

Programme: 3rd PhD school of NaToxAq

4th – 12th February 2019

Residència d'Investigadors, C/Hospital 64, 08001 Barcelona, Spain



This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No. 722493



Overview:

	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue
	3 rd	4 th	5 th	6 th	7 th	8 th	9 th	10 th	11 th	12 th
Time 9-13		Arrival of ESRs	S6 S7 S8	S6 S7 S8	Stakeholder meeting	Midterm Review Incl. S8 meeting (1h)	Excursion		C5 MUC UCPH	C5
14-18		S6 CSIC S7 SU S8 UCPH	S6 S7 S8	S6 S7 S8	Midterm Review	Common discussion with ESRs	Excursion		C5	C5 Finishes at 16:00
19-22				WP-coordination and planning of secondments	Dinner					

Courses:

- S6 'Screening natural toxins: biological techniques and biosensors in combination with advanced mass spectrometry techniques' (CSIC), 3 ECTS. **CP1 = ESR2-8**
- S7 'Transport and advanced modelling of organic contaminants in soils, sediments and aquifers' (SU), 3 ECTS. **CP2 & CP3 = ESR1, ESR9-10, ESR14**
- S8 'Tools for pollution control and mitigation of streams, lakes and ground water' (UCPH), 3 ECTS. **CP4 = ESR11-13, ESR15-16**
- C5 'Project leadership and management' (MUC), 3 ECTS. **All fellows**

NOTE: S6, S7 and S8 will run in parallel – see above in green which fellows are supposed to take which courses. It is possible to switch to one of the other courses if agreed with your supervisor.



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Course S6 'Screening natural toxins: biological techniques and biosensors in combination with advanced mass spectrometry techniques' (CSIC) - CP1 = ESR2-8

Note that three courses run in parallel

Monday 4 th February		
Time	Program/Title & rough content	Lecturer
No later than 14:00	Fellows' arrival to Residència d'Investigadors and check in.	
13:00 – 14:00	Lunch	
Afternoon	Course presentation Sampling, preservation, extraction and purification approaches Summary of chromatography coupled to advanced mass spectrometry approaches	Encarna Moyano Oscar Nuñez Marinella Farré
20:30 -	Dinner	
Tuesday 5 th February		
Time	Program/Title & rough content	Lecturer
Morning	General Introduction to Biological approaches Immunochemical Techniques Toxicity Assays Biosensors	Juan Pablo Salvador Marinella Farré
13:00 – 14:00	Lunch	
Afternoon	Effect-directed analysis (EDA and Toxicity Identification and Evaluation (TIE) Studies Immunoassays practical session	Werner Brack Marta Llorca Oscar Nuñez Marinella Farré





20:30 -	Dinner	
Wednesday 6th February		
Time	Program/Title & rough content	Lecturer
Morning	Case studies – Preparation session Preparation of a biological sampling, sample preservation and analysis strategy using both biological and chemical techniques	Oscar Nuñez Marta Llorca Marinella Farré
13:00 – 14:00	Lunch	
Afternoon	Case studies – Students presentations and discussion Preparation of a biological sampling, sample preservation and analysis strategy using both biological and chemical techniques	Oscar Nuñez Marta Llorca Marinella Farré
20:30 -	Dinner	





Course S7 ' Modeling persistence and transport of organic contaminants in soils, sediments and aquifers' (SU) - CP2 & CP3 = ESR1, ESR9-10, ESR14

Note that three courses run in parallel

Monday 4 th February		
Time	Program/Title & rough content	Lecturer
No later than 14:00	Fellows' arrival to Residència d'Investigadors and check in.	
13:00 – 14:00	Lunch	
Afternoon	<p>Key Concepts to Model Chemicals in the Environment</p> <ul style="list-style-type: none"> • Mass balance • Equilibrium versus steady state • Environmental transport processes • Residence times versus persistence • Chemical properties and the “3 solubilities” • Review of sorption to organic matter from water <p>Multimedia Models & The Fugacity Approach</p> <ul style="list-style-type: none"> • Thermodynamic fundamentals • Partition coefficients in multimedia compartments • Z values to relate concentration to fugacity • Level I and II mass balance calculations 	Matthew MacLeod
20:30 -	Dinner	
Tuesday 5 th February		
Time	Program/Title & rough content	Lecturer
Morning	<p>Modeling Environmental Transport Processes</p> <ul style="list-style-type: none"> • Diffusive versus nondiffusive transport • Molecular diffusion in a phase & Fick's law • Turbulent diffusion within a phase • Diffusion in porous media such as soils • Diffusion between phases • Whitman 2-film model <p>Ionizable Substances & Persistence</p>	Matthew MacLeod





