Training of Trainers Workshop on Attribution and Prediction of Extremes Events

About the Workshop

The workshop aims to train students and researchers with outstanding research potential in the techniques that will be required to better understand observed and future changes in extremes and their association with CLIMATE CHANGE. There is a pressing need to educate future researchers in the techniques given the prominence and importance of societal and scientific questions about extreme events that are receiving increasingly intense attention in the minds of the public and their policy makers. The workshop will be organized around two broad topic areas:

- Detection and attribution of observed changes in the frequency and/or intensity of extremes, and
- Event attribution

The workshop main trainer, Prof. Francis Zwiers, has a long-standing expertise in teaching and application of statistical methods to the analysis of observed and simulated climate variability and change.

Requirements

- A basic knowledge in calculus and the rest will be taught on site.

Registration

- Email to Dr. Ruhollah Oji at ruhollah.oji@gmail.com
- Deadline for registration: October 10, 2017
- Give your name, research field, affiliation, address, country, mobile phone, and dietary preferences.
- Your first email address appears on messages sent to all participants, other details may be kept confidential upon your request.
- Contact us if in need of more information (visa, invitation letter, VAT, course grant application, etc.)
- After receiving your registration email, an official payment request is sent to you. Payment can be done onsite.

Tuition fee

- Registration fee for Non-Iranian nationalities: 1500 EUR which includes a meal and a workshop dinner, daily snacks, lunch, coffee and tea as well as hands-on softcopy. Your accommodation in 4-star hotels in Tehran and Rasht, flight between Tehran and Rasht as well as a two-day tour in Tehran and Guilan Province are also covered by the registration fee.
- Registration for Iranians: 2.5 million Rials which includes lunches and daily snacks during workshop days as well as hands-on softcopy. The registration fee does not include transfer between Rash and Tehran and accommodation in the two cities.

Workshop Program

Date and Time	Oct. 25, 2017 (University of Guilan, Rasht, Iran)	Oct. 26, 2017 (Guilan Province)	Oct. 27, 2017 (Tehran)	Oct. 28, 2017 (Sharif University of Technology, Tehran, Iran)	Oct. 29, 2017 (University of Tehran, Tehran, Iran)
09:00 - 09:45	Detection and attribution (General introduction)	Excursions, Guilan Province and Caspian Sea shoreline	Excursions, Tehran	Detection and attribution (Extreme values)	Event attribution: Theory
09:45 - 10:30	Detection and attribution (Optimized & non-optimized methods)			Detection and attribution (Extreme values)	Event attribution: Theory
10:30 - 11:00	Coffee break			Coffee break	Coffee break
11:00-12:30	Practical exercise with R: Optimal fingerprinting			Practical exercise with R: D&A Extreme Values	Discussion concrete on different methods of event attribution and their pros and cons using examples
12:30 - 14:00	Lunch			Lunch	Lunch
14:00-15:30	Project 1			Case studies	Case studies

Technicalities

- Language: English
- Audience: Graduate students, postdocs and professional researchers in the field of climate change and hydrologic modeling and meteorology
- Laptop: Please bring your own laptop. Operating system of windows preferable but not mandatory, Linux also works.
- Internet connection: via Wi-Fi is available
- Computing environment: R programing environment
- Data: you are very welcome to bring your own data for analysis! During the course, you have the chance of giving a mini presentation of your data and work!

Certificate

- All participants will receive a certificate of attendance at the completion of the 3-day workshop on attribution and prediction of extremes events. Please, note that the logos of the three host universities will appear on the Certificates, which are singed by Prof. F. Zwiers.

Organizers and Venue

- The workshop will take place in 3 days at 3 prestige universities of Iran:
  - [University of Guilan (Rasht)](#)
  - [University of Tehran, Regional Institute for Water Education (RIWE)](#)
  - [Sharif University of Technology, UNESCO Chair in Water and Environment Management in Sustainable Cities](#)

Touring and Sightseeing in Iran

- In this training workshop, you will have the chance to explore and visit the greenest province of Iran, Guilan, and the spectacular places of Tehran.