2023 ISInProG@Lario 2023 International School on Inverse Problems in Geophysics on the shore of the Lario Lake

Lake Como School of Advanced Studies - 18-22 September 2023

Home

Organizing committee

Prof. Mauro Giudici
Università degli Studi di Milano, Dipartimento di Scienze della Terra "A. Desio" mauro.giudici at unimi.it

Dr. Romina Gaburro
University of Limerick, Department of Mathematics and Statistics romina.gaburro at ul.ie

Prof. Alessandro Comunian
Università degli Studi di Milano, Dipartimento di Scienze della Terra "A. Desio" alessandro.comunian at unimi.it

at = @

Scientific theme

Inverse problems appear in several fields of science and technology, including geophysics, bioimaging, material science, etc. and they require specific mathematical techniques to handle ill-posed problems. Fundamental results on uniqueness and stability of inverse problems have been obtained by mathematicians. Practical approaches to inverse problems in geophysics are often based on modifications and generalizations of the least-squares method and on stochastic approaches, e.g., a Bayesian framework.

A significant step forward for scientific research on inverse problems in geophysics requires that the theory and application of inverse problems "meet each other" in an open forum where both early-stage researchers and senior scientists are brought together with the aim of sharing their diverse scientific background and expertise in the fields of inverse problems and Earth exploration. The results of the first on-line edition of the Summer school supported the proposal of a second edition, during which the students and the lecturers will profit from the possibility of personally meeting and discussing on the Lake Como's shore.

2023 ISInProG@Lario 2023 International School on Inverse Problems in Geophysics on the shore of the Lario Lake

Lake Como School of Advanced Studies - 18-22 September 2023

Program

The school will start on Monday, September 18, 2023, at 2 pm, will occupy Tuesday, Wednesday and Thursday (from 9 am to 6 pm, with coffee break, lunch time and tea time) and will finish on Friday, September 22nd , 2023, at 2 pm. Notice that all times refer to the CEST time zone.

The final assessment of the students will be conducted during the presentation of laboratory work. This will permit to certificate the successful participation to the school, so that PhD courses could recognize credits to the students attending the school.[1]

The schedule is aimed at: (1) integrating mathematical and applied topics; (2) alternating theoretical and practical activities; (3) alternating lectures from senior scientists and direct participation of early-stage researchers.

[1] From a review at the European level, it appears that one-week-long summer schools award credits in the range between 1 ECTS and 3 ECTS.

2023 ISInProG@Lario 2023 International School on Inverse Problems in Geophysics on the shore of the Lario Lake

Lake Como School of Advanced Studies - 18-22 September 2023

Main topics and Lecturers

Please, check this page again in the next weeks for the final titles and further details.

Program_PlanA

Draft program

	Monday September 18	Tuesday September 19	Wednesday September 20	Thursday September 21	Friday September 22
9:00-10:00		Microlocal analysis and applications to geophysical and radar imaging 1 (C Nolan)	Mathematical issues in inverse problems 1 (L Rondi)	Microlocal analysis and applications to geophysical and radar imaging 2 (C Nolan)	Mathematical issues in inverse problems 2 (L Rondi)
10:00-11:00		Hydrology 1 (J Carrera)	Seismic processing technologies in industry 1 (M Vassallo)	Hydrology 3 (J Carrera)	High-fidelity seismic imaging (J Hobro)
11:00-11:30		Coffee break	Coffee break	Coffee break	Coffee break
11:30-12:30		Hydrology 2 (J Carrera)	Seismic processing technologies in industry 2 (M Vassallo)	Seismic imaging from time to depth (J Hobro)	Mathematical analysis of inverse problems (R Gaburro)
12:30-14:00	Icebreaking lunch	Lunch break	Lunch break	Lunch break	Lunch break
14:00-15:00	Welcome and short personal presentation of the participants.	Electrical & EM prospecting 1 (G Fiandaca)	Laboratory – field work	Students' presentations (oral)	Discussion on Laboratory work
15:00-16:00	Mathematical analysis of inverse problems – intro (R Gaburro)	Electrical & EM prospecting 2 (G Fiandaca)	Laboratory – field work	Open Discussion/Students' presentations (poster)	Closing and farewell ceremony
16:00-16:30	Tea time	Tea time	Tea time	Tea time	
16:30-18:00	Discrete inverse problems (M Giudici)	Journal club/Open discussion/Students' presentations (poster)	Laboratory – data processing and inversion	Laboratory – data processing and inversion	

Jesus Carrera
IDAEA-CSIC, Barcellona, Spain
Hydrology

Gianluca Fiandaca
Università degli Studi di Milano, Italy
Electrical & EM prospecting

James Hobro
Schlumberger Research Laboratories, Cambridge, UK
Seismic imaging

Clifford J. Nolan
University of Limerick, Ireland
Microlocal analysis and applications to geophysical and radar imaging

Luca Rondi
Università degli Studi di Pavia, Italy
Mathematical issues in inverse problems

Massimiliano Vassallo
Schlumberger Research Laboratories, London, UK
Seismic processing technologies in industry

Mauro Giudici
Università degli Studi di Milano, Italy
Dipartimento di Scienze della Terra "A. Desio"

2023 ISInProG@Lario 2023 International School on Inverse Problems in Geophysics on the shore of the Lario Lake

Lake Como School of Advanced Studies - 18-22 September 2023

Sponsors

Associazione George Washington

www.indago-rovigo.it

2023 ISInProG@Lario 2023 International School on Inverse Problems in Geophysics on the shore of the Lario Lake

Lake Como School of Advanced Studies - 18-22 September 2023

Contact Us

For organizational issues:
Chiara Stefanetti – chiara.stefanetti at fondazionealessandrovolta.it
ph. +39.031.579815

For academic inquiries:
Prof. Mauro Giudici – mauro.giudici at unimi.it
Prof. Alessandro Comunian – alessandro.comunian at unimi.it
Dr. Romina Gaburro – romina.gaburro at ul.ie

at = @

2023 ISInProG@Lario 2023 International School on Inverse Problems in Geophysics on the shore of the Lario Lake

Lake Como School of Advanced Studies - 18-22 September 2023

Photo HD

Click for HD Photos