



Summer School **Second Call**

Dynamics and Predictability of the Ocean-Atmosphere System and Computational Aspects

July 22 - August 2, 019 at the National Institute of Marine Science and Technology (INSTM)
28, rue du 2 mars 1934, 2025 Salammbô, Tunisia.

Application deadline: June 30, 2019

Atmospheric and oceanic sciences constitute an excellent interdisciplinary example where mathematical physics, statistics, numerical methods and scientific computing meet. Weather and ocean forecasting are used by many customers including weather centres, insurance and energy companies. This Summer School brings together scientists from weather forecasting, oceanography and computing and aims to educate and motivate young postgraduates and researchers from mathematics and numerical analysis to climate and environmental science.

The Summer School consists of courses and seminars given by international and local scientists. The courses of the Summer School will be given by scientists from Stockholm University (MISU), The University of Reading, Leiden University and the Swedish Meteorological and Hydrological Institute (SMHI), and will take place in the attractive and historical city of Salammbô/Carthage on the Mediterranean Gulf of Tunis, 22 July - 2 August 2019.

The Summer School discusses various topics ranging from ocean circulation to numerical weather prediction and data assimilation and stochastic simulation. The school is open to international and local science postgraduates and is particularly suitable for young researchers including Master and PhD students from mathematics, physics, atmospheric and oceanic sciences, environmental sciences and related disciplines.

Speakers

Course 1: Numerical weather prediction and data assimilation (A. Hannachi, Stockholm University)

Course 2: Statistical climatology (A. Hannachi, Stockholm University)

Course 3: Ocean circulation: wind-driven and thermohaline circulations (Keith Haines, The University of Reading)

Course 4: Practical aspects of data assimilation, ensemble- and convection-based data assimilation (N. Gustafsson, SMHI)

Course 5: Stochastic simulation and MCMC methods (Moritz Schauer, Leiden university).

Local guest lectures

Lecture 1: Coupled dynamical-ecological modelling (Bécher Béjaoui, INSTM).

Lecture 2: Sea dynamics modeling: From the regional scale to the local one (Ali Harzallah, INSTM).

Lecture 3: On some inverse problems in heat transfer (Emna Ghezaiel, Faculty of Sciences, University of Monastir)

Lecture 4: The inverse problem of Submarine Groundwater Exchange (Nejla Harigal, INAT-ENIT)

Lecture 5: Sensitivity of the WRF model, case study for northern Tunisia (Sawssen Dhib, ENIT)

Scientific Committee members

Z. Bargaoui, ENIT, Tunis, email: zoubeida.bargaoui@laposte.net

A. Hannachi, MISU, Stockholm, email: a.hannachi@misu.su.se

A. Harzallah, INSTM, Tunis, email: ali.harzallah@instm.nrnt.tn

Program :

Course n°	Course title	Lecturer	
Course 1 (14.5 hrs)	NWP & data assimilation (NWPDA)	A. Hannachi	
Course 2 (12 hrs)	Statistical climatology (StatC)	A. Hannachi	
Course 3 (11 hrs)	Ocean circulation (OC)	K. Haines	
Course 4 (6.5 hrs)	Data assimilation & mesoscale (DAM)	N. Gustaffsson	
Course 5 (10.5 hrs)	Computational aspect MCMC (MCMC)	M. Schauer	
Day	9h- 10h30	10h30- 12h30	13h30- 16h30
Mon, 22 July	Lecture 1	Course 1 - NWPDA	Course 1 - NWPDA
Tue, 23 July	Course 1 - NWPDA	Course 1 - NWPDA	Course 1 - NWPDA
Wed, 24 July	Lecture 2	Course 2 - StatC	Course 1 - NWPDA Lab
Thu, 25 July	Lecture 3	Course 2 - StatC	Course 3 - OC
Fri, 26 July	Course 3 - OC	Course 3 - OC	Course 3 – OC Lab exercise
Sat, 27 July	Guided visit to Carthage	Guided visit to Carthage	
Sun, 28 July			
Mon, 29 July	Course 3 - OC	Course 4 - DAM	Course 2 - StatC
Tue, 30 July	Course 5 - MCMC	Course 2 - StatC	Course 4 - DAM
Wed, 31 July	Course 4 - DAM	Course 5 - MCMC	Course 2 – StatC Lab
	19h-22h Event Dinner		
Thu, 1 Aug	Lecture 4	Course 5 - MCMC	Course 5 – MCMC Lab
Fri, 2 Aug	Lecture 5	Course 5 - MCMC	

Venue and Accommodation

The summer school will take place in the historical city of Carthage Salammbô in the Tunisia National Institute of Marine Science and Technologies, 28 rue du 2 mars 1934, 2025 Salammbô. A list of hotels/Student rooms will be proposed soon. A map will follow.

Registration**Deadline for the registration: June 30, 2019. To register please:**

- Contact anyone of the scientific committee. You will receive an acceptance confirmation.
- After confirmation, registration fees are to be paid through bank transfer to :

ENIT Ecole Nationale d'ingénieurs de Tunis

RIB : 17001.00000.00061.74820

SWIFT : LPTNTNTT

IBAN : TN59 17001000000006174820

Code PIC : 997876637

Matricule fiscale : ENIT 30.333L

Registration fees: 200 EUR or equivalent (bank transfer). Local students and professionals: 300 TND (bank transfer or order form).

Registration fees cover coffee breaks, lunches and one event dinner.

- You will receive a final registration notice.