



Geogenic Chemicals in Groundwaters and Soils: a research training network

Funded under the European Commission Sixth Framework Programme (2002-2006), Marie Curie Actions –
Human Resources and Mobility Activity Area, Research Training Networks

www.aquatrain.eu

Newsletter

Issue 3, July 2008

Edited by: Julia Leventon, ESR, CEU

Contents:

Researcher Updates – page 1. *What are the researchers doing now?*

Conferences and Meetings – page 2. *Where we've been and where we are going.*

Publications – page 3.

Fieldwork – page 4. *Geerke sets a precedent for "extreme" fieldwork, and a group returns to the East.*

Miscellaneous – page 6. *Andy Meharg hits the headlines.*

Researcher Updates

Aimee Hegan is currently entertaining her parents in the UK, and looking at sequential extraction pilot study options.

Cristina Jimenez is at EAWAG analyzing samples from the second fieldwork campaign.

Jasmin Mertens is evaluating field results and catching up with her batch experiments.

Enoma Omoregie is busy generating sequence information from groundwater wells.

Helen Rowland is still analyzing, acid washing and planning.

Lenny Winkel is in Cadarache for a month to conduct a series of experiments on the methylation and volatilization of selenium from natural soils.

Claudia Cascio is MIA.

Geerke Floor is trying to produce data before leaving Girona.

Adrien Mestrot is happy to be in his third institution (Girona, after two visits to Aberdeen and one to Utrecht) in order to test his trapping method in the paddy fields of the Ebro Delta.

Julia Leventon is trying to understand which agency holds what responsibility for water management in Hungary, and is reading up on Grounded Theory.

Chris Parsons is comparing sequential extraction techniques for As and Se

Barbara Casentini is back to the island after a short break in Italy. Her future plans are to design batch experiments for a water remediation pilot study, sequential extraction of collected soils, and GW modeling of the area.

Babak Shafei is MIA.

Naresh Rawat is MIA.

Peter Tenscher is MIA.

Conferences and Meetings

Completed

3rd AquaTRAIN Workshop, 29th June to 3rd July, Barcelona

The beginning of the Barcelona workshop coincided with Spain winning Euro2008. This made for a unique ice-breaker event. The week proved to be productive and included researcher and steering group meetings, guest presenters, ESR and ER presentations, work package meetings, and a trip to the Ebro Delta. Beyond this, "extra-curricula" evening activities included trips to the beach, shopping, good food and a few cervezas.



The Researchers enjoy dinner on the last night (Photo: Helen Rowland)

As if this wasn't enough, the researchers were kept busy with informal and impromptu meetings between each other and other scientists as areas of collaboration were identified and acted on. A number of these discussions have continued post-workshop.

Thank you to Gabriella Roman-Ross and Geerke Floor for organizing this workshop.



The Ebro Delta (Photo: Helen Rowland)

ARSENIC: unravelling its metabolism & speciation in plants 20th New Phytologist Symposium at Aberdeen
ESR Adrien Mestrot presented a poster at this seminar. His poster was entitled "Trapping of biovolatilised arsenic species".

Other

In addition, ESR Cristina Jimenez has been busy, attending both of the following conferences:

- Workshop in Arsenic Geochemistry (Porto, April, 2008); and
- 2nd International Congress on Arsenic in the Environment: Arsenic from Nature to Humans (May, 2008).

Upcoming

4th AquaTRAIN Workshop, including the third Central and Eastern Europe Conference on Health and the Environment (CEECH), 19th to 22nd October 2008, Cluj Napoca.

The 4th workshop will be held in conjunction with The 3rd Central Eastern European Conference on Health and the Environment (CEECH) to be held in Cluj-Napoca, Romania also from 19 - 22 October 2008. This CEECH meeting is highly relevant to much of the work being carried out by AquaTRAIN lead scientists and researchers. Speaking slots are being arranged for all AquaTRAIN ESRs/ERs, for a number of Lead Scientists and invited International Advisors. There will also be a timeslot for an AquaTRAIN Researcher's meeting and an AquaTRAIN Network meeting

Goldschmidt 2009, 22nd to 26th June 2008, Davos.

