in Solution and in Solids”, July 2-6, 2007.
- Hellenic Proteomics Society, Workshop on Proteomics, University of Crete, “Advanced Mass Spectrometric Tools for Chemists, Biochemists and Biologists”, 24 Nov 2006.
- University of Indiana, Department of Chemistry, Analytical Chemistry Seminar, “Development of Advanced Mass Spectrometric Methodologies for the Speciation of As, Se and Sb in Biological Samples”, 13 June 2005.
- Food and Drug Administration (FDA), Cincinnati, “Application of Selected Reaction Monitoring Mass Spectrometry for Element Speciation Analysis”, May 2004.
- TGC Seminar, ITE, “Inductively Coupled Plasma Mass Spectrometry and Electrospray Tandem Mass Spectrometry: An Emerging “Dream Team” in Elemental Speciation Analysis”, 17 Feb 2004.
- Laboratory Government Chemist (LGC) Research Seminar on Metal Speciation in Environmental and Other Matrices: “Q-TOF and Ion Trap Mass Analysers: Are they Really Needed for Elemental Speciation?”, Nov. 16, 2000.
- University of Crete, Dept. of Chemistry, Heraklion, Greece: “Development of Mass Spectrometric Methods for the Speciation of As, Se, Sn, and Br in Environmental Samples”, Nov. 03, 2000.
- University of Ioannina, Dept. of Chemistry, Ioannina, Greece: “Development of Mass Spectrometric Methods for the Speciation of As, Se, Sn, and Br in Environmental Samples”, Oct. 16, 2000.
- FAPAS, Third Open Meeting of Participants, London, UK: “Arsenic Speciation in Seafood Products: Advances and Limitations”, Dec. 10, 1999.
- QUASIMEME Workshop on the speciation of Organotin Compounds, Institute of Environmental Studies, Free University, Amsterdam, The Netherlands: “Electrospray Mass Spectrometry for the Speciation of Butyltin Compounds”, Sept. 24-25, 1998.
- Speciation 21 Network, Institute for Environmental Studies, Free University, Amsterdam, The Netherlands: “Advancements in the Mass Spectrometry of Organometallic Compounds”, Sept. 22-24, 1998.
- Saint Mary's University, Department of Chemistry Seminar, Halifax, Canada: “Analytical Methods for the Determination of Arsenic Species in Environmental Samples”, March 31, 1995.
- University of Arkansas at Little Rock, Department of Chemistry Seminar, Arkansas, U.S.A.: “Arsenic in the Environment: Chemical Forms and Toxicological Aspects”, February 09, 1996.

Teaching Activities (since joining the University of Crete and on Sabbatical)

- 2021-22: Analytical Chemistry (3 semesters), Inorganic Chemistry (1 semester), Physical Chemistry Labs (Thermodynamics and Quantum Chemistry) at New York University Abu Dhabi.

- 2017-20, 2023: Modern Instrumental Analysis (Graduate course). Content: Advanced ICP-MS, single particle ICP-MS, multicollector ICP-MS for stable isotope analysis, proteomics analysis using electrospray and MALDI mass spectrometry, capillary electrophoresis coupled on-line with electrospray mass spectrometry, elemental speciation analysis, SIFT-MS.
- 2012-20, 2023: Analytical Chemistry II (2nd year undergraduate), entire course. Content: Separations (HPLC, GC), atomic spectrometry (AAS, AES, ICP-AES, ICP-MS), mass spectrometry (electrospray, electron ionization, chemical ionization, MALDI-MS, HPLC-MS/MS).
- 2012-20: Quantitative and Qualitative Analysis (1st year Undergraduate); Taught ½ course from 2012 until 2020.
- 2012-16: Environmental Analytical Chemistry II: Trace Elements in the Environment (Grad. Course).
- 2012-20: Mass Spectrometry for Biologists and Biochemists, 6 hr of lecturers, Graduate Course, Dept. of Biology, Univ. of Crete.
- 2011-12: Environmental Analytical Chemistry II: Trace Elements in the Environment (Grad. Course).
- 2011-12: Analytical Chemistry II (2nd year undergraduate); Taught ½ the course.
- 2011: Mass Spectrometry for Chemists and Biochemists, SYNAPS, Summer School, Dept. of Chemistry, Univ. of Crete.
- 2010-11: Analytical Chemistry I (2nd year undergraduate); Taught entire course. Content: Statistics for Analytical chemistry, molecular spectroscopy and electrochemistry.
- 2009-10: Analytical Chemistry II (4th year undergraduate); Taught ½ the course.
- 2009-10: Quantitative and Qualitative Analysis (1st year Undergraduate); Taught the entire course.
- 2009: Environmental Analytical Chemistry II: Trace Elements in the Environment (Graduate Course).
- 2008-09: Analytical Chemistry I (3rd year undergraduate); Taught entire course.
- 2008-09: Quantitative and Qualitative Analysis (1st year Undergraduate); Taught the entire course.
- 2008: Environmental Analytical Chemistry II: Trace Elements in the Environment (Graduate Course).
- 2007-08: Analytical Chemistry II (4th year undergraduate); Taught ½ the course.
- 2007-08: Quantitative and Qualitative Analysis (1st year Undergraduate); Taught the entire course.
- 2007: Mass Spectrometry for Chemists and Biochemists (10 hrs), SYNAPS, Summer School, Dept. of Chemistry, Univ. of Crete.
- 2007: Environmental Analytical Chemistry II: Trace Elements in the Environment (Graduate Course).
- 2006-07: Analytical Chemistry II (4th year undergraduate); Taught ½ the course.
- 2005-06: Analytical Chemistry II (4th year undergraduate); Taught the entire course.
- 2004-05: Environmental Analytical Chemistry (Graduate Course); Taught 1/3 of the course.
- 2004-05: Analytical Chemistry II (4th year undergraduate); Taught ½ the course.
- 2003-04: Environmental Analytical Chemistry (Graduate Course); Taught 1/3 of the course.
- 2003-04: Analytical Chemistry I (3rd year undergraduate); Taught the entire course.

