

2013



Universidad
Complutense
Madrid



CPOTS 2013 Daily
program

Prepared by Theo Zouros



CPOTS 2013: 3rd ERASMUS IP on Charge Particle Optics – Theory and Simulation Dept. of Physics, University of Crete, Heraklion, GREECE

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[CPOTS 2013 – DAILY PROGRAM OF LECTURES AND ACTIVITIES (AUG 15 – 31)

Version 17 – September 15, 2013



Education and Culture DG
Lifelong Learning Programme

CPOTS 2013 – Daily Program of lectures and activities (Aug 15 – 31)

AUGUST 2013 - calendar of events

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
29	30	31	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15 CPOTS 2013 Arrivals 20:30 – Barbecue Party Live entertainment	16 CPOTS 2013 9:00 - 17:00 SIMION 8.1 workshop 18:00-20:00 Beach activities 20:30 Teachers dinner	17 CPOTS 2013 9:00 - 17:00 SIMION 8.1 workshop 18:00-20:00 Beach activities 20:30 Night on the town	18 CPOTS 2013 Day off
19 CPOTS 2013 9:00 - 17:30 Unit 1 18:00-20:00 Beach activities	20 CPOTS 2013 9:00 - 17:00 Unit 1 17:00-20:30 Hike Mt. Stroumboulas	21 CPOTS 2013 9:00 - 17:30 Unit 2 18:00-20:00 Beach activities 20:30 Night on the town	22 CPOTS 2013 9:00 - 17:30 Unit 2 18:00-20:00 Beach activities	23 CPOTS 2013 9:00 - 17:00 SIMION 8.1 Adv. Workshop 18:00-20:00 Beach activities 20:30 Teachers dinner	24 CPOTS 2013 9:00-19:00 CPOTS Excursion Gortys-Festos- Matala	25 CPOTS 2013 Day off 10:30-13:00 Optional Visit to Knossos Archaeological Museum
26 CPOTS 2013 9:00 - 17:30 Unit 3 17:30 – 19:00 Visit to IESL/FORTH Research Centre	27 CPOTS 2013 9:00 - 17:30 Unit 3 18:00-20:00 Beach activities 20:30 Teachers dinner	28 CPOTS 2013 9:00 - 17:00 Unit 4 17:30-20:00 Visit Knossos Palace Guided Tour	29 CPOTS 2013 9:00 - 17:30 Unit 4 14:30-15:00 CPOTS Group photo 18:00-20:00 Beach activities	30 CPOTS 2013 9:00 - 13:30 SIMION 8.1 Project presentations and Final Exam 14:30-17:30 CPOTS Evaluations Certification ceremony 20:00-23:00 CPOTS Farewell Dinner	31 CPOTS 2013 Departures	1

CPOTS 2013 – Daily Program of lectures and activities (Aug 15 – 31)

Non-class days

Class days

Social/Sports/Cultural activities

Procedures

Supported Stay at CPOTS: up to 17 days max

Attendance:

- Number of supported teachers: 10
- Number of supported students: 19
- Number of local (UoC) teachers: 1
- Number of local (UoC) students: 5
- Guests: 4 (1 teacher, 3 students)
- Total number of participants: 40

Social, Educational and Cultural Program:

- Thursday Aug 15 - Arrivals – check in, CPOTS Barbecue Reception¹
- Friday Aug 16 - Beach activities²
- Saturday Aug 17 - Beach activities², Night on the town²
- Sunday Aug 18 - **Open**
- Monday Aug 19 - Beach activities²
- Tuesday Aug 20 - Hike to top of **Mt. Stroumboulas**² (798m) - Teachers dinner²
- Wednesday Aug 21 - Beach activities², Night on the town²
- Thursday Aug 22 - Beach activities²,
- Friday Aug 23 - Beach activities²,
- Saturday Aug 24 - CPOTS **All day excursion to Gortys, Festos and Matala**
- Sunday Aug 25 - Proposed visit to the Heraklion Archaeological **Museum**³ (9:00-15:00)
- Monday Aug 26 - CPOTS **Guided tour of the IESL/FORTH research centre**¹
- Tuesday Aug 27 - Beach activities²
- Wednesday Aug 28 - Visit to the **Knossos Archaeological site**¹ (open 9:00-19:00)
- Thursday Aug 29 - No activities planned: student preparation for project presentations and SIMION final exams
- Friday Aug 30 - CPOTS Farewell dinner¹ (**Ouzeri Terzakis** 20:00-23:00)
- Saturday Aug 31 - Check out - Departures

