# Welcome to ECT\*

Bira van Kolck

Director



### ECT\* mission

- ✓ to be a center at the frontline of research in nuclear theory.
- ✓ to promote contact with experiment and related areas
- ✓ to further the training of young researchers

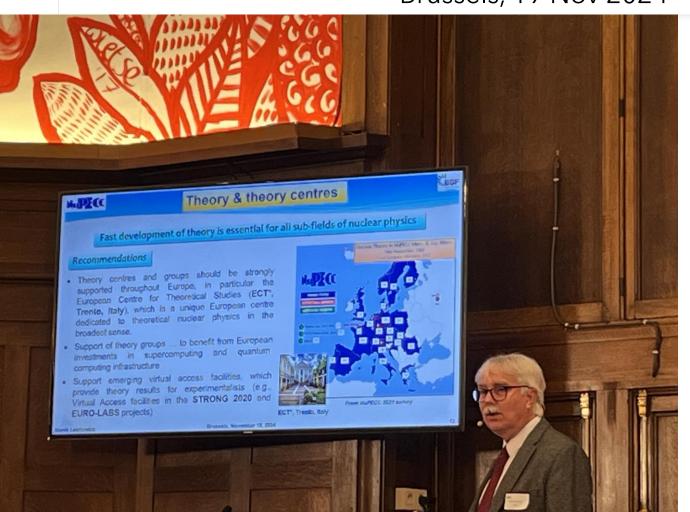
Unique venue in European nuclear ecosystem

- institutional member of ESF's Expert Committee NuPECC (Nuclear Physics European Collaboration Committee)
- community-driven, bottom-up approach
- established in 1993



### NuPECC LRP

Brussels, 19 Nov 2024







### 2025 activities

(selected by Scientific Board)

22 workshops (23 weeks)

from February to December

+

1 three-week

### **Doctoral Training Program/TALENT School**

in June/July

Quantum Computing for Nuclear Physics

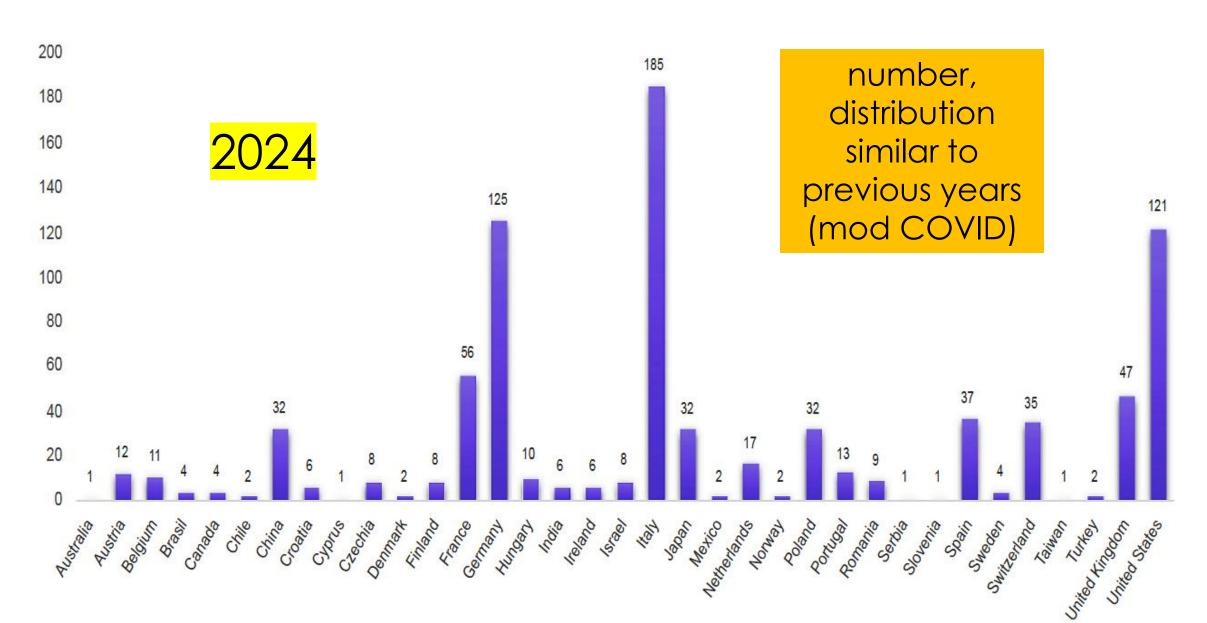
(A. Bazavov, Z. Davoudi, M. Hjorth-Jensen, R. Larose, D. Lee, A. Roggero)