PhD Supervision:

PhDs supervised:

- Emmanouil Mavrakis (awarded Apr 2023) PhD, University of Crete, Dept. of Chemistry “Development of novel atomic mass spectrometric techniques for the analysis of single particles and single cells”.
- Efthymios Kapellios, (awarded Apr 2013) PhD, University of Crete, Dept. of Chemistry “Development of Ion Mobility Spectrometry Methodologies for Sizing Large Biomolecules and Nanoparticles”.
- Ying Lu, (awarded 2010) PhD, University of Crete, Dept. of Chemistry “Development of Analytical Techniques for the Determination and Characterization of Selenium Containing Biomolecules”.
- Katerina Kanaki, (awarded 2009) PhD, University of Crete, Dept. of Chemistry “Advanced Mass Spectrometric Techniques for the Detection and Characterization of Novel Arsenic Species and Their Interactions with Biomolecules”.
- Sunanta Wangkarn (awarded 2001), PhD, “Development of hyphenated analytical techniques for arsenic speciation in environmental and biological matrices”, University of London, London, UK.

Co-supervised PhD:

- Sofia Letsiou (awarded 2010), PhD, Harokopeio University, Athens, Greece, Supervisor: M. Antonopoulou, “Determination and quantification of selenium in individual serum proteins from a

healthy human population and its relation to dietary factors”.

MSc Research Projects (Supervised since joining the University of Crete):

