

ANALYTICAL METHODS in CHEMICAL ECOLOGY

a post graduate course (doktorandkurs)

when: February 6 - 24, 2012

where: Chemical Ecology, Plant Protection Biology,
Swedish University of Agriculture (SLU), Alnarp

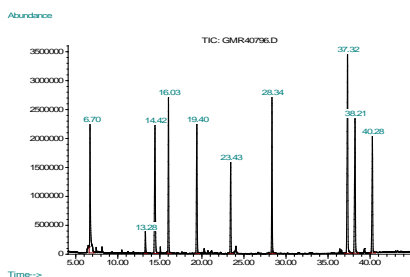
students: maximum 18 participants

course fee: SEK 3.000:-

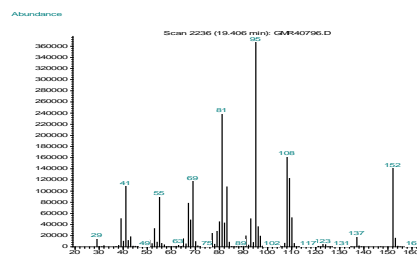
This 4½ ECTS course is an introduction to modern analytical methods used in Chemical Ecological and Ecotoxicological research, such as:

- methods for sampling organic compounds
- understanding chromatography; both gas chromatography and liquid chromatography
- how to choose an analytical column, and why ...
- different methods for identification of organic compounds
- methods for quantification, and the reliability of quantitative analysis

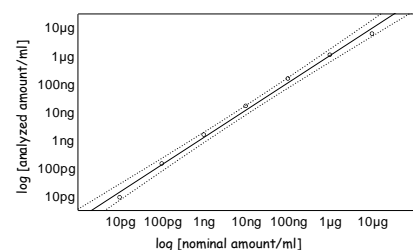
The course will also include a practical part: volatile collection, sample preparation, GC-MS analysis, and evaluation, using the analytical instrumentation at Chemical Ecology, Plant Protection Biology, Swedish University of Agriculture (SLU), Alnarp



separation



identification



quantification



MOST WELCOME!!!!

/Göran Birgersson
course leader



Insect Chemical Ecology
Ethology and Evolution

postgraduate course: ANALYTICAL METHODS IN CHEMICAL ECOLOGY – February 6 – 24, 2012

week	February	am = 09.15 – 12.00 – lectures		pm = 13.00 – 17.00 – lab work	
6	Monday 6	introduction for new co-workers: lab routines, safety regulations, etc	G	practically & safety in the lab ...	
	Tuesday 7	introduction to Analytical Methods in Chemical Ecology	G	group 1: make adsorb. column & aeration	see detailed schedule below
	Wednesday 8	collection methods: analysis in general, aeration / adsorbents ...	G	group 2: make adsorb. column & aeration	introduction to:
	Thursday 9	introduction to HPLC-DAD-MS / EAG & GC-EAD / SSR & GC-SSR		introduction to wind tunnel / SSR & GC-SSR / patch clamp	
	Friday 10	collection methods (continued), gas chromatography	G	group 3: make adsorb. column & aeration	HPLC-MS
7	Monday 13	gas chromatography (continued) – chromatography in general	S	group 1: extraction & start of GC-MS	wind tunnel
	Tuesday 14	liquid chromatography (HPLC) – Johanna Witzell	S	group 2: extraction & start of GC-MS	EAG & GC-EAD
	Wednesday 15	identification: Kováts index, FTIR, UV-Vis	S	group 3: extraction & start of GC-MS	SSR/SCR & GC-SSR
	Thursday 16	mass spectrometry	S	group A: processing GC-MS data	Patch clamp
	Friday 17	mass spectrometry (continued)	S	group B: processing GC-MS data	Optical Imaging
8	Monday 20	alternative massspectrometric methods, quantitative analysis	S	group A: interpretation of GC-MS data	
	Tuesday 21	introduction to mass spectrometric interpretation	S	group B: interpretation of GC-MS data	see detailed schedule below
	Wednesday 22	mass spectrometric interpretation (continued)	S	group A: interpretation of GC-MS data	
	Thursday 23	mass spectrometric interpretation (continued)	S	group B: interpretation of GC-MS data	
	Friday 24	results from laboratory work – discussion; course evaluation	S	"olfaction in the daily life ..."	

lectures will be in Agricum: Grodden (G) or Skörden (S)

lab.work in chemistry lab or the small seminar rooms "Akvariet" or "Kapellet" .

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week	February	pm = 13.00 – 17.00 – lab work - o – meeting point outside the seminar room <i>The Aquarium</i>			
		group 1	group 2	group 3	
6	Monday 6	practically & safety in the lab			
	Tuesday 7	make adsorption columns, aeration	introduction to HPLC-DAD-MS	introduction to EAG & GC-EAD	
	Wednesday 8	introduction to EAG & GC-EAD	make adsorption columns, aeration	introduction to HPLC-DAD-MS	
	Thursday 9 am	introduction to HPLC-DAD-MS	introduction to EAG & GC-EAD	introduction to SSR/SCR & GC-SSR	
	Thursday 9 pm	introduction to wind tunnel @ 14.00	introduction to SSR/SCR & GC-SSR	introduction to patch clamp / GC-PC	
	Friday 10	introduction to SSR/SCR & GC-SSR	introduction to wind tunnel @ 14.00	group 3: make adsorption columns	
7	Monday 13	extraction & GC-MS	introduction to optical imaging	start aeration	introduction to wind tunnel @ 14.00
	Tuesday 14	introduction to patch clamp & GC-PC	extraction & GC-MS	introduction to optical imaging	
	Wednesday 15	introduction to optical imaging	introduction to patch clamp & GC-PC	extraction & GC-MS	
	Thursday 16	group A: processing GC-MS data	group B: work on lab report	A: processing GC-MS data	B: work on lab report
	Friday 17	group A: work on lab report	group B: processing GC-MS data	A: work on lab report	B: processing GC-MS data
8	Monday 20	group A: interpretation of MS data	group B: work on lab report	A: interpretation of MS data	B: work on lab report
	Tuesday 21	group A: work on lab report	group B: interpretation of MS data	A: work on lab report	B: interpretation of MS data
	Wednesday 22	group A: interpretation of MS data	group B: work on lab report	A: interpretation of MS data	B: work on lab report
	Thursday 23	group A: work on lab report	group B: interpretation of MS data	A: work on lab report	B: interpretation of MS data
	Friday 24	"olfaction in the daily life ..."			

HPLC-DAD-MS – Karl-Erik Gustavsson

Wind tunnel – Paul Becher – *Drosophila melanogaster* and Saveer Ahmed – *Spodoptera littoralis*

EAG & GC-EAD – Christian Schiebe *Ips typographus*

SSR/SCR & GC-SSR – Shahid Majeed *Aedes aegypti*

Patch Clamp & GC-PC – Sophie Kromann *Spodoptera littoralis*

Optical imaging – Anna Balkenius *Manduca sexta* / *Spodoptera littoralis*