



Welcome
to ECT*



ECT*
EUROPEAN CENTRE
FOR THEORETICAL STUDIES
IN NUCLEAR PHYSICS AND RELATED AREA

Gert Aarts

ECT* Director

ECT* mission

- ✓ to be a Centre at the frontline of research in theoretical nuclear physics
- ✓ to promote active contacts between theory and experiments, and to related areas of research
- ✓ to further the training of young researchers
- established in 1993
- Institutional member of ESF-Expert Committee NuPECC (Nuclear Physics European Collaboration Committee)
- community-driven, bottom-up approach

2021 PROGRAMME OF ACTIVITIES

APRIL

19-23.4
ONLINE
Mass in the Standard Model and Consequences of Its Emergence
D. BINOSI (ECT*), C. FISCHER (Justus-Liebig-Universität Gießen),
T. HORN (Catholic University of America), C. ROBERTS (ANL)

26-30.4
ONLINE
Heavy-Flavor Transport in QCD Matter
R. RAPP (Texas A&M University), R. AVERBECK (GSI, Darmstadt),
X. DONG (LBL, Berkeley), P. GOSSIAUX (Subatech, Nantes),
X.-N. WANG (CCNU Wuhan)

MAY

17-21.5
ONLINE
New Physics Searches in Heavy Ion Collisions
M. DREWES (UCLouvain), D. D'ENTERRIA (CERN),
A. GIAMMANCO (UCLouvain), J. HAUJER (UCLouvain)

24.-28.5
ONLINE
STRANU: Hot Topics in STRANGeness Nuclear and Atomic Physics
K. PISCICCHIA (Centro Fermi, Roma), C. CURVE ANU (LNF-INFN, Frascati),
D. GAZDA (Czech Academy of Sciences), E. HYAMA (Kyushu University
-RIKEN Nishina Center, Wako), P. MOSKAL (Jagiellonian University,
Krakow), F. SAKUMA (RIKEN Nishina Center, Wako)

JUNE

14-17.6
ONLINE
Neutron Stars as Multi-Messenger Laboratories for Dense Matter
I. TEWS (LANL, Los Alamos), B. GIACOMAZZO (University of Milano),
S. GUILLOT (CNRS Toulouse), J. MARGUERON (IPN Lyon),
S. NISSANKE (University of Amsterdam)

22-23.6
ONLINE
Key Reactions in Nuclear Astrophysics
A. TUMINO (Università degli Studi di Enna "Kore" & INFN-LNS, Catania),
J. JOSE (Technical University of Catalonia), C. BERTULANI (Texas A&M
University-Commerce), R. DIEHL (MPI Munich), L. TRACHE (IFIN-HH
Bucarest-Magurele, Romania)

28.6-17
ONLINE
Nuclear Physics at the Edge of Stability
G. HUPIN (UCLab), O. SORLIN (GANIL), A. GADE (MSU), L. PLATTER (UTK)

28.6-23.7
ONLINE
**Doctoral Training Programme: High-Energy and Nuclear Physics
within Quantum Technologies**
P. HERNANDEZ (University of Valencia), S. MONTANGERO (University of
Padova), Y. OMAR (University of Lisbon), E. RICO (UPV/EHU, Ikerbasque)

28.6-17
ONLINE
Saturation and Diffraction at the LHC and the EIC
C. ROYON (Kansas University), A. SABIO VERA (Universidad Autónoma
de Madrid), S. SCHLICHTING (University of Bielefeld), A. DESHPANDE
(Stony Brook University), G. SOYUZ (IphT, Saclay), H. HENTSCHINSKI
(Universidad de Las Americas Puebla)

JULY

5-9.7
ONLINE
Relativistic Fermions in Flatland: Theory and Application
S. HANDS (Swansea University), H. GIES (Friedrich-Schiller-Universität
Jena), J. GRACEY (University of Liverpool),
I. HERBUT (Simon Fraser University)

12-16.7
ONLINE
Probing Nuclear Physics with Neutron Star Mergers
C. FRYER (LANL, Los Alamos & George Washington University),
J. LIPPUNER (LANL, Los Alamos), M. MURPOWER (LANL, Los Alamos),
A. STEINER (University of Tennessee), B. COTE (Konkoly Observatory),
R. SURMAN (University of Notre Dame), S. ROSSWOO (Stockholm University)

19-21.7
ONLINE
**Nuclear Physics Meets Condensed Matter: Symmetry,
Topology, and Gauge**
A. GEZERLIS (University of Guelph), A. ROGGERO (University of Washington),
C. SA DE MELO (Georgia Institute of Technology)

19-30.7
ONLINE
**TALENT School: Machine Learning applied to Nuclear Physics,
Experiment and Theory**
M. HJORTH-JENSEN (Michigan State University and University of Oslo),
D. BAZIN (Michigan State University), M. KUCHERA (Davidson College), S.
LIDDICK (Michigan State University), R. RAMAMUJAN (Davidson College)

26-30.7
ONLINE
**Nuclear and Atomic Transitions as Laboratories for High
Precision Tests of Quantum Gravity Inspired Models**
A. MARCIANO (Fudan University), S. ALEXANDER (Brown University,
Providence), E. BARBERIO (Melbourne University), C. CURCEANU
(LNF-INFN, Frascati), K. PISCICCHIA (Centro Fermi, Roma), N. YUNES
(University of Illinois at Urbana-Champaign)

SEPTEMBER

6-10.09
ONLINE
**LFC21: Strong Interactions from QCD to New Strong Dynamics
at LHC and Future Colliders***
G. CORCELLA (LNF-INFN, Frascati), S. DE CURTIS (INFN Florence),
S. MORETTI (University of Southampton), G. PANCHERI (LNF-INFN,
Frascati), R. TENCHINI (INFN Pisa), M. VOS (IFIC Valencia)

