



Strasbourg, 22 June 2011

## EUROPEAN AND MEDITERRANEAN MAJOR HAZARDS AGREEMENT (EUR-OPA)

European Master Course on

# Climate change: impact on health, human environment and water

Université de Strasbourg  
Faculté de Médecine et  
Ecole Nationale du Génie de l'Eau et de l'Environnement de Strasbourg (ENGEES)  
Council of Europe

10 – 14 October 2011

### Draft Programme

## Key points of the programme

There is an unanimous consensus that gas emission generated by humans will change climate, recently warming by 1.4-5.8°C (prediction for 2100). The main effects will be thermal stress, extreme weather events, infectious diseases changing in their location or frequency. A more global approach has to take into account difficulties in food yields, social, demographic and economic imbalances, which could by themselves favour emerging infectious pathogens.

The aim of this course given in Strasbourg (10 Oct – 14 Oct 2011) is to develop specific knowledge on the main features of climate change, and of its impact on health, human environment and water. Data on Earth physics modifications in case of climate change (past and future) will be reported. Basic and applied features will be presented for their impact on human health and on environment: virology, parasitology, bacteriology, risks in emergency medicine and respiratory syndromes, modifications in the oceans (wildlife, coral), environmental impact (especially water); at last, the crucial role of health authorities and governments will be highlighted.

The programme will cover the following topics:

- EUR-OPA context
- Physics and climate change : basic knowledge and risk management
- Energy threshold of climate risk and impact on health : example of Sahara for 10 000 years and limits of people to adapt
- Continental hydrology: climate and water circulation in continents, characterization of extreme events, ecology of humid areas
- Coral reefs and climate tendencies
- Water resources: drinking water, water cleaning networks
- Emerging viral diseases and climate change
- Bacterial diseases and enteric concern in case of climate modifications
- Malaria favoured by a large distribution of insects dispersing the infectious agents
- Emergency medicine/respiratory diseases
- Socio-economic aspects of climate change in their international context

The course is devoted to young people with high scientific background from Europe or from member-countries of the EUR-OPA Agreement: engineers, geologists, biologists, students in medicine. Lessons will be given in English without any simultaneous interpretation. The lecturers belong to European Universities, National Research Centres and International Organisations.

There is no registration fee. The Council of Europe will cover the travel and subsistence expenses for a limited number of participants after examination and selection of applications.

On request, students may benefit of 3 ECTS (European Credit Transfer System) after agreement with their own university.

**The course will be held in the *amphithéâtre DAUBREE, Institut de Géologie, 1 Rue Blessig, 67084 Strasbourg, France, from 10 October to 14 October 2011.***

**The registration form is attached to this Programme.**

**The course is addressed to European countries or member-countries of the EUR-OPA Agreement.**

***Deadline for application: 15 September 2011***

### Information and application forms:

- Dr Evelyne Schvoerer, Institut de Virologie, 3 Rue Koeberlé, 67 000 Strasbourg, FRANCE  
[evelyne.schvoerer@chru-strasbourg.fr](mailto:evelyne.schvoerer@chru-strasbourg.fr)
- Or Council of Europe, EUR-OPA, DG IV, F-67075-Strasbourg Cedex,  
<http://www.coe.int/europarisks> [europa.risk@coe.int](mailto:europa.risk@coe.int)

# DRAFT PROGRAMME

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Monday  
10 October 2011

- 10:30-10:45 Introduction of the Course**
- Evelyne Schvoerer & Caroline Grégoire, Université de Strasbourg
- 10h45-13 :00 Physics and climate change: gas emission and risk management  
Socio-economic aspects of climate change in their international context**
- *J-P Massue, Member of the National Council of Orientation for the Prevention of Major Natural Hazards of the MEEDM*
  - *S Busuttil, President of the Malta Foundation, Valetta, Malta*
- 12:30-14:00** lunch
- 14:00-16:00**
- **Climate change and cultural heritage: energetics considerations, threats and strategies of prevention**
  - **In Sahara since 10 000 years, climatic crises, health and human adaptation strategies**
  - *Max Schvoerer, Centre de Recherche en Physique Appliquée à l'Archéologie, Université de Bordeaux III, France*



**16:00-16:30: Proposal & guidelines for final reports to be done by the students**  
*see the programme on Thursday*

**Registration (checking)**

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Tuesday  
11 October 2011



- 10:00-11:00** Continental hydrology: climate and water circulation in continents, characterization of extreme events, ecology of humid areas
- C Grégoire, Ecole Nationale du Génie de l'Eau et de l'Environnement de Strasbourg (ENGEES)
- 11:00-13 :00** Coral reefs, are they subject to the storm climate ?
- Mrs Joannot, Océanographe, Paris
- 12:30-14:00** lunch
- 14:00-15:30** Water cleaning networks: collection and treatment
- A Sadowski, Ecole Nationale du Génie de l'Eau et de l'Environnement de Strasbourg (ENGEES)
- 15:30-16:00** coffee break
- 16:00- 17:00** Drinking water
- JB Bardiaud, Ecole Nationale du Génie de l'Eau et de l'Environnement de Strasbourg (ENGEES)*
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Wednesday  
12 October 2011



- 9:30-11:00** Emerging viral diseases and climate change (vector-related viruses, social crisis and viruses)
- E Schvoerer, Laboratoire de Virologie, Faculté de Médecine et Université de Strasbourg
- 11:00-12:30** Climate change: bacterial diseases and enteric concern
- B Jaulhac, Laboratoire de Bactériologie, Faculté de Médecine et Université de Strasbourg*

- 12:30-14:00 lunch
- 14:00-15:30 **Malaria favoured by a large distribution of insects dispersing the infectious agents**
- *E Candolfi, Laboratoire de Parasitologie, Faculté de Médecine et Université de Strasbourg*
- 15:30-17:30 **Extreme weather events, water concern and emergency medicine, infectious diseases, respiratory diseases**
- *V Hébinge, SAMU 67 (Emergency medicine), University Hospital of Strasbourg*  
*T Lavigne, Infectious Diseases, University Hospital of Strasbourg*  
*N Amarouch, Physician, Casablanca, Morocco*
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Thursday  
13 October 2011



*Applied exercises*

- 10:00-10:30 **Description of an extreme weather event and its monitoring:**
- *C Grégoire, ENGEES & E Schvoerer Virology, Strasbourg*
- 10:30-17:00 **Working subgroups by students**
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Friday  
14 October 2011

- 10:00-13:00 **Evaluations**
- Oral presentation of the analysis of the climatic accident and its environmental and health consequences**, by the students
- With the participation of Eladio Fernandez-Galiano, Council of Europe*

*Departure of the students*

**Students will be proposed a subject in order to write a 5 pages-manuscript, which will be sent by e.mail to E Schvoerer (needed to obtain the 3 ECTS)**