CPOTS 2013 – Daily Program of lectures and activities (Aug 15 – 31)

¹Free to all CPOTS participants, ²Self-organized suggested social activity, ³Suggested cultural outing

Erasmus IP Teachers:

Prof. Theo Zouros (CPOTS Project Coordinator)	- Atomic physics with accelerators, Electron spectroscopy, SIMION Dept. of Physics and NCSR Demokritos <i>Univ. of Crete, Heraklion, Crete, Greece</i>
Prof. Mevlut Dogan Dr. Zehra Nur Özer	- e2e atomic physics, Electron spectroscopy, - CPOTS 2011 PhD student, e2e atomic physics, SIMION <i>Dept. of Physics, Afyon Kocatepe Univ., Afyonkarahisar, Turkey</i>
Prof. Genoveva Martínez López Pilar Garcés	- Electromagnetism, Electrostatic Lenses, Wien Filters - PhD student, CPOTS 2011, SIMION Labs <i>Dept. of Applied Physics, Univ. Complutense Madrid, Spain</i>
Prof. Hamdi Şükür Kiliç	- Atomic Physics, TOF and Laser Mass Spectrometry, <i>Dept. of Physics, Selçuk Univ. Konya, Turkey</i>
Prof. Christoph Lemell	- Ion surface interactions, SIMION <i>Institute of Theoretical Physics, Technische Univ. Wien, Austria</i>
Prof. Manolis Benis	- Atomic Physics, Electron spectroscopy and Imaging, SIMION <i>Dept. of Physics, Univ. of Ioannina, Greece</i>
Prof. Jason Greenwood Louise Belshaw	- Atomic physics, Ion Traps, SIMION - PhD student, CPOTS 2012, TOF, SIMION Labs <i>Dept. of Physics and Astronomy, Queen's Univ. Belfast, N. Ireland</i>
Prof. Béla Sulik	- Atomic Physics with accelerators, Electron spectroscopy <i>Univ. of Debrecen and ATOMKI, Debrecen, Hungary</i>
Prof. Daniel Knapp (Guest)	- Mass Spectrometry, TOF, Molecular Beams, SIMION, Nuclear Physics <i>Medical University of South Carolina, Charleston, S. Carolina, USA</i>

SIMION support

David Manura



- SIMION 8.1 software developer and consultant,
- Technical Support with SIMION 8.1 issues and licensing



CPOTS 2013 – Daily Program of lectures and activities (Aug 15 – 31)

Program of Lectures – short summary



Workshop (3 days, 21 lectures, 21 hrs.):

- **Introductory Level** (2 days, 14 hrs., 14 lectures/labs)
- **Advanced Level** (1 day, 7 hrs., 7 lectures/labs)

CPO course + certification (9 days, 71 hrs.):

- **Unit 1. Transport of Charged Particle Beams** (2 days, 14 hours, 7 lectures, 3 labs, 1 exam)
- **Unit 2. Focusing Systems – Lenses – Ion Traps** (2 days, 14 hours, 6 lectures, 6 labs, 1 exam)
- **Unit 3. Energy and Momentum Analyzers** (2 days, 14 hours, 6 lectures, 6 labs, 1 exam)
- **Unit 4. TOF, Mass Spectrometry and Imaging** (2 days, 14 hours, 5 lectures, 4 labs, 1 exam)
- **Simulation Lab Exercises/Projects** (9 days, 28 hours)
- **Final Exams** (6 hours)

Total CPOTS 2013 (12 days, 83 hrs.):

- **Lectures (24 hrs.)**
- **Simulation Labs (40 hrs.)**
- **Projects (10 hrs.)**
- **Exams (Theory 4 hrs., Simulation lab 2 hrs.)**
- **Organization (3 hrs.)**