- hard, hot & dense QCD:
   chiral transport, probes, singularities, thermalization, Hamiltonian methods, multicanonical methods
- hadronic physics:
   scale setting, mechanical properties, Green's Functions, analytical/numerical methods
- nuclear structure and reactions:
   theory tools for experiment, ab initio theory, charge radii, few-body physics
- nuclear astrophysics:key reactions, neutron-capture reactions
- symmetries & fundamental interactions:
   lepton-flavor violation
- related areas:
   quantum science, universality, superfluids, superconducting devices, uncertainty quantification

#### Participants workshops and DTP/TALENT School: 843



# 2027 CALL FOR 2026 PROJECT PROPOSALS

We welcome proposals for projects to take place at ECT\* in 2026. Projects can be workshops or collaboration meetings, and schools (as part of ECT\*'s Doctoral Training Program). Other formats can be proposed and will be evaluated by the Board on a case-by-case basis. Decisions on approvals will be made at the Scientific Board meetings in June and October 2025.

The topics of the planned activities should be in line with the main scientific interests of ECT\*, i.e. nuclear physics in a broad sense. This involves nuclear structure and reaction dynamics, nuclear astrophysics, Quantum Chromodynamics and hadron physics, strongly interacting matter under extreme conditions, and symmetries and fundamental interactions. Topics can also be in related areas, such as particle physics, astroparticle physics and cosmology, methods of quantum field theory, condensed-matter physics, the physics of ultra-cold atomic gases, nuclear physics tools, machine learning, artificial intelligence, quantum computing, experimental techniques and methods.

The Scientific Board encourages the group of organizers to reflect diversity and combine established and early-career researchers.

Click here for a template of the form for proposals in Word, PDF and Latex format.

Please send the form no later than September 29, 2025 by email to: driessen@ectstar.eu with cc to direzione@ectstar.eu.

Next deadline ~ May 2026

#### INFO

Workshops

Guidelines for Workshop Organizers

Participant Information

Introductory Talks

Past Workshops

**Doctoral Training Program** 

**TALENT School** 

Seminars and Colloquia

Visiting Program

Virtual Platforms

ECT\* Code of Conduct

Call for 2026 Project Proposals

https://www.ectstar.eu/activities/workshops/call-for-2026-project-proposals

### Scientific Board

three-year terms

membership suggested by ECT\* associates

registration at

https://www.ectstar.eu/about-us/ect-associates

François Arleo | CNRS (F)

Sonia Bacca | University of Mainz (D)

Gilberto Colangelo | University of Bern (CH)

Gail McLaughlin | NC State University (USA)

Alexandre Obertelli | TU Darmstadt (D)

Assumpta Parreño Garcia | University of Barcelona (E)

Barbara Pasquini, Board Chair | University of Pavia (I)

Vittorio Somà | CEA Saclay (F)

Eberhard Widmann | NuPECC / Stefan Meyer Institute, Austrian Academy of Sciences (A)

Ex officio: Albino Perego | University of Trento (I)



From: **ECT\* Direzione** < <u>direzione@ectstar.eu</u>>

Date: Mon, Nov 3, 2025 at 11:50

Subject: Call for suggestions new members ECT\* Scientific Board 2026

To:

Dear ECT\* Associate,

we are looking for suggestions concerning the nomination of two new members of the ECT\* Scientific Board.

The mandates of Alexandre **Obertelli** and Vittorio **Somà** will end in April 2026. The Board aims for a broad representation in terms of scientific experience, nationality and gender. Suggestions that reflect this modern idea of diversity will receive particular attention.

Please send your suggestions, together with a short statement about suitability, not longer than 200 words, by e-mail to Susan Driessen (driessen@ectstar.eu), with in cc direzione@ectstar.eu. To be useful, your e-mail should arrive no later than **December 15**, **2025**.

Best regards,

Ubirajara van Kolck

Director ECT\*

#### ECT\* - Senior Researchers



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## Local Researchers



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#### **ECT\*** Researcher



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#### **ECT\* Postdocs**



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LUCAS MADEIRA ECT\*/TIFPA postdoc @ Imadeira@ectstar.eu

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#### **ECT\* PhD students**



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TOMMASO MORRESI ECT\* Postdoc @ morresi@ectstar.eu

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LUCA VESPUCCI ECT\* PhD student @ Ivespucci@ectstar.eu

### What we do

Lepton & baryon numbers, time reversal, ...

Fundamental symmetries

Quantum Chromodynamics

Gluon saturation, hadron structure, ...

Nuclear structure and reactions

Effective field theories, halo nuclei ...

Nuclear astrophysics

Neutron stars, astrophysical plasmas, ...

Machine learning, transport Monte Carlo, quantum gases, ...

