



The Abdus Salam
International Centre
for Theoretical Physics



IAEA
International Atomic Energy Agency

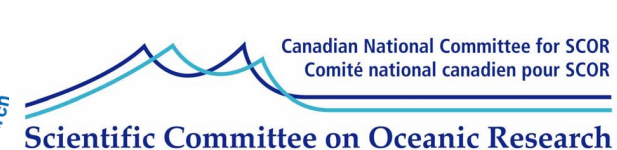


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60 ICTP
1964-2024

School and Workshop on Polar Climates: Theoretical, Observational and Modelling Advances

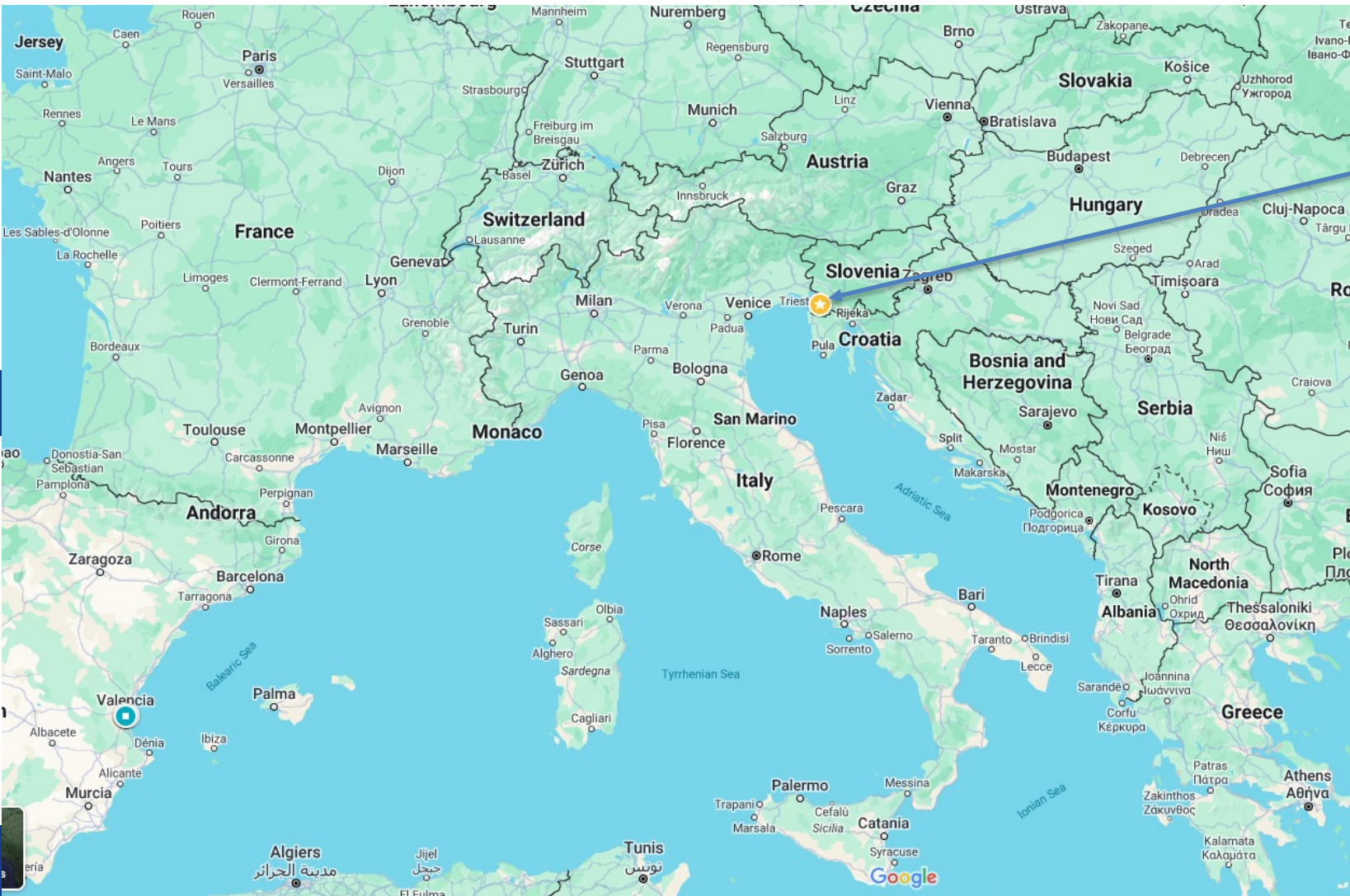


22 - 31 July 2024



Trieste, Italy





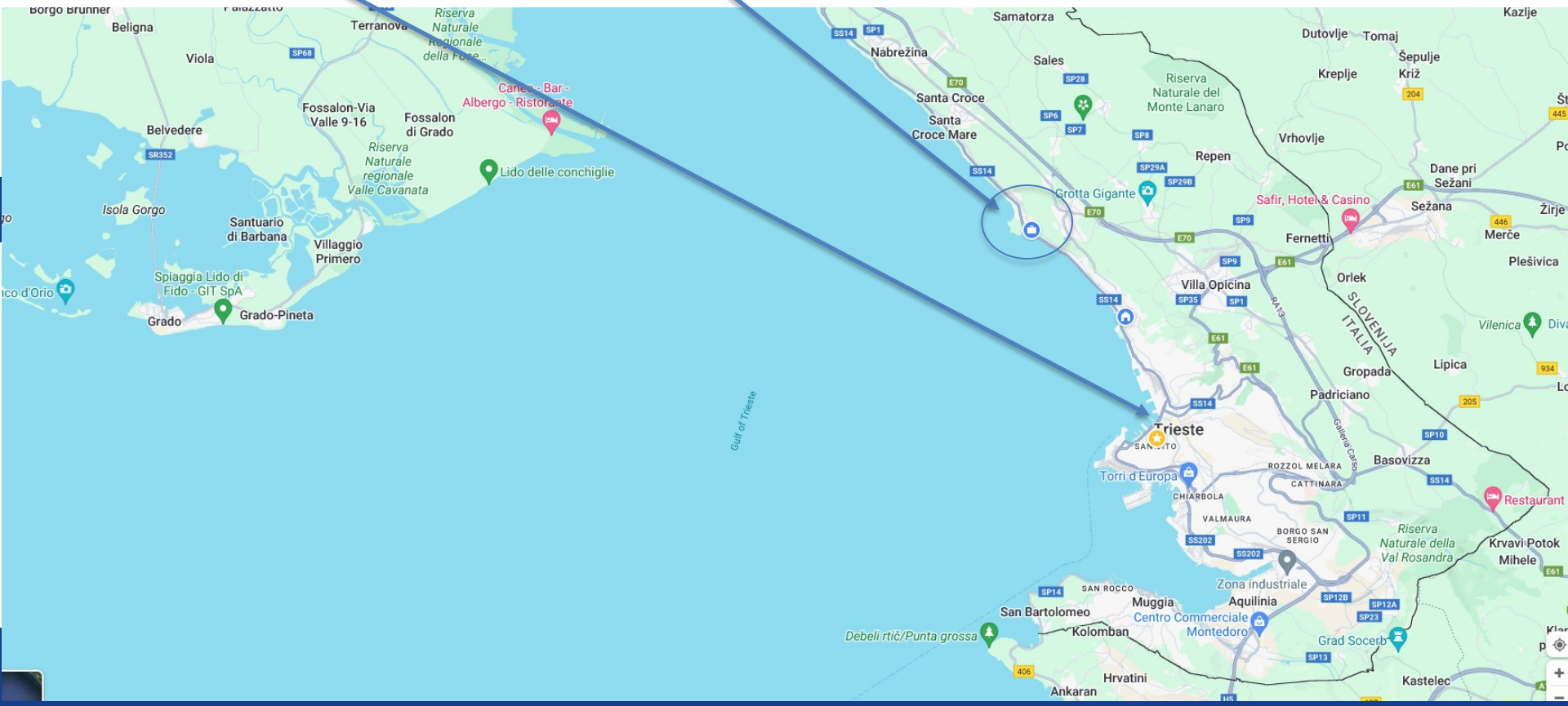
OK,
now let's
zoom in



City centre

We are here

The black solid line is the Italian border!