Free UoC Bus Service: On course days bus will leave promptly at 08:30 from near the hotels. It will return at the end of the day at the arranged time (between 16:30-17:30 depending on program). *Anyone who misses the bus will have to take a taxi (about 7 euros)!*

Bus driver: Mrs. Eva Fanouraki mobile: (+30) 6946721863

CPOTS 2013 – Daily Program of lectures and activities (Aug 15 – 31)

Thursday August 15

Day #	Time	Unit #	Title	Person responsible	activity
1	All day		Arrival of first participants mostly by late afternoon – check in at hotel		IP Hotel
	20:30-23:00		Reception Barbecue		IP Hotel – Pool area

CPOTS 2013 – Daily Program of lectures and activities (Aug 15 – 31)

Friday August 16 – SIMION 8.1 workshop



Day #	Time	Unit #	Title	Person responsible	activity
2		S	SIMION 8.1 workshop		
	09:00-09:30	WS	Welcome to CPOTS 2013 – Program presentation	Theo Zouros	Lecture
	9:30-10:00				
	10:00-10:30	S1	Introduction to SIMION 8.1 – Overview/Basics	Theo Zouros	Lecture
	10:30-11:00				
	11:00-11:30	Coffee Break			
	11:30-12:00	S2	Building the electrodes - Modifying PA geometries	Manolis Benis/ Zehra Nur Özer	Lab
	12:00-12:30				
	12:30-13:00	S3	Building the electrodes - Modifying PA geometries (continued)	Manolis Benis/ Zehra Nur Özer	Lab
	13:00-13:30				
	13:30-14:30	Lunch Break			Student Mensa
	14:30-15:00	S4	Solving Laplace's Equation: Loading, Saving, Refining and Fast Adjusting PAs	Jason Greenwood/ Pilar Garcés	Lab
	15:00-15:30				
	15:30-16:00	S5	Creating a Workbench – Positioning and Viewing PAs	Manolis Benis/ Pilar Garcés	Lab
	16:00-16:30				
	16:30-17:00	M	Meeting of all teachers to discuss program	Theo Zouros	Coffee room
	18:00-20:00		<i>Beach activities</i>		Beach near IP Hotel
	20:30-		Teachers Dinner	Theo Zouros	Restaurant to be announced

CPOTS 2013 – Daily Program of lectures and activities (Aug 15 – 31)

Saturday August 17 – SIMION 8.1 workshop



Day #	Time	Unit #	Title	Person responsible	activity
3		S	SIMION 8.1 workshop (continued)		
	09:00-09:30	S6	Defining, Flying and Recording Particles	T. Zouros/Pilar Garcés	Lab
	09:30-10:00				
	10:00-10:30	S7	Defining, Flying and Recording Particles (continued)	T. Zouros/Pilar Garcés	Lab
	10:30-11:00				
	11:00-11:30	Coffee Break			
	11:30-12:00	S8	User modifications of SIMION: Lua and the workbench	Christoph Lemell/ Zehra Nur Özer	Lab
	12:00-12:30				
	12:30-13:00	S9	User modifications of SIMION: Lua and the workbench (continued)	Christoph Lemell/ Zehra Nur Özer	Lab
	13:00-13:30				
	13:30-14:30	Lunch Break			
	14:30-15:00	S10	Introduction to building PAs from Geometry files	Manolis Benis/ Zehra Nur Özer	Lab
	15:00-15:30				
	15:30-16:00	S11	Building PAs from Geometry files - Examples	Manolis Benis/ Pilar Garcés	Lab
	16:00-16:30				
	16:30-17:00	S12	Magnetic Pas – Using Magnetic Fields in SIMION	Jason Greenwood/ Pilar Garcés	Lab
	18:00-20:00		<i>Beach activities</i>		Beach near IP Hotel
	20:30-		Social Outing in to the city	Manolis Benis	

CPOTS 2013 – Daily Program of lectures and activities (Aug 15 – 31)

Sunday August 18

Day #	Time	Unit #	Title	Person responsible	activity
4	All day		Free day for all – no organized activities		