The 20 themes, and the 100 focussed sessions within these can be seen at <http://www.goldschmidt2009.org/themes>. Further sessions can be proposed at <http://www.goschmidt2009.org/sessionSuggestion>. The call for sessions ends on 16th September 2008. AquaTRAIN Scientists have proposed a session on

"Geogenic Chemicals in Groundwaters and Soils" (not surprisingly). With Dave co-convening with Laurent, Andy & Nikos. Its up to the Goldschmidt 2009 Convenors to accept this, decline this or rearrange the area into other sessions, but whichever way there will undoubtedly be sessions at Goldschmidt 2009 that are relevant to most everyone's research projects within AquaTRAIN.

Publications

Nature

Lenny Winkel, Michael Burg, Manouchehy Amini, Stephan Hug and C. Annette Johnson, 2008. Predicting groundwater arsenic contamination in South East Asia from surface parameters. Nature Geoscience (published online 11th July 2008).

This article is available for download at: <http://www.ibp.ethz.ch/>

There is also a corresponding news article in Nature itself showing the SE Asia risk maps, with comments from John McArthur and Charles Harvey. This is available at <http://www.nature.com/news/2008/080704/full/454263a.html>

Applied Geochemistry Thematic Issue on "Arsenic in Groundwater"

Over 20 papers arising from the October 2007 EAWAG/University of Manchester Workshop on "Arsenic in Groundwaters of South-East Asia with emphasis on Cambodia and Vietnam", which was attended by many AquaTRAIN scientists, have now been accepted for publication in a thematic issue of "Applied Geochemistry". The hardcopy issue is due out in October or November

2008, but most of the papers are now already available on-line as “accepted manuscripts” via Science Direct (all Researchers will have access arising from their appointments as visiting research fellows at The University of Manchester). The complete set of papers will be available on-line via Science Direct by the beginning of August. This thematic issue has been edited by David Polya (University of Manchester), Michael Berg (EAWAG), Andrew Gault (University of Ottawa) and Yoshio Takahashi (Hiroshima University) and contains several papers from AquaTRAIN Researchers, including Helen Rowland, Lenny Winkel and Aimee Hegan, as well as from a number of AquaTRAIN Lead Scientists.

Dedication

The “Applied Geochemistry” thematic issue is dedicated to Lydia Press, a promising young British geoscientist who died whilst climbing in the French Alps in May of this year. Lydia’s Oxford University undergraduate Masters dissertation, supervised by Don Porcelli (Oxford) and David Polya (Manchester), was on the subject of arsenic biogeochemistry. Lydia spent several weeks in the Preah Vihear, Kampong Cham and Mondalkiri provinces of Cambodia as part of an Action Contra La Faim / Action Against Hunger (UK) / University of Manchester project monitoring arsenic in well waters and collecting hair and nails from volunteers for arsenic exposure monitoring. Before her tragic accident, this year Lydia had been studying on the MESPOM programme at the Central European University, Budapest.



Lydia Press
(1984 – 2008)

Fieldwork

Etna January and June 2008

By Geerke Floor

In January we went for the first time to Sicily, mainly to meet the people from Palermo, but also to get some first samples. A totally new experience, and now I know for sure is not so easy to cross lava fields or walk in snow on crutches... Luckily I did have some assistants!



Geerke on crutches (Photo: Sergio Calabresse)

In June we went for the second time. Again extreme: the Etna was in eruption! A crater in the flank, making it save enough to sample, but exciting enough to see" Long days of sampling to collect the 30 samples all around the volcano in three field days are better if you have the sounds of an active volcano as background music!



Erupting Mount Etna (Photo: Geerke Floor)

So I am curious, what is going to happen next time I will visit Mount Etna? But first, a lot of work in the lab!