1. A. Pergamali, 2021-23: “Arsenic Speciation Analysis Using HPLC-ICP-MS in Benthic and Pelagic Fish Collected from the Artemision Straits”.
2. M. Kolimenou, 2021-23: "Development of methods for the determination of trace elements in seawater samples by solid phase extraction combined with ICP-MS".
3. E. Chrysou, 2020-22: “Seasonal Study of Heavy Metal Concentrations in the Continental Shelf Sediments of Heraklion Bay, Crete Island, Eastern Mediterranean”.
4. E. Stergiou, 2020-22: “Development of mass spectrometric and nuclear magnetic resonance techniques for investigating the effect of Ni(II), As(V), and Se(VI) on lipid saturation in *Chlamydomonas reinhardtii* and *Chlorella sorokiniana*”.
5. M. I. Chronakis 2019-21: “Investigating the Occurrence and Fate of Metal Nanoparticles in Seawater Systems Using Single Particle Inductively Coupled Plasma - Mass Spectrometry”.
6. S. Grafanaki, 2020-21: “Development and application of sonic spray ionization sources for mass spectrometric analysis of environmental and biological samples”.
7. I. Cheiladaki, 2019-20: “Correlation of Physicochemical Parameters with the Presence of Legionella in the Water Systems of Hotel Units in Crete”.
8. G. Vougioukas, 2018-19: “Analysis of Samples from Surfaces using Desorption Sonic-Spray Ionization Mass Spectrometry”.
9. E. Mavrakis, 2017-18: “Development of an ICP-MS Method for the Determination of Metals in Single Cells for the Purpose of Studying the Uptake of Heavy Metals (Pb, Cd, Ni, As) by *Chlamydomonas reinhardtii* cells”.
10. L. Mavroudakis, 2017-18: “Development and Application of Sonic-Spray Ionization Mass Spectrometry for the Direct Analysis of Membrane Lipids in Microorganism Cells”.
11. L. Trasanidou, 2018-19: “Development of Affinity Liquid Chromatography Coupled to ICP-Mass Spectrometry for Multielement Metalloproteomics Analysis in Human Blood Serum”
12. M. Antonakis, Univ. of Crete, Dept. of Chemistry Graduate Programme, 2011-13: “Development of Sonic Spray Ionization Mass Spectrometry and Its Comparison to Electrospray Mass Spectrometry”.
13. A. Tsirigotaki, Univ. of Crete, Dept. of Chemistry Graduate Programme, 2010-12: “Determination of Selenoproteins, Selenium-containing proteins and other Selenium metabolites in human serum using targeted proteomics”.
14. I. Kokkinis, Univ. of Crete, Dept. of Chemistry, Environmental Science and Technology Graduate Programme, 2010-2012: “Determination of Arsenic Species in Dominant Seaweeds from Thermaikos Gulf (Northern Aegean Sea, Greece) Using LC – ICP-MS”.
15. X. Koundouraki, Univ. of Crete, Dept. of Chemistry, Environmental Science and Technology Graduate Programme, 2009-2011: “Chromium Accumulation in Vegetables Grown in an Area with High Levels of Cr(VI) in its Groundwater”.
16. E. Voutsadaki, Univ. of Crete, Dept. of Chemistry Graduate Programme, 2007-09: “Determination of Cr(VI) in Drinking Water and Its Source”.
17. M. Anastopoulos, Univ. of Crete, Dept. of Chemistry, TEPROP (Environmental Protection Technologies) Graduate Programme, 2007-09: “Cr Speciation in Drinking Water Using Carbon Nanotube Packed Cartridges On-line with ICP-MS”.
18. I. Tsiamourou, Univ. of Crete, Dept. of Chemistry Graduate Programme, 2006-08: “Development and Application of Mass Spectrometric Techniques for Se Speciation in Food”.
19. K. Kanaki, Univ. of Crete, Dept. of Chemistry Graduate Programme, 2007: “Development of HPLC – Mass Spectrometry Methods for the Identification of Novel Arsenic Species (Thioarsenosugars) in Biological Samples”.
20. C. Chalabalakis, Univ. of Crete, Dept. of Chemistry Graduate Programme, 2004-06: “Mass Spectrometric Study of Organoarsenic Compounds and Analytical Applications Using the Electrospray Ion Trap Technique”.
21. S. Letsiou, Univ. of Crete, Dept. of Chemistry Graduate Programme, 2004-06: “Development of HPLC– Atmospheric Pressure Ionization Tandem Mass Spectrometry for the Determination of Selenosugars in Human Urine”.

22. M. Kouromichelaki, Univ. of Crete, Dept. of Chemistry, Environmental Science and Technology Graduate Programme, 2004-06: "Development of ICP-MS Methods for Arsenic Speciation Analysis in Aqueous Environmental Samples".
23. A. Chrysou, Univ. of Crete, Dept. of Chemistry, Environmental Science and Technology Graduate Programme, 2004-06: "Development of ICP-MS Methods for the Total and Speciation Analysis of Sb in Aqueous Environmental Samples".

MSc in Analytical Chemistry Projects* (Supervised at Birkbeck, Univ. of London):

* Research projects conducted in fulfillment of requirements for the completion of a taught MSc in Analytical Chemistry.

1. A. Dudoit, MSc Thesis "Determination of Bromate by Using Ion Chromatography On-line with Conductively Detection and ICP-MS" (2000).
2. S. De Fortescou, MSc Thesis "Biotransformations of Arsenic species by Bacterial Cultures" (2001).
3. S. Lefevre, MSc Thesis "Lead and Arsenic Determination in Tobacco" (2001).
4. M. Miguens-Rodriguez, MSc Thesis "Determination of Total Selenium by Using μ FI-ICP-MS" (Jan. 2000).
5. S. Sutharsan, MSc Thesis "Determination of Porphyrins In Human Urine Using High Performance Liquid Chromatography and Diode Array Detection" (1999).
6. O. Ogidan, MSc Thesis "Interpretation of FAB Tandem Mass Spectra Obtained from Arsenosugar Compounds" (1999).
7. O. Awe, MSc Thesis "Determination of Ozone by Using Ion Chromatography" (1999).
8. A. Seralathan, MSc Thesis "Development and Evaluation of Reversed Phase HPLC Flame AAS for the Speciation of Chromium" (1999).
9. J. Cambos, MSc Thesis "Determination of Platinum Group Metals in Organic Solvents by Using ICP-MS" (1999).
10. C. Alvaran, MSc Thesis "Arsenic Speciation in Wines" (1999).