Computational physics

Quantum information

Simulations on acomputers, ...

### VISITING PROGRAM

ECT\* offers an exciting research environment, with a strong group of local researchers and lively workshops on a variety of topics. We also welcome visitors who can further enhance European and local research efforts. Visitors are selected on the basis of academic excellence and their expected contribution to ECT\*.

#### Short- and medium-term visitors

ECT\* intends to support local expenses for a few visitors. For visits of one or two weeks, hotel and meals can be supported. Longer stays might be accommodated albeit with reduced support.

If you are interested, please fill in this form.

#### Long-term visitors

No open call at the moment.

### Call for expressions of interest for Marie Sklodowska Curie Individual Fellowships

No open call at the moment.

ACTIVITIES@ECT\*

Workshops

**Doctoral Training Progra** 

TALENT SCHOOL

Seminars and Colloquia

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ECT\* Code of Conduct

### New Initiative



### VIRTUAL PLATFORMS

ECT\* offers virtual access to theoretical tools developed for the benefit of the nuclear physics and related communities.

#### LaVA – Lattice Virtual Academy

LaVA is a platform for an evolving collection of e-learning materials in the area of lattice field theory, a powerful computational method for nuclear and particle physics which is rapidly expanding to artificial intelligence and quantum computing. The platform is organized by topics (essentials, algorithms, etc.) and by level (beginners, advanced, experienced researcher) for easy access by users.

Access to the LaVA platform

#### ACTIVITIES@ECT\*

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### Staff

### Your coordinator

#### Staff



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Welcome Anna!

#### Staff Collaborator



PASQUALE POLIGAMIA
Staff Collaborator

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### Funding

o unit of Fondazione Bruno Kessler (FBK)



- o institutional support from national funding agencies and institutions
- EU/Horizon funding: ECT\* recognized as a transnational access facility by NuPECC together with experimental labs
- o individual projects, e.g. Marie Curie

#### Funding agencies and supporting institutions:









### Funding









European network















**BRUNO KESSLER** 











#### Additional contributors:







ACE – ADVANCED COATINGS FOR ENHANCED CORROSION RESISTANCE OF STEEL IN LIQUID METAL ENERGY SYSTEMS





# Special Workshop Support







### Acknowledgements

### In relevant publications, please include:

- We thank ECT\* [and FRIB-TA, if appropriate] for support at the Workshop [name of workshop] during which this work has been initiated/developed/completed.
- This work has been supported by EURO-LABS, which received funding from the European Union's Horizon Europe Research and Innovation programme under grant agreement No. 101057511.

https://www.ectstar.eu/acknowledgements

A venue for WORKshops:
intense
scientific exchange
for the progress of
nuclear theory
and related areas



#### ECT\* CODE OF CONDUCT

ECT\* is committed to making its activities productive and enjoyable for everyone. All participants share the responsibility of fostering a supportive professional environment where open and frank discussion of ideas can take place, and where everyone is treated with courtesy and respect, regardless of their personal characteristics and background. We will not tolerate harassment of participants or others involved in ECT\* in any form. For the entire duration of an ECT\* activity and in other professional interactions with colleagues you agree to follow these guidelines:

Behave professionally in personal interactions as well as in any other form of communication including social media. Harassment and sexist, racist, or exclusionary comments or jokes are not appropriate. Harassment includes sustained disruption of talks or other events, inappropriate physical contact, sexual attention or innuendo, deliberate intimidation, stalking, and photography or recording of an individual without consent. It also includes, but is not limited to, offensive comments related to gender identity, sexual orientation, disability, physical appearance, body size, race, nationality, or the religion or non-religion of participants.

Be kind to others. Do not insult or put down attendees or other individuals associated with ECT\*. Scientific discussion and criticism are vital and should be conducted in this spirit.

All communication should be appropriate for a professional audience including people of many different backgrounds. If participants wish to share photos of a speaker on social media, we strongly recommend that they first obtain the speaker's permission. Participants may share the contents of talks/slides via social media unless speakers have asked that specific details/slides should not be shared.

Should a participant be asked to stop any inappropriate behavior, they are expected to comply immediately. In serious cases, they may be asked to leave the activity at the sole discretion of the organizers and the ECT\* Director. They may also be banned from participation in future activities.

Should a participant witness events of bullying, harassment or aggression, we recommend that they approach the affected person and show support. The witness may also suggest that the inappropriate behavior be reported and offer to facilitate that reporting if requested.

Participants can report any violation of these guidelines to the activity organizers, ECT\* staff or the ECT\* Director. Such reports will be treated confidentially.

Thank you for helping to make ECT\* welcoming to all.

The ECT\* Director

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Enjoy the meeting!

