



International Association of GeoChemistry

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TRIBUTE TO PROFESSOR WYNDHAM MICHAEL (MIKE) EDMUNDS: 31 JULY 1941 – 28 APRIL 2015



Mike Edmunds at WRI-13 conference in Guanajuato, Mexico, August 2010

We are deeply saddened to announce the passing of IAGC member Mike Edmunds on 28 April 2015 after a short battle with cancer. Mike had a distinguished career that spanned 50 years and will be remembered for his outstanding contributions to geochemistry, especially in hydrogeochemistry, palaeohydrology, and water resources. Our deepest sympathies and thoughts are with his wife, Kathy, their four children and six grandchildren.

Mike obtained his PhD in metamorphic petrology from the University of Liverpool (UK) in 1968. He joined the British Geological Survey in 1966, and, until mandatory retirement in 2001, conducted pioneering research in the field of groundwater. In 2003, Mike was appointed Senior Research Associate in the School of Geography and Environment, University of Oxford (UK), where he focused on water problems affecting modern society and on developing links between science and policy.

Mike also pioneered new methods by which to study water–rock interactions, including high-resolution interstitial water–depth profiles to characterize natural processes and pollution migration. Using an array of environmental tracers – including chloride mass balance, stable and cosmogenic isotopes, and noble gases applied to the unsaturated zone – he was among the first to show how tracer-based approaches may be used to resolve recharge rates and history. With co-workers from all over the world, he investigated many of the classical aquifers and sedimentary basins in Europe, and other continents, to define the controls on water-quality evolution, especially the origin and migration of palaeowaters. Mike conducted some of the earliest detailed investigations on hot dry rock reservoir geochemistry and on how acid rain affects shallow aquifers.

Mike contributed 230 professional publications and supervised 16 PhD theses in the UK and overseas. Because Mike was passionate about science and achieved the highest international stature in geochemistry, he was often invited to be a plenary speaker at international meetings. In the past decade alone, he was leader of over 10 major projects worldwide on aquifer management, groundwater pollution, mineral and hydrothermal waters, and palaeowaters. He also carried out international training, mentoring, and joint work in the water quality sector for the International Atomic Energy Agency and UNESCO.

Mike was made a fellow of the Geological Society of London (GSL) in 1972. For his scientific leadership and pioneering discoveries, Mike was awarded the GSL's Whitaker Medal in 1999; the Geological Society of America's O. E. Meinzer Award (being the first British recipient of that award), as well as being elected a GSA Fellow in 2009; and received the first Vernadsky Medal of the IAGC in 2010.

Mike was a strong supporter of the IAGC via the Water–Rock Interaction (WRI) Working Group. One of the founding fathers of WRI, Mike was the only person to have attended all 14 of the triennial WRI symposia. He was elected Chairman of the WRI Working Group (1989–2001) and Secretary General of the highly successful WRI-6 (1989) conference held in Malvern (England). And Mike was a founding Associate Editor of, and reviewer and author for, *Applied Geochemistry*.

Mike's death "in harness" is a great loss to geochemistry and to water science and policy. His passing has greatly saddened the large number of colleagues, scientists and students that he influenced worldwide.

ELSEVIER PHD STUDENT RESEARCH GRANT WINNERS

The IAGC is happy to announce the recipients of the 2015 Student Research Grants, sponsored by Elsevier and the IAGC. Every year, strong research proposals are submitted by students from around the world, and every year the awards become even more competitive, with a record 30 submissions in 2015. Congratulations to our grantees!



Jotautas Baronas

(University of Southern California)

"Si cycling dynamics in the Critical Zone: $\delta^{30}\text{Si}$ and Ge/Si multiproxy approach."

Jotautas earned his BSc in chemistry at Jacobs University in Bremen (Germany) in 2011 and his MSc in Earth Sciences at the University of Southern California (USA) in 2014. The goal of his PhD research is to develop new tools that can be used to reconstruct how weathering has changed in the geological past. He applies a multiproxy approach that utilizes a combination of element and isotope geochemical tracers (Ge/Si, $\delta^{30}\text{Si}$, and a novel proxy $\delta^{74}\text{Ge}$ currently in development, to name but a few). His work in tropical river catchments and anoxic ocean basins is aimed at finding a unique response of this multiproxy system to both continental weathering and marine sediment diagenesis processes.