	<ul style="list-style-type: none"> • Modeling partitioning of ionizable substances using distribution coefficients • Environmentally relevant degradation pathways • First-order and pseudo-first order kinetics • Single-phase versus multimedia persistence 	
13:00 – 14:00	Lunch	
Afternoon	Modeling Partitioning of Natural Toxins Using Quantum Chemistry and Statistical Thermodynamics (COSMO-THERM)	Ines Rodriguez-Leal Matthew MacLeod
20:30 -	Dinner	
Wednesday 6th February		
Time	Program/Title & rough content	Lecturer
Morning	Introduction to Environmental modelling with Daisy <ul style="list-style-type: none"> • Water dynamics in soils • Solute transport • Heat transport • DAISY Case Study for Ptaquiloside from Bracken 	Efstathios Diamantopoulos Daniel Jorgensen Hans Chr. Bruun Hansen
13:00 – 14:00	Lunch	
Afternoon	From Soil to Catchment Scale: Regional Scale River Catchment Modeling of Natural Toxins <ul style="list-style-type: none"> • Case study of upscaling DAISY • Modeling contaminants in the Danube River system Predicting Natural Toxin Degradability in Water Treatment Facilities <ul style="list-style-type: none"> • (Matt lectures on QSARs for this purpose) 	Efstathios Diamantopoulos Ian Cousins Matthew MacLeod
20:30 -	Dinner	





Course S8 'Tools for pollution control and mitigation of streams, lakes and ground water' (UCPH) - CP4 = ESR11-13, ESR15-16

Note that three courses run in parallel

Monday 4 th February		
Time	Program/Title & rough content	Lecturer
No later than 14:00	Fellows' arrival to Residència d'Investigadors and check in.	
13:00 – 14:00	Lunch	
14.00 - 14.30	Introduction - outline of the course	Hans Chr. B. Hansen
14.30 - 16.00	Overview of water treatment technologies	Marcel Schneider/ all
16.00 - 16.15	Break	
16.15 - 17.10	Advanced methods for water treatment – colloquim	Natasa Skrbic
17.10 - 18.00	Debate 1: Which methods and processes should be particularly relevant for natural toxins? Water cleaning at the reservoir, at the waterwork or at the consumer?	Students; Hans Christian fascilitator
20:30 -	Dinner	
Tuesday 5 th February		
Time	Program/Title & rough content	Lecturer
9.00 - 10.00	Cyanobacterial blooms: Causes, spread, environmental and health effects, and regulation (WHO)	Ludek Blaha
10.00 - 10.30	Natural attenuation of toxins in lake water	Elizabeth Janssen
10.30 - 10.45	Break	
10.45 - 11.15	Remediation of lakes affected by cyanobacterial blooms - a case study	Ludek Blaha
11.15 - 11.45	Geosmin and other substances impacting the quality of surface waters	Bjarne W. Strobel
11.45 - 13.00	Debate 2 on remediation/mitigation methods and strategies for natural toxins in lake waters / student driven	Students; Lilli fascilitator





13:00 – 14:00	Lunch	
14.00 - 14.30	Land use and water quality - an intro	Hans Chr. B. Hansen
14.30 - 15.00	Land use, pesticides and groundwater	Sarah Christensen, Ann-Katrine Pedersen
15.00 - 16.00	Framework for forecasting pesticide leaching (FOCUS): i) intro of the framework for groundwater, and ii) modelling approach.	Bjarne W. Strobel, Efsthios Diamantopoulos
16.00 - 16.15	Break	
16.15 - 16.35	Mitigation options at the catchment scale – intro	Hans Chr. B. Hansen
16.35 - 17.00	Case: Use of black carbon for pollutant sesquestration	Thomas Bucheli
17.00 - 18.00	Debate: Management control of natural toxins. How do we combine toxin database data, info on plant cover, monitoring data, modelling and other info to predict and control natural toxin leaching	Students; Thomas fascilitator
20:30 -	Dinner	
Wednesday 6th February		
Time	Program/Title & rough content	Lecturer
The course is run together with course S7 on this day (see course S7 for an agenda)		





Water workshop (Stakeholder meeting) - **All**

Thursday 7th February (morning)