- 1 Adriatico Guesthouse
- 2 Multidisciplinary Laboratory
- 3 Enrico Fermi Building
- 4 Leonardo Building
- 5 Galileo Guesthouse
- 6 Former SISSA Building
- ICTP Shuttle
- Local transportation
- Parking



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Adriatico GuestHouse and Lecture Halls

ICTP Main Buildings

Galileo GuestHouse





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The **Info Lab** is where you will work on your projects

poster boards are in between

All lectures will be (here) at the **Kastler Lecture Hall**



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How to move from/to ICTP?



LINEA 6

piazzale Gioberti »» Grignano



LINEA 36

bivio di Miramare »» via Giulia



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How to move from/to ICTP?

The Delfino Verde ('green dolphin') is often the fastest way to get to town during peak hours



Trieste - Barcola - Grignano - Sistiana

linea marittima giornaliera estiva



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How to move from/to ICTP?

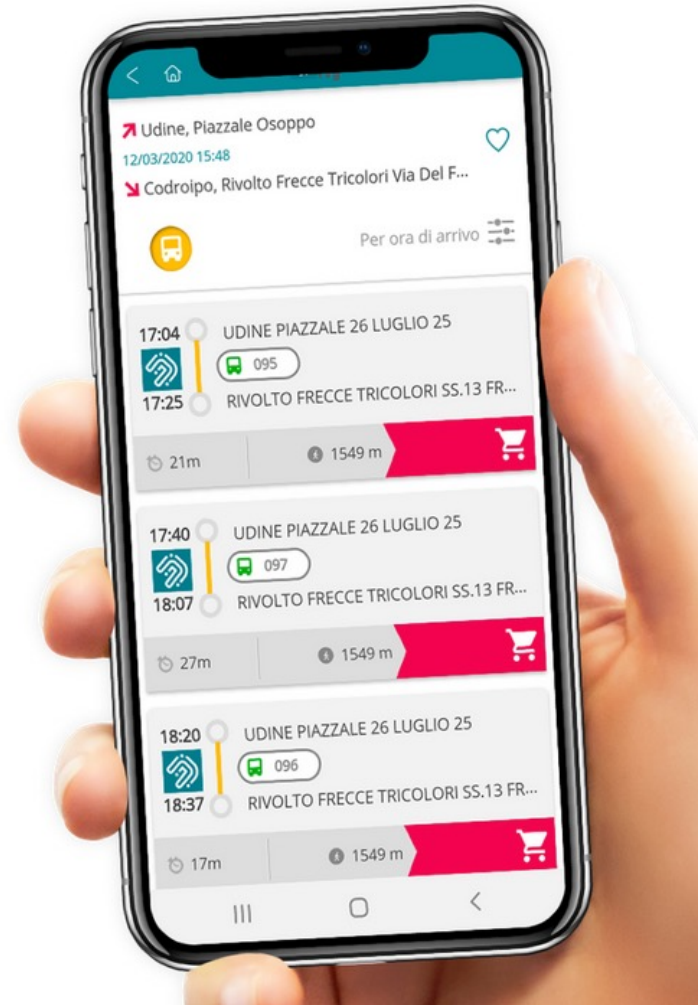
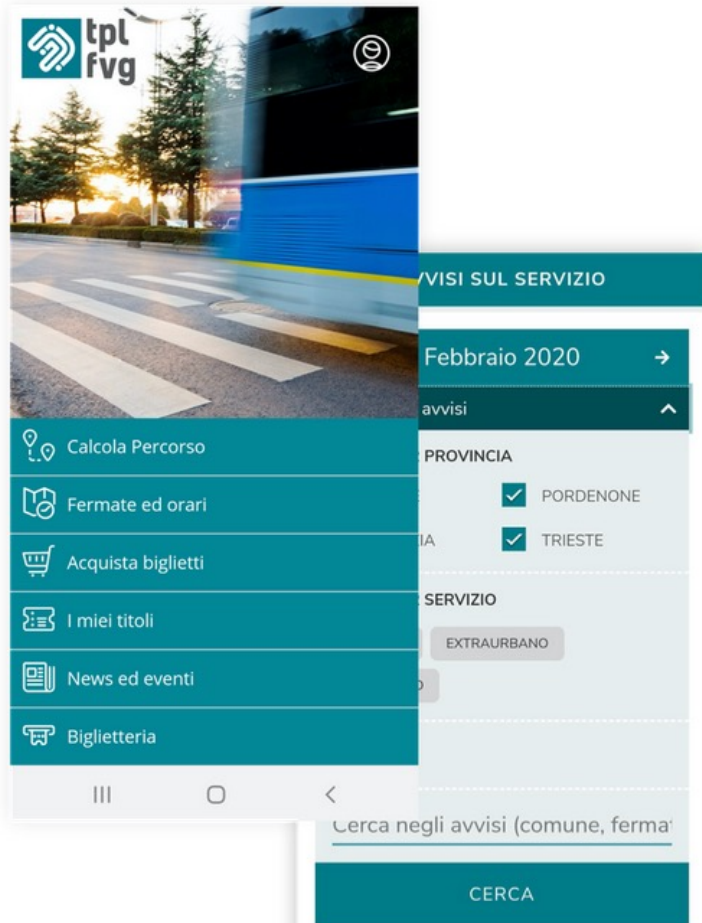
Download the App Weelo from Apple Store / Google Play Store