CPOTS 2013 – Daily Program of lectures and activities (Aug 15 – 31)

Monday August 19

Day #	Time	Unit #	Title	Person responsible	activity
5		1	Transport of Charged Particle Beams		
	09:00-09:30	1.1	Charged particle motion in Electromagnetic Fields	Genoveva Martinez Lopez	Lecture
	09:30-10:00				
	10:00-10:30	1.2	Numerical methods for the calculation of charged particle trajectories	Genoveva Martinez Lopez	Lecture
	10:30-11:00				
	11:00-11:30	Coffee Break			Coffee room
	11:30-12:00	1.3	Monte Carlo simulations	Christoph Lemell	Lecture
	12:00-12:30				
	12:30-13:00	1.4	Numerical methods for solving Laplace equation	Genoveva Martinez Lopez	Lecture
	13:00-13:30				
	13:30-14:30	Lunch Break			Student Mensa
	14:30-15:00	SP1	SIMION Project assignments/Groups	Theo Zouros/ All project advisors	Lab
	15:00-15:30				
	15:30-16:00	SP2	Projects: Group meetings/organization/division of labor - discussions	All project advisors	Lab
	16:00-16:30				
	16:30-17:00	SP3	Projects discussion with advisors	All project advisors	Lab
	17:00-17:30				
	18:00-20:00		<i>Beach activities</i>		Beach near IP Hotel

CPOTS 2013 – Daily Program of lectures and activities (Aug 15 – 31)

Tuesday August 20

Day #	Time	Unit #	Title	Person responsible	activity
6	09:00-09:30	1.5	Gaussian Optics	Genoveva Martinez Lopez	Lecture
	09:30-10:00				
	10:00-10:30	1.6	Phase Space, Beam Emittance and the Liouville theorem	Christoph Lemell	Lecture
	10:30-11:00				
	11:00-11:30	Coffee Break			
	11:30-12:00	1.7	Transfer Matrices and First Order Beam Transport	Christoph Lemell	Lecture
	12:00-12:30				
	12:30-13:00	1.8	Exam Unit 1	Teachers of Unit 1	Lecture
	13:00-13:30				
	13:30-14:30	Lunch Break			
	14:30-15:00	Lab 1.1	SIMION lab exercises on Unit 1	Zehra Nur Özer/ Pilar Garcés	Lab
	15:00-15:30				
	15:30-16:00	Lab 1.2	SIMION lab exercises on Unit 1	Pilar Garcés/ Zehra Nur Özer	Lab
	16:00-16:30				
	16:30-17:00	Lab 1.3	SIMION lab exercises on Unit 1	Pilar Garcés/ Zehra Nur Özer	Lab
	17:00-20:30		<u>Hike (~80 minutes total) to the top of Mt. Stroumboulas (798 m)</u> Panoramic view of Heraklion and Bay of Amoudara <i>Equipment: Walking shoes (tennis shoes ok but no flip flops or high heels), 1lt water bottle, hat, sun cream, sun glasses.</i> Other links: http://www.pinkbike.com/video/268341/ Photos	Theo Zouros	Leave directly from Lab with private cars

CPOTS 2013 – Daily Program of lectures and activities (Aug 15 – 31)

Wednesday August 21

Day #	Time	Unit #	Title	Person responsible	activity
7		2	Focusing Systems – Lenses – Ion Traps		
	09:00-09:30	2.1	Introduction to Focusing Devices and Electrostatic Lenses	Mevlut Dogan	Lecture
	09:30-10:00				
	10:00-10:30	2.2	Aberrations in CPO	Genoveva Martinez Lopez	Lecture
	10:30-11:00				
	11:00-11:30		Coffee Break		
	11:30-12:00	2.3	Focal and Zoom Lens Properties	Mevlut Dogan	Lecture
	12:00-12:30				
	12:30-13:00	Lab 2.1	SIMION lab exercises on Unit 2 – Electrostatic Lenses	Zehra Nur Özer Pilar Garcés Mevlut Dogan	Lab
	13:00-13:30				
	13:30-14:30		Lunch Break		
	14:30-15:00	Lab 2.2	SIMION lab exercises on Unit 2 – Electrostatic Lenses	ZN Özer/P. Garcés Mevlut Dogan	Lab
	15:00-15:30				
	15:30-16:00	Lab 2.3	SIMION lab exercises on Unit 2 – Electrostatic Lenses	ZN Özer/P. Garcés Mevlut Dogan	Lab
	16:00-16:30				
	16:30-17:00	SP4	SIMION project preparations	project advisors	Lab
	17:00-17:30				
	18:00-20:00		<i>Beach activities</i>		Beach near IP Hotel
	20:30-		Social Outing in to the city	Manolis Benis	