13-17.09
ONLINE
**Tackling the Real-Time Challenge in Strongly Correlated
Systems: Spectral Properties from Euclidean Path Integrals***
S. RYAN (Trinity College Dublin), A. ROTHKOPF (University of Stavanger),
A. FRANCIS (CERN)

27.9-1.10
HYBRID
Machine Learning for High Energy Physics, on and off the Lattice*
A. ATHENODOROU (Pisa University), D. GIATABANAS (National and
Kapodistrian University of Athens), B. LUCINI (Swansea University),
E. RINALDI (Aritihmar Inc., Tokyo), K. CRANMER (New York University),
C. ALEXANDROU (University of Cyprus)

OCTOBER

11-15.10
Exploring High- μ B Matter With Rare Probes*
E. SCOMPARIN (INFN Torino), T. GALATYUK (GSI & TU Darmstadt),
M. P. LOMBARDO (INFN Florence), R. RAPP (Texas A&M University),
G. USAI (University of Cagliari & INFN)

25-29.10
Tomography of Light Nuclei at an EIC*
A. FRIESE (ANL), W. COSNY (Ghent University & Florida International
University), I. CLOËT (ANL), P. SHANAHAN (MIT)

NOVEMBER

15-19.11
Quark-Gluon Plasma Characterisation with Heavy Flavour Probes*
G. BRUNO (INFN Bari), J. AICHELIN (Subatech),
R. AVERBECK (GSI and EMMI), F. GROSA (INFN Torino)

*STRONG-2020 supported workshop

All workshops scheduled until the end of July 2021 will run online, in an adapted format. Any decision on the events after July 2021, will be taken in due time.
The ECT* is part of the Bruno Kessler Foundation. The Centre is funded by the Autonomous Province of Trento, funding agencies of EU Member and Associated States,
INFN-TIFPA, and has the support of the Department of Physics of the University of Trento. The Director of the ECT* is Prof. Gert Aarts (Trento and Swansea University)

For information: staff@ectstar.eu | www.ectstar.eu

2021 Activities

all activities online until end of September,
currently developing hybrid meetings

training programme:

- TALENT School: Machine Learning applied to Nuclear Physics, Experiment and Theory
- Doctoral Training Program (DTP): High-Energy and Nuclear Physics within Quantum Technologies

visitor program (to resume)



ECT*



Following

ECT*_Trento

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Trento, Italy ectstar.eu Joined April 2021

176 Following **154** Followers

ECT* and related areas

astrophysics, cosmology, particle physics, quantum field theory, condensed matter physics, many-body theory, computational physics, ultra-cold atomic gases, quantum technology, quantum computing, ...

- global activities in quantum technology, machine learning
- relation to NP: quantum many-body problem, strongly coupled systems, data generation and analysis, ...
- opportunities for theoretical NP community

ECT* Scientific Board

membership suggested
by ECT* associates
3-year term

[Marcella Grasso](#), Board Chair | CNRS-INP Orsay (F)

[Constantia Alexandrou](#) | The Cyprus Institute (CY)

[Carlo Barbieri](#) | University of Milan (I)

[Anna Corsi](#) | IRFU/DPhN (F)

[David Kaplan](#) | University of Washington (USA)

[Morten Hjorth-Jensen](#) | Michigan State University (USA) & University of Oslo (NO)

[Marek Lewitowicz](#) | NuPECC/GANIL (F)

[Marc Vanderhaeghen](#) | Universität Mainz (D)

[Urs Wiedemann](#) | CERN-TH (CH)

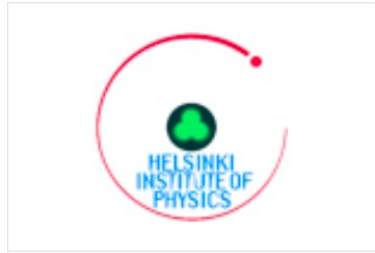
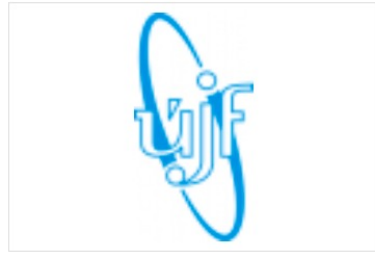
Ex officio: [Sandro Stringari](#) | University of Trento (I)

Ex officio: Victor Braguta | JINR (RU)

Funding

- Fondazione Bruno Kessler (FBK) support
- institutional support from national funding agencies
- EU/Horizon2020 funding: ECT* is recognised as a transnational access facility by NuPECC, similar to experimental labs
- individual projects, e.g. Marie Curie

Funding agencies and supporting institutions:



Funding



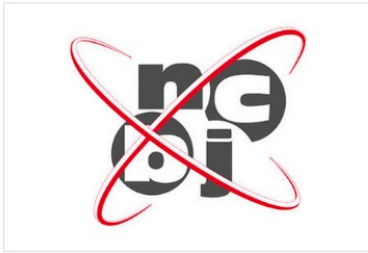
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Additional contributors (Germany):





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- your workshop is supported by STRONG-2020
- please acknowledge this in any publications that are initiated, developed or completed during this meeting:

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your workshop is supported by EMMI

- please acknowledge this in any publications that are initiated, developed or completed during this meeting:

We thank ECT and the ExtreMe Matter Institute EMMI at GSI, Darmstadt, for support in the framework of an ECT*/EMMI Workshop during which this work has been initiated/developed/completed.*



Enjoy the
meeting!