il servizio di bike sharing del Comune di Trieste

How to move from/to ICTP?

You cannot buy your ticket on board! I recommend the app *tplfvg*





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ICTP OVERVIEW





"Scientific thought is the common heritage of humankind."

Abdus Salam

ICTP founder Abdus Salam



- ICTP is an institution that is run by scientists for scientists to support the best science possible, with special attention paid to the needs of scientists from the Global South

ICTP mission

Conducting research at the highest international standards, ICTP's mission is:

- To foster growth of advanced physics and mathematics studies, especially in the Global South
- To develop high-level scientific programmes and encourage international scientific exchange
- To provide excellent research and training facilities





Quick facts

- Founded in 1964 by Nobel Laureate Abdus Salam
- Sponsored by tripartite agreement between Italy, UNESCO and IAEA
- Attracts visiting scientists mainly from developing and least developed countries
- Provides training to improve scientific capacity in developing countries

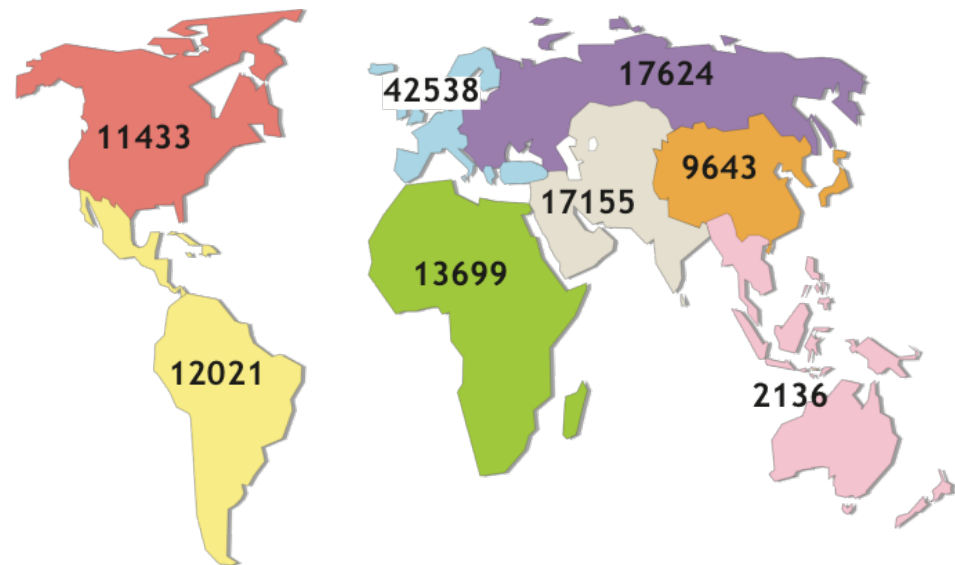


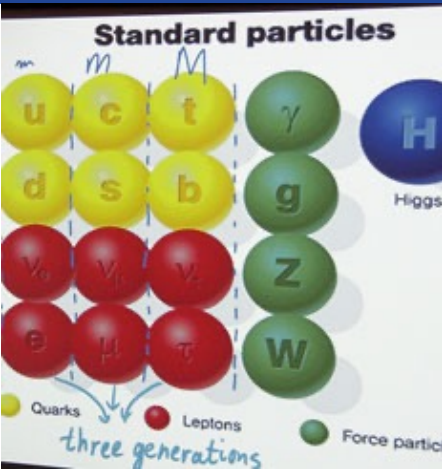
ICTP visiting scientists

- More than 120,000 visits since 1970
- 184 countries represented

Number of visits by scientists from:

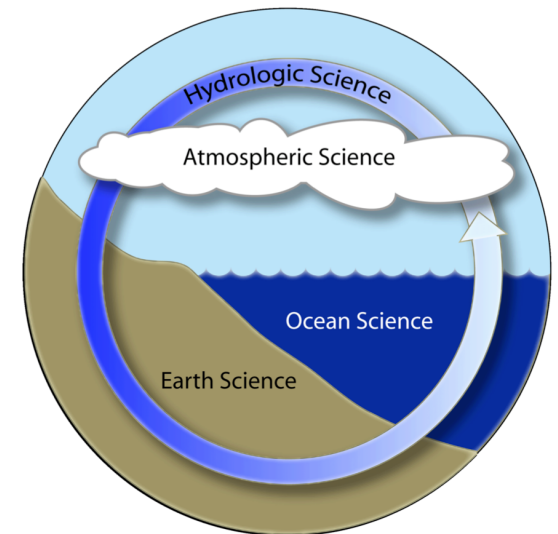
- North America
- Latin America
- Western Europe
- Eastern Europe
- Africa
- Middle East and South East Asia
- Far East
- South East Asia and the Pacific





Research at ICTP

- High Energy, Cosmology and Astroparticle Physics
- Condensed Matter and Statistical Physics
- Mathematics
- Earth System Physics

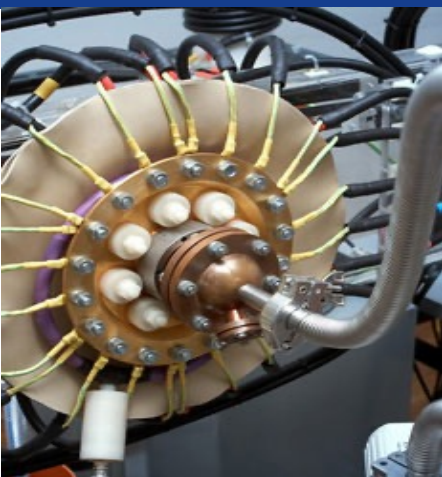
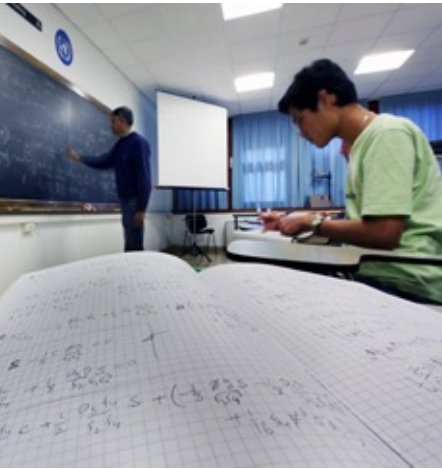