CPOTS 2013 – Daily Program of lectures and activities (Aug 15 – 31)

Thursday August 22

Day #	Time	Unit #	Title	Person responsible	activity
8	09:00-09:30	2.4	Case studies of Electrostatic Lenses – Applications (e-gun etc.)	Mevlut Dogan	Lecture
	09:30-10:00				
	10:00-10:30	2.5	Magnetic Lenses + Sector Field Lenses (the quadrupole and 90 degree sector lenses)	Jason Greenwood	Lecture
	10:30-11:00				
	11:00-11:30		Coffee Break		
	11:30-12:00	2.6	Ion Traps	Jason Greenwood	Lecture
	12:00-12:30				
	12:30-13:00	2.7	Exam on Unit 2	Teachers of Unit 2	Lecture
	13:00-13:30				
	13:30-14:30	Lunch Break			
	14:30-15:00	Lab 2.4	SIMION lab exercises on Unit 2 – Electrostatic Lenses	ZN Özer/P. Garcés Mevlut Dogan	Lab
	15:00-15:30				
	15:30-16:00	Lab 2.5	SIMION lab exercises on Unit 2 – Magnetic Lenses	J. Greenwood L. Belshaw/M. Dogan	Lab
	16:00-16:30				
	16:30-17:00	Lab 2.6	SIMION Simulation lab Unit 2 – Ion Traps	J. Greenwood L. Belshaw/M. Dogan	Lab
	17:00-17:30				
	18:00-20:00		<i>Beach activities</i>		Beach near IP Hotel

CPOTS 2013 – Daily Program of lectures and activities (Aug 15 – 31)



Friday August 23 - Advanced SIMION 8.1 Workshop

Day #	Time	Unit #	Title	Person responsible	activity
9		AS	Advanced SIMION 8.1 Workshop		
	09:00-09:30	AS1	The Lua Programming language	Christoph Lemell	Lab
	09:30-10:00				
	10:00-10:30	AS2	Workbench User Programming	Christoph Lemell	Lab
	10:30-11:00				
	11:00-11:30		Coffee Break		
	11:30-12:00	AS3	Workbench User Programming - Examples	Christoph Lemell	Lab
	12:00-12:30				
	12:30-13:00	AS4	Accuracy in (SIMION) simulations	Theo Zouros	Lecture/Lab?
	13:00-13:30				
	13:3-14:30		Lunch Break		
	14:30-15:00	AS5	Using STL files with SIMION	Giannis Gennarakis/ Pilar Garces	Lab
	15:00-15:30				
	15:30-16:00	AS6	Electrons trajectories in a Laser Field	J. Greenwood/ L. Belshaw	Lab
	16:00-16:30				
	16:30-17:00	AS7	Complete examples using GEM files and User Programs	Tobias Bauer (UF)	Lecture
	18:00-20:00		<i>Beach activities</i>		Beach near IP Hotel
	20:30-		Teachers Dinner	Theo Zouros	Restaurant to be announced

CPOTS 2013 – Daily Program of lectures and activities (Aug 15 – 31)

Day #	Time	Unit #	Title	Person responsible	activity
Saturday August 24					
10	All day		CPOTS Excursion to Gortys, Festos and Matala (free for all CPOTS 2013 participants) <i>Bus leaves from IP hotel at: 9:00</i> <i>Gortys: 10:00-11:00</i> <i>Festos: 11:30-13:00</i> <i>Matala: 13:30-16:00</i> <i>Plouti (Zacharioudakis winery): 16:45-18:00</i> <i>Bus returns to IP hotel at: 19:00</i>	Theo Zouros	Excursion to archaeological sites, swim and lunch at Matala, visit winery on way back
Sunday August 25					
11			Free day for all – no organized activities		
	9:00-15:00		<i>Optional Visit to Knossos Archaeological Museum</i>		

