



1st Training Module

Software Engineering and Urban Modelling

Geneva, 24th of March – 1st of April 2014

Training Location: hepia: [Haute École du paysage, d'ingénierie et d'architecture de Genève](#)

(Architecture, Engineering and Landscaping University of Geneva)

Rue de la Prairie 4

CH-1202 Geneva, Switzerland

Project Coordinator:	Ursula Eicker HFT University of Applied Sciences- Stuttgart
Training Module Responsible Parties:	Francois Maréchal, EPFL Olivier Epelly –Canton Geneva
Partners (full and associated):	HFT Stuttgart, EIFER (GER), EPFL (SWISS), IES (UK), NOTT (UK), Canton of Geneva (SWISS), SIEMENS (GER), POLITO (IT), UCD (IRE), WIENE (AUS), AIT (AUS), TUW (AUS)

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(Contract no: 606851)

Agenda

Monday 24th of March, 2014

Research Workshop: State of the Art / Research Hypothesis Formulation

Leaders: EPFL (Marechal) / HFT (Eicker)

Time	Responsible(s)	Topic
08:30 – 09:00	EPFL	<i>Registration</i>
09:00 – 10:30	EPFL/ HFT	<ul style="list-style-type: none"> Welcome and start of the meeting Review first 6-month project period, estimated recruitment completion date Review second supervisory roles, Module cost procedures, Declaration of Conformity, Career Development plan, training budget planning and other Administrative and organisational issues
10:30 – 11:00	Sebastian Cajot	ESR 1 (EDF/EIFER) Student Presentation (15 minutes): <ul style="list-style-type: none"> research hypothesis, methodology, tools <i>Followed directly by discussion and question/answer session (15 minutes)</i>
11:00 – 11:30	Giovanni Tardioli	ESR 05 (IES) Student Presentation (15 minutes): <ul style="list-style-type: none"> research hypothesis, methodology, tools <i>Followed directly by discussion and question/answer session (15 minutes)</i>
11:30 – 11:45		<i>Coffee break</i>
11:45 – 12:15	Nils Christian Schüler	ESR 4 (EPFL) Student Presentation (15 minutes): <ul style="list-style-type: none"> research hypothesis, methodology, tools <i>Followed directly by discussion and question/answer session (15 minutes)</i>
12:15 – 12:45	Mario Potente Prieto	ESR 6 (WIENE) Student Presentation (15 minutes): <ul style="list-style-type: none"> research hypothesis, methodology, tools <i>Followed directly by discussion and question/answer session (15 minutes)</i>
12:45 – 14:00		<i>Lunch</i>
14:00 – 14:30	Pilar Monsalvete Alvarez-Uribarri	ESR 7 (HFT) Student Presentation (15 minutes): <ul style="list-style-type: none"> research hypothesis, methodology, tools <i>Followed directly by discussion and question/answer session (15 minutes)</i>
14:30 – 15:00	Nina Solomakhina	ESR 8 (SIEMENS) Student Presentation (15 minutes): <ul style="list-style-type: none"> research hypothesis, methodology, tools <i>Followed directly by discussion and question/answer session (15 minutes)</i>
15:00 – 15:30	Solene Goy	ESR 10 (UCD) Student Presentation (15 minutes): <ul style="list-style-type: none"> research hypothesis, methodology, tools <i>Followed directly by discussion and question/answer session (15 minutes)</i>

15:30 -16:00	Ana Sancho Tomas	ESR 11 (UNOTT) Student Presentation (15 minutes): <ul style="list-style-type: none"> research hypothesis, methodology, tools <i>Followed directly by discussion and question/answer session (15 minutes)</i>
16:00 – 16:15		<i>Coffee break</i>
16:15 - 16:45	Georgios Kazas	ESR 09 (POLITO) Student Presentation (15 minutes): <ul style="list-style-type: none"> research hypothesis, methodology, tools <i>Followed directly by discussion and question/answer session (15 minutes)</i>
16:45 - 17:15	Parag Wate	ESR 3 (HFT) Student Presentation (15 minutes): <ul style="list-style-type: none"> research hypothesis, methodology, tools <i>Followed directly by discussion and question/answer session (15 minutes)</i>
17:15 - 17:45	Giorgio Agugiaro	ER 3 (AIT) Experienced Researcher Post-Doc Presentation
17:45 – 18:15	HFT	<i>Close of Day 1</i> Module 2 in Vienna (AIT, WIENE, City of Vienna, TUW), selection of Module date
19:30 -		<i>Welcome Dinner</i>

Tuesday 25th of March, 2014

Case Study: *Overview of Energy Performance in Canton of GENEVA*

Leaders: Canton of Geneva (Epelly) / EPFL (Marechal)