ICTP training and education

- Provides training and skills to scientists from developing countries
- ICTP organizes more than 60 conferences/workshops each year
- Welcomes 4,000 to 5,000 scientists from about 130 nations each year
- Attracts an additional 1,000-2,000 scientists/year through hosted activities



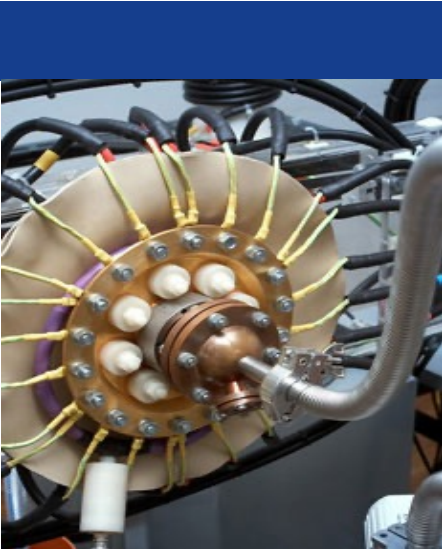


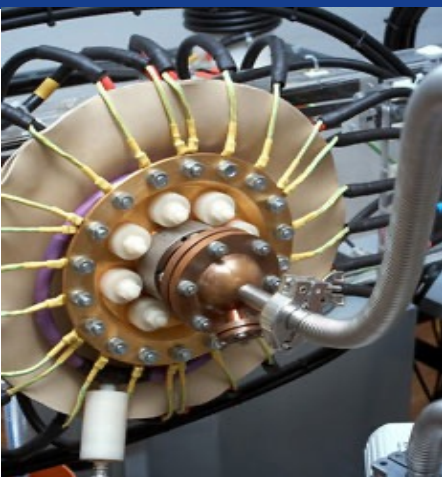
Diploma Programme

- Pre-PhD Diploma Programme: 1-year intense pre-PhD programme.
- Two streams: Physics of Solid Earth / Physics of Climate.
- Students work on a research thesis with an ICTP supervisor.
- Many of our students have been accepted for PhD in US and European Universities.
- <http://diploma.ictp.it/courses/esp.aspx>

MSc in HPC

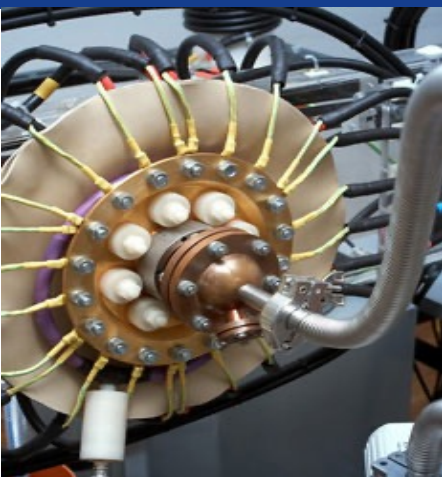
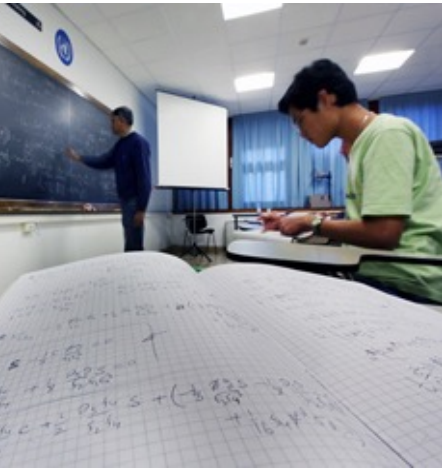
- Master in High Performance Computing (MHPC)
- Lecturers from ICTP, SISSA, CINECA.
- MHPC provides skills useful both in the academic and in the industrial field, like technical and software development.
- The program combines lectures with hands-on and applied projects to prepare future HPC specialists for academia and industry.
- <http://www.mhpc.it/>





STEP Programme

- Sandwich Training Educational Programme (STEP): fellowships to PhD students from developing countries in the fields of physics and mathematics.
- With a STEP fellowship, **PhD students study at their home universities but have the financial support to visit ICTP** or a collaborating institute for a three- to six-month stay each year for three successive years.
- Their PhD is awarded at their home institutes.