CPOTS 2013 – Daily Program of lectures and activities (Aug 15 – 31)

Monday Aug 26

Day #	Time	Unit #	Title	Person responsible	activity
12		3	Energy and Momentum Analyzers		
	09:00-09:30	3.1	Introduction to Charged Particle Analyzers	Béla Sulik	Lecture
	09:30-10:00				
	10:00-10:30	3.2	Electrostatic Spectrometers: Basic Operation	Theo Zouros	Lecture
	10:30-11:00				
	11:00-11:30		Coffee Break		
	11:30-12:00	3.3	Electrostatic Spectrometers: Energy Resolution and Focusing Properties	Theo Zouros	Lecture
	12:00-12:30				
	12:30-13:00	L3.1	SIMION lab exercises on Unit 3 - electrostatic spectrometers	Theo Zouros Louise Belshaw Béla Sulik	Lab
	13:00-13:30				
	13:30-14:30		Lunch Break		
	14:30-15:00	L3.2	SIMION lab exercises on Unit 3 - electrostatic spectrometers	Louise Belshaw Zehra Nur Özer Béla Sulik	Lab
	15:00-15:30				
	15:30-16:00	L3.3	SIMION lab exercises on Unit 3 - electrostatic spectrometers	Louise Belshaw Zehra Nur Özer Béla Sulik	Lab
	16:00-16:30				
	16:30-17:00	SP5	SIMION project preparations	All project advisors	Lab
	17:00-17:30				
	17:30-19:00		<i>Visit to IESL/FORTH laboratories – Guided tour (10 min walk to FORTH)</i>	Manolis Benis	FORTH

CPOTS 2013 – Daily Program of lectures and activities (Aug 15 – 31)

Tuesday Aug 27

Day #	Time	Unit #	Title	Person responsible	activity
13	09:00-09:30	3.4	Momentum Dispersion and Magnetic Spectrometers	Béla Sulik	Lecture
	09:30-10:00				
	10:00-10:30	3.5	Particle Detectors and Electronics	Béla Sulik	Lecture
	10:30-11:00				
	11:00-11:30		Coffee Break		
	11:30-12:00	3.6	Exam on Unit 3	Teachers of Unit 3	Lecture
	12:00-12:30				
	12:30-13:00	L3.4	SIMION lab exercises on Unit 3 - magnetic spectrometers	L. Belshaw/P. Garcés Béla Sulik	Lab
	13:00-13:30				
	13:30-14:30		Lunch Break		
	14:30-15:00	L3.5	SIMION lab exercises on Unit 3	L. Belshaw/P. Garcés Béla Sulik	Lab
	15:00-15:30				
	15:30-16:00	L3.6	SIMION lab exercises on Unit 3	L. Belshaw/P. Garcés Béla Sulik	Lab
	16:00-16:30				
	16:30-17:00	SP6	SIMION project preparations	All project advisors	Lab
	17:00-17:30				
	18:00-20:00		<i>Beach activities</i>		Beach IP Hotel

CPOTS 2013 – Daily Program of lectures and activities (Aug 15 – 31)

Wednesday Aug 28

Day #	Time	Unit #	Title	Person responsible	activity
14		4	TOF, Mass Spectrometry and Imaging		
	09:00-09:30	4.1	Introduction to Mass Spectrometry and Molecular Ion sources	Dan Knapp	Lecture
	09:30-10:00				
	10:00-10:30	4.2	TOF and Re-TOF Mass Spectrometry	Hamdi Şükür Kiliç	Lecture
	10:30-11:00				
	11:00-11:30		Coffee Break		
	11:30-12:00	L4.1	SIMION Simulation lab Unit 4 - TOF	L. Belshaw/ZN Özer Hamdi Şükür Kiliç	Lab
	12:00-12:30				
	12:30-13:00	L4.2	SIMION Simulation lab Unit 4 – Re -TOF	L. Belshaw/ZN Özer Hamdi Şükür Kiliç	Lab
	13:00-13:30				
	13:30-14:30		Lunch Break		
	14:30-15:00	SP7	SIMION project preparations	All project advisors	Lab
	15:00-15:30				
	15:30-16:00	SP8	SIMION project preparations	All project advisors	Lab
	16:00-16:30				
	16:30-17:00				
	17:00-20:00		Visit Knossos Palace Archaeological site (free for all participant) UoC bus drop off at Amoudara then return to Amoudara)		UoC bus
	20:30-		Social Outing in to the city	Manolis Benis	