Program

8:30 - 9:00	Arrival and coffee
9:00 - 9:15	Welcome and outline / <i>Prof. Hans Christian Bruun Hansen (University of Copenhagen, DK)</i>
9:15 - 9:30	Water Supply Companies presentation and address / <i>all</i>
9:30 - 9:45	Treatments to produce drinking water and control of organic contaminants / <i>Dr. Agustina de la Cal (Aigües de Barcelona, ES)</i>
9:45 - 10:00	Managing the risk of Bracken toxins in drinking water/ <i>Water Quality Strategy Manager John Haley (Yorkshire Water, UK)</i>
10:00 - 10:15	Pesticides in drinking water / <i>Dr. Sarah B. Jørgensen; Dr. Ann-Katrin Pedersen (Greater Copenhagen Utility, HOFOR A/S, DK)</i>
10:15 - 10:35	Coffee break
10:35 - 11:00	Natural toxins in drinking water reservoirs - new insight from NaToxAq / <i>pitches from Early Stage Researchers (ESRs, see below who our ESR are and what they are working on)</i>
11:00 - 11:15	Removal of organic contaminants at water works / <i>Dr. Florian B. Wagner (Krüger A/S - Veolia Water Technologies, DK)</i>
11:15 - 11:30	Removal of toxins from raw water - an overview / <i>Early Stage Researcher Marcel Schneider (Masaryk University, CZ)</i>
11:30 - 11:45	Cold plasma - a new technology for water cleaning / <i>Prof. Jürgen Kolb (Leibniz Institute for Plasma Science (LIPS))</i>
11:45 - 11:55	Communication and Trust / <i>Water Quality Expert Anne Esbjørn (VCS Denmark Ltd, DK)</i>
11:55 - 12:10	Title to be confirmed / <i>Susana González (Cetaqua)</i>
12:10- 12:20	Rounding off /
12:20- 13:00	Time to mingle and sharing knowledge
13:00- 14:00	Lunch





Midterm Review Meeting - All

Thursday 7th February (afternoon)

14:00 - 14:15	Introduction (REA Project Officer, Monitor and Project Coordinator)
14:15 - 14:45	Tour de table (all scientists-in-charge)
14:45 - 15:45	Coordinator's report (Hans Chr. B. Hansen), covering the following aspects: <ul style="list-style-type: none">- Scientific- Training- Networking- Management
15:45 - 16:05	<i>Break</i>
16:05 - 16:45	Fellows' individual reports – Power Point Presentations (<i>First part</i>): <ul style="list-style-type: none">16:05 - 16:15 ESR 1: Inés Rodríguez Leal (SU)16:15 - 16:25 ESR2: Xiaomeng Liang (UCPH)16:25 - 16:35 ESR3: Massimo Picardo (CSIC)16:35 - 16:45 ESR4: Bettina Gro Sørensen (UFZ)
16:45 – 17:00:	<i>short break</i>
17:00 - 17:40	Fellows' individual reports – Power Point Presentations (<i>Second part</i>): <ul style="list-style-type: none">17:00 - 17:10 ESR5: Mulatu Yohannes Nanusha (UFZ)17:10 - 17:20 ERS6: Daria Filatova (CSIC)17:20 - 17:30 ESR7: Vaidotas Kisielius (MUC)17:30 - 17:40 ESR8: Jawameer Rasool Hama (UCPH)
17:40 – 20:30	<i>Free time</i>
20:30 - ?	Dinner. We meet at ???? and walk together to restaurant





Midterm Review Meeting (continued)- All

Friday 8th February (morning)

8:45 – 9:00	Short presentation of the agenda of the day (Hans Chr. B. Hansen),
9:00 - 10:00	Fellows' individual reports – Power Point Presentations (<i>third part</i>):
	9:00 - 9:10 ESR9: Carina Schönsee (WBF)
	9:10 – 9:20 ESR10: Regiane Sanches Natumi (EAWAG)
	9:20 - 9:30 ESR11: Daniel Bernardo Garcia Jorgensen (UCPH)
	9:30 - 9:40 ESR12: Marcel Schneider (MU)
9:40-9:55	<i>short break</i>
9:55 - 10:00	Fellows' individual reports – Power Point Presentations (<i>forth part</i>):
	9:55 - 10:05 ESR13: Natasa Skrbic (HOFOR)
	10:05 - 10:15 ESR14: Barbara Kubičková (MU)
	10:15 - 10:25 ERS15: Bilal Tariq (Fera)
	10:25 – 10:35 ESR16: Ellie Stone (Fera)
10:35 - 11:00	<i>Break</i>





11:00 - 12:00

Meeting between all the MC fellows and the Project Officer and External Expert. *(In separate room)*

In the meantime:

11:00 - 12:00

Supervisory Board meeting (all PIs + Coordinator).