PhD Programme

➤ Joint PhD Programme

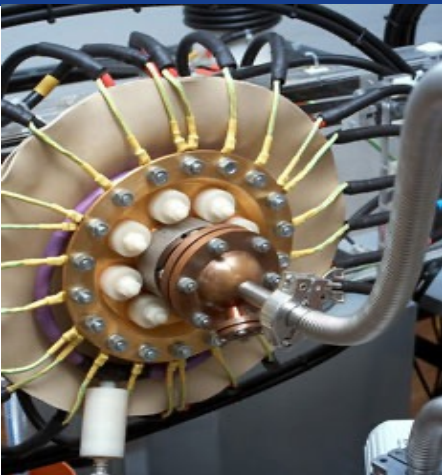
Earth Science and Fluid Mechanics

with Trieste University

- 3-year PhD programme.
- Courses in common with ICTP Diploma, Math. Dept, Engineering Dept.
- Funding comes from Trieste U., Italy, EU sources, ICTP.
- <https://web.units.it/dottorato/esfm/>

Associate Programmes

- Associate Schemes
- Junior: promising young scientists up to the age of 35. 6-year appointment, during which associate visits ICTP three times for stays of between 30 and 60 days each.
- Regular: Scientists aged between 36 and 45.
- Senior: intended for scientists, over the age of 45, from and working in developing countries. 6-year appointment; unlimited visits of up to 60 days each.





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... and it is also a nice place to visit/live



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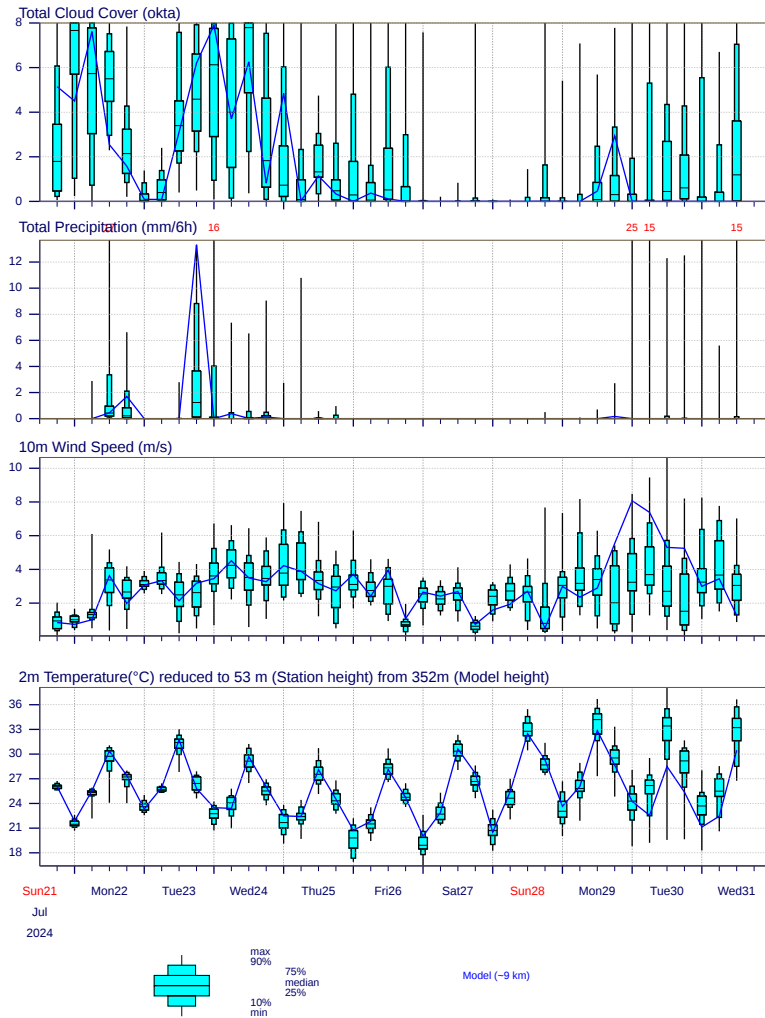
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ENS Meteogram