Romania/Hungary, June 2008

By Helen Rowland

Its half past 10 at night, and I am getting strange looks from the locals as I trundle down Zurich Hauptbahnhof station, ready to board my sleeper train to Budapest. Trying to save some cash on transport, and to get round the excess weight charge, I decided that the train was the way to go (and to reduce my carbon footprint!), but as I struggle to get 2 large suitcases, 1 rucksack and a handbag into the very small couchette, observed by a bemused Swiss/Hungarian couple who were to be my companions for the next 12 hours, I was not so sure!

However, all worked well, and I managed to rendezvous with Cristina and Jasmin at Arad station in Eastern Romania the following evening. Myself arriving on the overland train via Budapest, and the others travelling from Cluj Napoca, helped by the 'speed' driving of Cristy (our interpretor). We then planned our next few days sampling over some pizza that evening, and the following morning, fortified by a quality breakfast (half a tomato, 3 slices of cucumber, 1 fried egg, 3 hot dog sausages, the worlds worst cup of coffee and as much dubiously coloured squash as you could possibly manage) we packed our slightly sugared up selves into the van and set off into the wilds to do some serious well hunting.

And wells we found a plenty! In a little under 6 days, we sampled 38. Pump, artesian, and hot thermal wells. Fizzy, yellow, sulfurous, clear, blue, and a

whole lot more besides. We even managed to sample an outflow at a public baths. Sampling water at 62°C, surrounded by people in bikinis and trunks, has to be one of my most unusual locations! We also managed to squeeze in some sight-seeing, finding the bowl that made the world record breaking, largest volume of soup (5,045 litres to be exact).



Overlooking the soup bowl (Photo: Helen Rowland)

Then it was time for us to part. Cristina, Jasmin, Bogdan (we'd swapped interpreters by this point) and Geri (we'd gained a senior scientist/official photographer along the way) were off to Baia Marie and a traverse through the Carpathian mountains, and I had a meeting at 1342 at Berettyoujfalu station over the border back into Hungary with Julia. Again I cursed the amount of luggage as I struggled up the mountain of stairs into the train carriage, but, all went smoothly, mostly due to some very friendly locals!

Munching on nagy Turo-Rudi, fresh cherries and nutella on rice-cakes, Julia, Zsofi (our very friendly Hungarian translator) and I went on the trail of the lesser-spotted well in the area from Bekes to Szeged. A mere 1400 km was traversed in our 'compact and bijou' hire-car, with only 14 wells

sampled. However, in between searching out citric acid in Hungarian-Serbian border villages, major multi-probe breakdowns, and crazy apartment owners, all went well!



Sampling a well in Békés, Hungary (Photo: Julia Leventon)

In what seemed like no time at all, I was back trying to cram my luggage back into my couchette and was Zurich (lab) bound, already planning my next trip.....

Footnote: on returning to Zurich, I have discovered that the world breaking soup was beaten by the Mexican town of Durango by a mere 295 litres

(http://www.guinnessworldrecords.com/adjudications/070717_largest_bowl_of_soup.aspx)anyone fancy an AquaTrain world record? largest number of vials acid washed in one sitting? greatest number of simultaneous European-wide gran titrations? comments to the editor please.....

Miscellaneous

Reforworks

At the Barcelona workshop, the ESRs and ERs spoke of ways to facilitate effective collaboration between

meetings. One of the ways we thought of was through using a tool such as Refworks to share what we have been reading. Adrien has sent round an outline to all researchers to get us all started. In addition, it is worth checking out www.refworks.com where there are online tutorials on how to get started, how to convert EndNote to Refworks and how to share your references. ESRs and ERs are setting up their own databases and sharing passwords in order to allow each other to access their references.

People in the News

On April 30th 2008, Lead Scientist Andy Meharg made it into a number of British news publications as a result of an Aberdeen based study into Arsenic in rice. The Guardian's article, with extensive quotes from Andrew can be seen here: <http://www.guardian.co.uk/science/2008/apr/30/medicalresearch.cancer>

The Next Newsletter

The deadline for submissions to the next newsletter is 3rd November 2008.