Undergraduate Project Supervision:

- A. Pergamali (2020): "Determination of Hg and As Compounds in Fish Using HPLC-ICP-MS"
- M.-E. Kollimenou (2020): "Development of a Method for the Determination of Mn Species in Drinking Water Using ICP-MS"
- N. Vlahakis (2020): "Colorimetric Measurements Using Smartphones"
- M. Chronakis (2018): "Method Development for the Detection and Quantitation of TiO₂ Nanoparticles Using Inductively Coupled Plasma Mass Spectrometry".
- G. Panagou (2019): "Determination of bromate ions in bottled water and their correlation with other parameters".
- I. Tsolakoudis (2019): "Spray Solvent Effect on Protein Mass Spectra Acquired Using Desorption Sonic-Spray Ionization (DeSSI)"
- I. Kagiabaki (2017): "Comparison of Electrospray and Sonic-Spray Ionization for the Formation of Gas Phase Ions"
- L. Mavroudakis (2016): "Development of sonic-spray ionization mass spectrometry for the ultrasensitive analysis of inorganic anions in water samples"
- M. Mavrakis (2015): "Peptide analysis using liquid chromatography coupled with sonic spray ionization mass spectrometry"
- L. Trasanidou (2015): "Non-targeted arsenic speciation in peptides: using ultra-high resolution Mass Spectrometry"
- A. Bitzios (2014): "Determination of Protein Relative Molecular Mass Using Sonic Spray Ionization and Electrospray Ionization Mass Spectrometry"
- P. Marcou (2013): "Determination of Protein Relative Molecular Mass Using Sonic Spray Ionization: Comparison with Electrospray"
- A. Tsirigotaki (2010): "Quantitative Determination of Total Antimony in Fruit Juices and Drinking

Water”

- A. Papadaki (2006): “Determination of Sb in Drinking Water Stored in PET plastics”

Supervision of Postdoctoral Fellows:

- Katerina Kanaki, SYNERGASIA programme Postdoctoral Fellow, 11/2012 – 04/15.
- Reingard Ralm, Marie Curie Postdoctoral Fellow, 03/2007 – 07/2008.
- Chiara Carazzone, Marie Curie Postdoctoral Fellow, 06/2007 – 07/2008.
- Volker Nischwitz, Marie Curie Postdoctoral Fellow, 07/2004 – 06/2006.
- Helle R. Hansen, Marie Curie Postdoctoral Fellow, from 11/2004 – 10/2006.

Co-supervision:

- Margarita Kapsi, Metafrisk, ELIDEK, 2021-to present (co-supervisors Dr M. Tsapakis, Dr I. Kalantzi from the Hellenic Center for Marine Research, HCMR)
- Claudio Toncelli, ARISTEIA programme, 02/2014 – 10/2015 (co-supervisor Dr M. Tsapakis, HCMR).
- Thrasos Tziaras, supervised in collaboration with Prof. E. Stephanou P.I. of ARISTEIA I project “CHEMISAND”.

Examination Committees (since joining the University of Crete):

- Have served on 35 PhD examination Committees: 30 from Greek Universities, 1 from the UK (University of Plymouth), 2 from Spain (University of Oviedo), 1 from Cyprus (University of Cyprus), 2 from Australia (University of Canberra), and 1 from India (Acharya Nagarjuna University).
- Have served on over 60 MSc Theses examination Committees.

Administrative Duties (since joining the University of Crete):

- Member of the 7 membered committee of the Special Account for Research Funds of the Univ. of Crete (Jan 2023 – to present).
- Vice President of the Special Account for Research Funds of the University of Crete (2020 – 2021 stopped because of sabbatical).
- Member of the Univ. of Crete 7 Member Committee of the Special Account for Research Funds of the University of Crete, Jan. 2018 - 2020.
- Member of the Departmental Safety Committee, Dept. of Chemistry, Univ. of Crete, 2014 - to present.
- Member of the Graduate Studies Committee, Dept. of Chemistry, Univ. Of Crete, 2014-to present.
- Member of the Undergraduate Studies Committee, Dept. of Chemistry, Univ. Of Crete (2003-04 and 2013-14).
- Member of more than 20 selection and promotion committees for Academic positions in Chemistry at Greek Universities (2003 - to present).
- Member of the Chemistry Dept. Laboratory Safety (2018-2022)
- Chemistry Dept. representative at University of Crete Senate (2007-08)
- Member of the restructuring Undergraduate Curriculum committee (2005-06)
- Member of the Departmental Research and Teaching Evaluation Committee (2008-12)
- Departmental Mass Spectrometry Instrumentation Committee.