CPOTS 2013 – Daily Program of lectures and activities (Aug 15 – 31)

Thursday Aug 29

Day #	Time	Unit #	Title	Person responsible	activity
15	09:00-09:30	4.3	Velocity Map and Slice Imaging, COLTRIMS and Reaction Microscope	Manolis Benis	Lecture
	09:30-10:00				
	10:00-10:30	4.4	Proteomics and Tandem Mass Spectrometry	Dan Knapp	Lecture
	10:30-11:00				
	11:00-11:30		Coffee Break		
	11:30-12:00	4.5	Exam on Unit 4	All teachers of unit 4	Lecture
	12:00-12:30				
	12:30-13:00	L4.3	SIMION Simulation lab Unit 4 - Velocity Map Imaging (VMI) and Slice Imaging	L. Belshaw/ZN Özer Manolis Benis	Lab
	13:00-13:30				
	13:30-14:30		Lunch Break		
	14:30-15:00		CPOTS 2013 Group photo outside building by columns	Hamdi Şükür Kiliç	Lab
	15:00-15:30	L4.4	SIMION Simulation lab Unit 4 - Velocity Map Imaging (VMI) with a Lens	M. Benis/L. Belshaw Hamdi Şükür Kiliç	Lab
	15:30-16:00				
	16:00-16:30	SP9	SIMION project preparations	All project advisors	Lab
	16:30-17:00				

CPOTS 2013 – Daily Program of lectures and activities (Aug 15 – 31)

Friday Aug 30 – Final day: Project presentations, SIMION final Exam, Awards, Certification

Day #	Time	Unit #	Title	Person responsible	activity
16			SIMION Projects and Final Exam		
	09:00-09:30	SP10	SIMION 8.1 Student Project Presentations	G. Martinez Lopez/B. Sulik	Lecture
	09:30-10:00			H. Ş. Kiliç/M. Dogan	
	10:00-10:30	SP11	SIMION 8.1 Student Project Presentations (continued)	C. Lemell/M. Benis	
	10:30-11:00			T. Zouros/L. Belshaw P. Garcés/Z. Nur Özer	
	11:00-11:30		Coffee Break		
	11:30-12:00	SE1	SIMION 8.1 Comprehensive Final Exam	SIMION teachers	Lab
	12:00-12:30				
	12:30-13:00	SE2	SIMION 8.1 Comprehensive Final Exam (continued)	SIMION teachers	Lab
	13:00-13:30				
	13:30-14:30		Lunch Break		
	14:30-15:00	A1	IP Evaluations – Filling out Official and private Evaluation Forms	Mevlut Dogan	Lecture
	15:00-15:30				
	15:30-16:00	A2	Certification Ceremony/Awards	B. Sulik Gen Martinez Lopez	Lecture
	16:00-16:30				
	16:30-17:00	A3	Fill out travel forms	Theo Zouros	
	17:00-17:30				
	18:00-19:00		<i>Beach activities</i>		Beach IP Hotel
	19:30-23:30		CPOTS Farewell dinner 20:00-23:00 (free for all CPOTS 2013 participants) UoC bus will leave from Albatross Hotel area at 19:30 Return from Heraklion around 23:00	Theo Zouros	Restaurant Ouzeri Terzakis – Heraklion

CPOTS 2013 – Daily Program of lectures and activities (Aug 15 – 31)

Saturday August 31

Day #	Time	Unit #	Title	Person responsible	activity
17			<i>Hotel Check out, Departures of participants</i>		