Time	Responsible(s)	Topic
8:30 – 9:00	Olivier Epelly	Introduction (30 minutes)
9:00 – 9:20	Marianne Baudat	<i>Presentation Title (20 minutes)</i>
9:20 – 9:35		<i>Discussion / (15 minutes)</i>
9:35 -10:00	Roman Naegeli	A master plan for net-bound energy sources for the Canton of Geneva (20 minutes)
10:00- 10:15		Discussion (15 minutes)
10:15 – 10:45		<i>Coffee break (30 minutes)</i>
10:45 – 11:05	Catherine Lavallez	Conditions of use and role of modeling and spatialization tools as decision support in energy planning projects and, more generally, in local energy policies. (20 minutes)
11:05 – 11:20		Discussion (15 minutes)
11:20 – 11:40	Reto Camponovo	<i>Presentation Title (20 minutes)</i>
11:40 – 12:00		<i>Discussion / To be Confirmed (15 minutes)</i>

12:00 – 12:20	Olivier Epelly	Morning Summary (20 minutes)
12:20 – 12:30		Discussion (10 minutes)
12:30 – 13:45		<i>Lunch (75 minutes)</i>
13:45 – 14:00	François De Mestral Daniel Favrat	Welcoming Remarks and Introductions
14:00 – 14:15	Antonio Hodgers	Address EC/ Press (15 minutes)
14:15 – 14:35	Gilles Desthieux	<i>Presentation Title (20 minutes)</i>
14:35- 14:50		Discussion (15 minutes)
14:50 – 15:10	Rafael Pennese	Graphical representation of potential renewable energy flows and stocks on a regional scale (20 minutes)
15:10 – 15:25		Discussion (15 minutes)
15:25 – 15:45	Luc Girardin	Presentation Title (20 minutes)
15:45 – 16:00		Discussion (15 minutes)
16:00 – 16:30		<i>Coffee break (30 minutes)</i>
16:30 – 16:50	Céline Weber	Presentation Title (20 minutes)
16:50 – 17:05		Discussion (15 minutes)
17:05 – 17:25	Fabrice Malla	Presentation Title (20 minutes)
17:25- 17:40		Discussion (15 minutes)
17:40- 18:00		Close of Day 2 / Summary (20 minutes)

Wednesday, 26th of March, 2014

Research Skills: *Formulating a Strong PhD Research Agenda*

Leaders: (morning) Epigeum (Leah Holroyd) / UCD (Donal Finn)

(afternoon) Introduction to building simulation theory UNOTT (Darren Robinson/)

Time	Responsible(s)	Topic
09:00 – 09:50	Leah Holroyd (Epigeum)	Introduction to Epigeum: Who we are and what we do Introduction to the Research Skills Master Programme
10:00 – 10:40		The pedagogy and structure of an Epigeum course How students can best engage with and use the Epigeum package How CiENERGY supervisors/postdocs can support students working through the Epigeum package
10:40 – 11:00		<i>Coffee break</i>

11:00 – 11:50		Interactive session with RES 001 Introduction to Research Skills Introduction to RES 014 Research Methods in the Sciences Introduction to RES 015 Research Methods in Literature Review
12:00 – 12:50		Other Epigeum modules that could be of use to the CI-ENERGY project Any questions
13:00 – 14:00		<i>Lunch</i>
14:00 – 15:00	Darren Robinson	Introduction to whole building dynamic thermal simulation (thermal, airflow and HVAC plant simulation)
15:00 – 16:00		Deviation between prediction and measurement and gaps in predictive capabilities: urban coupling / stochastic behaviours / uncertainty analysis
16:00 – 16:30		<i>Coffee break</i>
16:30 – 18:00		Emerging developments: urban coupling and behavioural modelling and uncertainty analysis
18:00 – 18:20		Close of Day 3

Thursday, 27th of March, 2014

Theories and Foundations: *Building Modelling; IES Building simulation software architecture and interface programming; Performance Indicators*

Leaders: **IES: Theory and Practical Application (Dhargalkar)**

Time	Responsible(s)	Topic
09:00 – 10:00	Hans Dhargalkar IES Ltd	Introduction to the IES Virtual Environment ModelIT (3D geometry creation)
10:00 – 11:00	Hans Dhargalkar IES Ltd	SunCast (solar shading analysis)
11:00 – 11:30		<i>Coffee break</i>
11:30 – 13:00	Hans Dhargalkar IES Ltd	ApacheSim (whole building dynamic thermal simulation)
13:00 – 14:00		<i>Lunch</i>
14:00 – 15:00		ApacheSim (continued)
15:00 – 16:00	Hans Dhargalkar IES Ltd	VistaPro (simulation results viewer) MacroFlo (natural ventilation tool)
16:00 – 16:30		<i>Coffee break</i>

16:30 – 18:00	Hans Dhargalkar IES Ltd	ApacheHVAC (detailed plant and controls simulation) RadiancelES (3D lighting simulation) Questions
18:00 – 18:20		Close of Day 4

Friday, 28th of March, 2014

Theories and Foundations: *Decision Support; Behaviours and Control Systems*

Leaders: EPFL (Marechal), EPFL (Bierlaire), Jessen Page

Time	Responsible(s)	Topic
09:00 – 10:00	Jessen Page	On the role of simulation for urban energy decision making
10:00 – 11:00	Francois Maréchal	Indicators for urban energy system decision making
11:00 – 11:30		<i>Coffee break</i>
11:30 – 13:00	Francois Maréchal	Urban energy system design problem
13:00 – 14:00		<i>Lunch</i>
14:00 – 15:00	Francois Maréchal	<i>Site Visit (To Be Determined)</i>
15:00 – 16:30		Optimisation methods for solving energy system design problems
16:00 – 16:30		Lake cooling
16:30 – 18:00		Close of Day 5

