

PACN GC-MS WORKSHOP PROGRAMME
JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY
DEPARTMENT OF CHEMISTRY
2nd - 6th MARCH, 2009

DAY 1: MONDAY 2nd MARCH, 2009

OPENING CEREMONY:		
Venue: Lecture Theatre (ACC100)		
Chair: Prof S. Chacha		
Master of ceremony: Dr Tsanuo, M.K. (Chairman, Chemistry Department - JKUAT)		
TIME	EVENT	PRESENTERS
8.30 - 9.00	(a) Arrival & Registration of Participants	Secretariat
9.00 - 9.45	(b) Remarks:- CoD Chemistry	Dr Tsanuo, M.K.
	- Dean, Faculty of Science	Prof Mulati D.
	- Chair PACN Kenya	Prof Wandiga S.O.
	-DCV (RPE)	Prof Kahangi E.
	-DVC (APD)	Prof Njeru F.
	-DVC (AA)	Prof Odhiambo R.
9.45 - 10.15	Official Opening & Opening remarks	Prof Imbuga M.
10.15 - 10.45	<i>Tea Break</i>	
TRAINING SESSION 1		
Venue: IEET ENV LAB		
10.45 - 11.30	GC Instrumentation:	Prof. Antony Gachanja/ Dr. Steve Lancaster
	(a) Gas chromatography-basic theory	''
	(b) Columns and separation considerations	''
	(c) Injection systems	''
11.30 - 12.30	Mass Spectrometer instrumentation:	''
	(a) Basic Theory	''
	(b) Ionization	''
	(c) Mass spectrometer types	''
12.30 - 1.00	Open Discussion	
1.00 - 2.00	<i>Lunch Break</i>	
TRAINING SESSION 2		
Venue: IEET ENV LAB		
2.00 - 3.30	Practical Session 1: IEET ENV LAB/GC-MS LAB	
	Basic Maintenance for GC-MS	Prof. Antony Gachanja/ Dr. Steve Lancaster
3.30 - 4.0	<i>Tea break</i>	
4.00 - 5.00	Basic Maintenance for GC-MS (Contd)	''
5.30 - 7.00	COCKTAIL Venue: AICAD Sponsored by: PACN Kenya	

DAY 2: TUESDAY 3rd MARCH, 2009

TRAINING SESSION 3		
Venue: IEET ENV LAB		
8.30 - 10.00	Basic Spectral interpretation:	
	(a) Introduction	Prof. Antony Gachanja/ Dr. Steve Lancaster
	(b) Isotope abundances – how can these be useful?	“
	(c) Spectral appearance including some examples	“
10.00 - 10.30	<i>Tea Break</i>	
10.30 - 12.30	Elemental formulas including	“
	(a) isotopic abundances,	“
	(b) use of abundances for determining carbon and oxygen, rings plus double bonds equivalents	“
12.30 - 1.00	Open Discussion	
1.00 - 2.00	<i>Lunch Break</i>	
TRAINING SESSION 4		
Venue: IEET ENV LAB		
2.00 - 3.30	Practical Session 2:	
	Exercises to determine simple structures	Prof. Antony Gachanja/ Dr. Steve Lancaster
3.30 - 4.00	<i>Tea break</i>	
4.00 - 5.00	Exercises to determine simple structures (Contd)	“

DAY 3: WEDNESDAY 4TH MARCH, 2009

TRAINING SESSION 5		
Venue: IEET ENV LAB		
8.30 - 10.00	More advanced methods in spectral interpretation including	Prof. Antony Gachanja/ Dr. Steve Lancaster
	(a) Nitrogen rule	“
	(b) Molecular ion	“
	(c) Molecular weight determination	“
10.00 - 10.30	<i>Tea break</i>	
10.30 - 12.30	Single bond cleavage	“
	Multiple bond cleavage	“
	Rearrangements, specifically McLafferty	“
12.30 - 1.00	Open Discussion	
1.00 - 2.00	<i>Lunch Break</i>	
TRAINING SESSION 6		
Venue: IEET ENV LAB		
2.00 - 3.30	Exercises in spectral interpretation	“
3.30 - 4.00	<i>Tea break</i>	
4.00 - 5.00	Exercises in spectral interpretation (Contd)	“

DAY 4: THURSDAY 4TH MARCH, 2009

TRAINING SESSION 7		
Venue: GC-MS LAB		
8.30 - 10.00	Practical session 3	
	Setting up and tuning the mass spectrometer	Prof. Antony Gachanja/ Dr. Steve Lancaster
10.00 - 10.30	<i>Tea break</i>	
10.30 - 1.00	Setting up and tuning the mass spectrometer (Contd)	''
1.00 - 2.00	<i>Lunch break</i>	
2.00 - 3.30	Quantitative exercises including the use of internal standards	''
3.30 - 4.00	<i>Tea break</i>	
4.00 - 5.00	Quantitative exercises including the use of internal standards (Contd)	''

DAY 5: FRIDAY 5TH MARCH 2009

TRAINING SESSION 8		
Venue: IEET ENV LAB		
8.30 - 10.00	Sample pre-treatment including	Prof. Antony Gachanja/ Dr. Steve Lancaster
	- solid phase extraction	''
	- liquid/liquid extraction	''
	Identification of unknowns in an analgesic drug sample	''
	Designing experiments to quantify some compounds in the above matrix	''
10.00 - 10.30	<i>Tea Break</i>	
10.30 - 11.30	Open Discussion	
11.30 - 1.00	Way forward	
1.00 - 2.30	<i>Lunch Break</i>	
2.30 - 3.30	Closing Ceremony	