Melissa Foster (University of Colorado)

"From the mountains to the plains: constraining the evolution of Front Range surfaces through Quaternary dating"

Melissa earned her BA in geology from Humboldt State University (USA) in 2003, and then worked in environmental consulting for several years in Arcata, California. Melissa returned to Humboldt State University for her MS in geology (2010), and she is currently a PhD student at the Institute of Arctic and Alpine Research (INSTAAR) and the Department of Geological Sciences at the University of Colorado (USA). Melissa's dissertation provides the timeline for Quaternary landscape evolution and surface processes in the Colorado Front Range and western High Plains. She is particularly interested in the rates of fluvial incision in the Front Range and in the exhumation history of the Denver Basin. To quantify rates and timing of sediment production, transport, and deposition in the Colorado Front Range, she measures the concentrations of cosmogenic radionuclides in fluvial sediments, colluvium, and mobile regolith.



Michael Short

(The Australian National University)

"Investigating salt and solute cycling in a small endorheic basin using stable halogen isotopes"

Michael graduated from Flinders University (South Australia) with a BSc in Environmental Science in 2012. He spent a year working as a hydrogeologist before beginning a PhD at the Research School of Earth Sciences at the Australian National University. His work is mostly focused on applying environmental tracer techniques to investigate water and salt/solute movement through arid and semi-arid landscapes. Michael is applying chloride, bromide and the stable halogen isotopes ($\delta^{37}\text{Cl}$ and $\delta^{81}\text{Br}$) as environmental tracers in catchment hydrology. This has involved investigating large international data sets, as well as field work in the Lake George Basin (New South Wales), to investigate catchment-scale variations in Cl⁻/Br⁻ ratios and solute transport through a 50 m thick clay aquitard. He also hopes that these techniques will provide further insight into the rich geologic and hydrologic history of the Lake George Basin.

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European Association of Geochemistry



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2016 EAG AWARDS: CALL FOR NOMINATIONS

To ensure the recognition of deserving scientists from all generations, your nomination can make the difference. Below is a short description of the EAG awards. The nomination process is simple.

	<p>The Urey Award recognizes outstanding contributions advancing geochemistry over a career.</p>
	<p>The Houtermans Award is given to a scientist no more than 35 years old or within 6 years of their PhD for a single exceptional contribution to geochemistry, published either as a single paper or as a series of papers on a single topic.</p>
	<p>The Science Innovation Award subject area differs every year according to a five-year cycle; in 2016, the award will be named in honor of Werner Stumm for his work on low-temperature and surface geochemistry. This award is conferred to mid-career scientists for important and innovative breakthroughs in geochemistry.</p>
	<p>The GS/EAG Geochemical Fellows Award is bestowed upon outstanding scientists who have made major contributions to the field of geochemistry.</p>

Please submit your nominations **before 31 October 2015 for the GS/EAG Geochemical Fellows and before 15 November 2015 for all other awards.** All details are available at www.eag.eu.com/awards/nomination/.

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Yolanda Ameijeiras Mariño
(Université Catholique de Louvain)

"Tracing the impact of land use change on soil chemical weathering processes"

Yolanda received her bachelor's and master's degrees in chemical engineering at the Universidade de Santiago de Compostela (Spain) in 2011, specializing in environmental engineering. She is now pursuing a PhD at the Earth and Life Institute, Université Catholique de Louvain (Belgium), where she is researching the impact of changing land usage on sub-tropical southern Brazilian soil weathering processes and the effect this has had on chemical solute fluxes to rivers. To achieve this, Yolanda uses weathering indices and geochemical tracers, such as stable silicon isotopes and Ge/Si ratios, to identify weathering processes impacted by land conversion from forest to cropland, and to quantify the effect on solutes exported from soils. The research will improve our capacity to address the major environmental and socio-economic challenges posed by changing mineral weathering conditions in soils on decade-to-century timescales.

WOUTER PETERS RECEIVES THE 2015 EMINENT SPEAKERS AWARD AT EGU



Wouter Peters (left) receives the EAG Eminent Speakers Award from Bernard Marty, EAG Vice President

Wouter Peters (University of Wageningen and University of Groningen, The Netherlands) was recognized at the recent European Geoscience Union General Assembly for his contributions to geochemistry. Peters' work centres on deriving greenhouse gas budgets from observations of CO₂ and its isotopes, which he achieves by using data assimilation techniques on physical and biogeochemical models that are combined with real measurements. This has resulted in the widely used "CarbonTracker" products. In a new European Research Council-funded program, starting in 2015, Prof. Peters and his collaborators will collect and analyze air samples from the Amazon rain forest for their δ¹³C and Δ¹⁷O in CO₂ signatures to better understand the tropical carbon cycle.

2015 DISTINGUISHED LECTURE PROGRAM GOES TO 4 NEW INSTITUTIONS



Prof. Miryam Bar-Matthews (Geological Survey of Israel) is EAG's Distinguished Lecturer this year. She will deliver lectures this October in Ukraine, Hungary, Slovenia and Croatia on the topic of speleothems.

These are public lectures, so staff, students and visitors are welcome to attend. For more information, visit eag.eu.com/education/dlp.