Monday 31st of March, 2014

Theories and Foundations: *Software Architecture and Programming*

Approaches: *Database Architectures*

Leaders: HfT Stuttgart (Coors)

Time	Responsible(s)	Topic
09:00 – 10:00	Jürgen Schumacher	Programming approaches: algorithmic and graphical programming languages
10:00 – 11:00	Jürgen Schumacher	Examples for programming approaches: Matlab/Simulink, INSEL, TRNSYS and their software architecture
11:00 – 11:30		<i>Coffee break</i>

11:30 – 13:00	Volker Coors	CityGML fundamentals
13:00 – 14:00		<i>Lunch</i>
14:00 – 15:00	Jürgen Schumacher	Application of graphical programming: generation of meteorological time series
15:00 – 16:00	Volker Coors	Using 3D City Models for heating demand simulation (theory)
16:00 – 16:30		<i>Coffee break</i>
16:30 – 18:00	Volker Coors	Using 3D City Models for heating demand simulation (practise using SimStadt & Insel)
18:00 – 18:20		Close of Day 6

Tuesday 1st of April, 2014

Industrial Applications and Case Studies: Canton of Geneva Case Study Workshop

Leaders: EPFL (Maréchal) together with Geneva Canton

Time	Responsible(s)	Topic
09:00 – 09:45	Francois Maréchal	Setting the PhD research agenda including the Geneva case studies
09:45 – 11:00	Canton of Geneva	Student Preparation Review for Geneva Case study: address questions, define problems in detail, confirm access to data sets and agency contacts/links to institutions working with the Canton
11:00 – 11:15		<i>Coffee break</i>
11:15 – 12:45	Francois Maréchal	Social Networking and Information Sharing Platforms <i>CINERGY Blog, CINERGYwiki/ CINERGYForum, Facebook, etc.</i>
12:45 – 13:30		Review next milestone, Action items list <i>Close of meeting</i>
13:30		Lunch / Departures

ATTENTION: ROOM LOCATION CHANGES DAILY!

h e p i a

Haute école du paysage, d'ingénierie
et d'architecture de Genève

institut de recherche i n P A C T
paysage, architecture, construction
et territoire

Rue de la Prairie 4
CH-1202 Genève

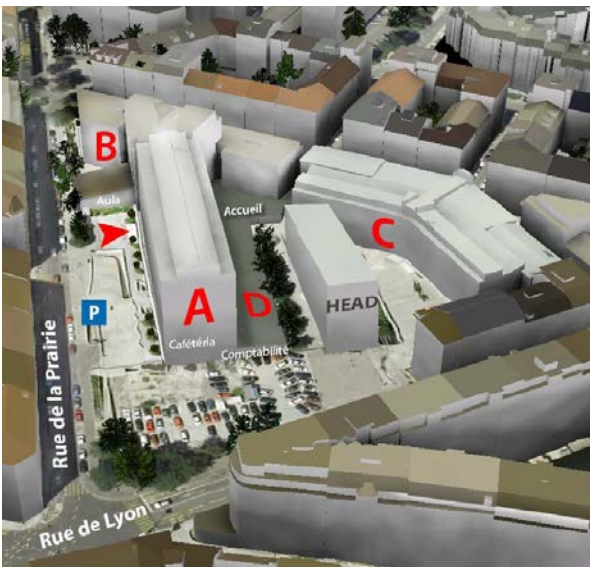
Tél. +41 (0)22 546 24 00
Fax +41 (0)22 546 24 10

hepia@hesge.ch
www.hesge.ch/hepia

hepia: [Haute École du paysage, d'ingénierie et d'architecture de Genève](http://www.hesge.ch/hepia)

Room planning, hepia:

Monday 24. March 2014	08h00 - 18h00	BS 31 (ground floor)
Tuesday 25. March 2014	08h00 - 18h00	A 502
Wednesday 26. March 2014	08h00 - 18h00	A 507
Thursday 27. March 2014	08h00 - 18h00	A 507
Friday 28. March 2014	08h00 - 18h00	A 106
Monday 31. March 2014	08h00 - 18h00	BS 31
Tuesday 1. April 2014	08h00 - 18h00	A 507



Wifi access:

- 1 – eduroam connection, or
- 2 – wifige: public Geneva Wifi free access (mobile phone number is necessary to receive instant access code)

Transportation:

Public Transport in Geneva: <http://www.tpg.ch/>

From Geneva Housing:

Geneva Housing, Muzuma to Rue de la Prairie 4,...

https://maps.google.com/maps?f=d&source=s_d...



Directions to Rue de la Prairie 4, 1202 Genève, Switzerland
1.3 km – about 5 mins