12:00 - 12:30

Restricted session. (Is a session without the fellows – all other participants are present together with the Project Officer and External Expert. The fellows have a break during this session)

12:30 - 13:00

Feedback and open discussion (all participants).

13:00 – 14:00

Lunch

NOTE: See the agenda of the Supervisory Board meeting on the following pages





Supervisory Board meeting – All PIs

Friday 8th February (11:00 – 12:00)

Agenda:

- 1) Welcome and presentation of agenda
- 2) Short overview of common expenses so far
- 3) Short overview of upcoming deliverables and milestones
- 4) 4th PhD school, June 2019, Leipzig
- 5) Final conference, April 2020, Czech Republic
- 6) Miscellaneous and ending the meeting

11:00-11:05 **Presentation of the agenda**

Presenter: Coordinator Prof Hans Chr. Bruun Hansen

11:05-11:15 **Short overview of common expenses so far and upcoming deliverables and milestones**

Presenter: Project Manager Kristine Kirkensgaard

Purpose: We have promised to give an update at each training event regarding how much of the funds have been spent for the PhD schools.

We will also prepare all for which deadlines is when during the next half year. There are many deliverables coming up at the end of February.

11:15-11:25 **1st Periodic Report**

Presenter: Senior EU Liaison Officer Karin Norris

Purpose: The 1st Periodic report should be submitted on 28th of February. Karin will present what should be included and what the financial aspects are.



11:25-11:40 **4th PhD school, 3-8 June 2019, Leipzig**

Presenter: Prof. Werner Brack

Purpose: The dates and time schedule of the next training event will be presented.

11:40-11:55 **Final conference, April 2020, Czech Republic**

Presenter: Dr. Klára Hilscherová

Purpose: We will discuss the exact timing, location and most importantly the form and content of the final conference of NaToxAq

11:55-12:00 **Miscellaneous and ending the meeting**





Common discussion - All

Friday 8th February (afternoon – 14:00 – ~16:30)

Agenda

- 1) Follow up on Midterm Review meeting – actions to be taken (Hans Chr)
- 2) Challenges, strategic points and prioritization for the last 1.5 years - (Hans Chr)
- 3) Discussion about the final conference; where, when, scope (Barbara/Klára)
- 4) Short presentation of plan for Leipzig (Werner)
- 5) Presentation of plan for webinars (Hans Chr)
- 6) Discussion about outreach incl. popular science and media news (Hans Chr)
- 7) Dissemination. Where are we at the moment, collaborative publications, midterm paper (Hans Chr)

20:30 Dinner





Excursion - All

Saturday 9th February (full day)

Agenda to come



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Day off

Sunday 10th February

There is nothing planned on this day and no meals provided (except breakfast) in order to give the freedom to go explore Barcelona



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Course C 'Project leadership and management' (MUC) – All fellows

Monday 11 th February		
Time	Program/Title & rough content	Lecturer
09:00-10:00	The origins of project leadership	Lars H. Rasmussen
10:00-10:45	Management and leadership styles, incl. organization of research groups and working with external partners	Lars H. Rasmussen
10:45-11:00	Break	
11:00-12:30	Management and leadership styles, incl. organization of research groups and working with external partners - con't	Lars H. Rasmussen
12:30-13:00	The Project and its Impact on Project Leadership	Bettina, Jwameer, Xiaomeng, Natasa
13:00 – 14:00	Lunch	
14:00-15:00	The project work form, activity planning and uncertainties	Lars H. Rasmussen
15:00-15:30	Phase B - Start-up	Mulato, Daria, Vaidotas, Marcel, Barbara
15:30-15:45	Break	
15:45-16:00	The project work form, activity planning and uncertainties - con't	
20:30 -	Dinner	
Tuesday 12 th February		
Time	Program/Title & rough content	Lecturer
9.00 - 10.00	Resource spotting, stakeholder analysis and management	Lars H. Rasmussen
10:00-10:45	Group problem solving – the House	
10:45-11:00	Break	
11:00-11:30	Building Key Relationships	Massimo, Regiane, Daniel, Inés, Carina





11:30-12:00	Instructions, meetings and negotiations	Lars H. Rasmussen
12:00-13:00	Leadership without authority to instruct - aspects of culture and gender	Dr. Marta Llorca, CSIC
13:00 – 14:00	Lunch	
14:00-16:00	Planning for leadership and career	Lars H. Rasmussen

Goodbye and see you all in Leipzig, Germany, for the 4th PhD school held on 3-8 June 2019 (<https://natoxaq.ku.dk/training/4th-phd-school-natoxaq/>)