Trieste - Friuli - Italy 45.66°N 13.89°E (ENS land point) 53 m

High Resolution Forecast and ENS Distribution Sunday 21 July 2024 12 UTC





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22-28 July, 2024

<https://indico.ictp.it/event/10498/>

29-31 July, 2024

<https://indico.ictp.it/event/10611/>



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School and Workshop on Polar Climates: Theoretical, Observational and Modelling Advances

Description:

The sea ice plays a key role in the climate system, through its impact on radiative fluxes and the modulation of freshwater, energy and gas transfers between the atmosphere and the ocean. Sea ice is also key to polar ecosystems and plays a central role in the lives of human communities in the Arctic. Sea ice has been ongoing drastic changes over the past few decades in the Arctic, and more recently in the Antarctic, with important regional and global implications that we have yet to unravel and quantify.

MORE DETAILS:

The objective of this workshop is to review the recent advances on understanding the variability of the sea ice in both hemispheres and its linkage with the climate system, and to discuss the important research avenues and opportunities to refine this understanding. To do so, the workshop will feature keynotes, group and panel discussions, as well as poster presentations with a focus on the following topics, each covering both polar regions:

- Sea ice prediction and projections
- Drivers of the recent sea ice decline
- MIZ and coastal processes
- From Mosaic to Antarctica InSync: perspective and prospective

KEYNOTE SPEAKERS INCLUDE:

C. BITZ, University of Washington, USA
T. BRACEGIRDLE, BAS, UK
G. CASTELLANI, Norwegian Polar Institute, Norway
M. P. CHIDICHIMO, CONICET/Universidad Nacional de San Martín, Argentina
F. COLLEONI, OGS, Italy
I. FRENKER, GEOMAR, Germany
M. V. GUARINO, ICTP, Italy
M. GUPTA, Delft Institute of Technology, Netherlands
P. KUSHNER, University of Toronto, Canada
P. MYERS, University of Alberta, Canada
I. SMITH, University of Otago, New Zealand
L. TEDESCO, Finnish Environment Institute, Finland
S. WATERMAN, University of British Columbia, Canada
L. ZAMPERI, CMCC, Italy

Participants seeking to attend the whole period (22-31 July), can apply to the "School and Workshop on Polar Climates: Theoretical, Observational and Modelling Advances".

22 - 31 July 2024

Trieste, Italy

Deadline:
1 May 2024

DIRECTORS:

C. DUFOUR, McGill University, Canada
A. HAJMANN, AWI, Germany
D. KOVNO, CMCC, Italy
I. MARTIN, GEOMAR, Germany
B. RABE, AWI, Germany
A. SCARICELLI, SIPN, Argentina
A. SOLOMON, NOAA, USA

LOCAL ORGANISER:

R. FARNETI, ICTP, Italy

GRANTS:

A limited number of grants are available to support the attendance of selected participants, with priority given to participants from developing countries. There is no registration fee.

FURTHER INFORMATION:

E-mail: smr3960@ictp.it
Web: <https://indico.ictp.it/event/10611/>

Female scientists are encouraged to apply

for any question:

rfarneti@ictp.it

smr3960@ictp.it



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Workshop on the Role of Sea Ice and its Variability in the Climate System

Description:

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M. GUPTA, Delft Institute of Technology, Netherlands
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