



Welcome to ECT*



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

28-30.4 **Heavy-Flavor Transport in QCD Matter**
ONLINE
R. RAPP (Texas A&M University), R. AVERBECK (GSI, Darmstadt),
X. DONG (LBL, Berkeley), P. GOSSIAUX (Subatech, Nantes),
X.-N. WANG (CCNU Wuhan)

MAY

10-14.5 **Nuclear Physics at the Edge of Stability**
ONLINE
G. HUPIN (JLab), O. SORLIN (GANIL), A. GADE (MSU), L. PLATTER (UTK)

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

24-28.5 **STRANU: Hot Topics in STRANGeness Nuclear and Atomic Physics**
ONLINE
K. PISCICCHIA (Centro Fermi, Roma), C. CURCEANU (INFN-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 **Neutron Stars as Multi-Messenger Laboratories for Dense Matter**
ONLINE
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 **Key Reactions in Nuclear Astrophysics**
ONLINE
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)

28.6-23.7 **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)

29.6-17 **Saturation and Diffraction at the LHC and the EIC**
ONLINE
C. ROYON (Kansas University), A. SABIO VERA (Universidad Autónoma de Madrid), S. SCHLICHTING (University of Bielefeld), A. DESHPANDE (Stony Brook University), G. SOYEZ (IphT, Saclay), M. HENTSCHINSKI (Universidad de Las Americas Puebla)

JULY

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

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

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

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

19.7-8.8 **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. RAHAMJUAN (Davidson College)

AUGUST

30.8-3.9 **Theoretical and Experimental Challenges in Flavour Hadrons, Heavy Quarkonia and Multi-quark Physics***
M. BARABANOV (JINR, Dubna), B. EL-BENNICH (Universidade Cruzeiro do Sul), E. SANTOPINTO (INFN Genova), E. EPELBAUM (Ruhr-Universität Bochum), A. BASHIR (Universidad Michoacana de San Nicolás de Hidalgo)

SEPTEMBER

6-10.10 **LFC21: Strong Interactions from QCD to New Strong Dynamics at LHC and Future Colliders***
G. CORCELLA (INFN-INFN, Frascati), S. DE CURTIS (INFN Florence),
S. MORETTI (University of Southampton), G. PANCHERI (INFN-INFN, Frascati), R. TENCHINI (INFN Pisa), M. VOS (IFIC Valencia)

13-17.10 **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 **Machine Learning for High Energy Physics, on and off the Lattice***
A. ATHENODOROU (Pisa University), D. GIATAGANAS (National and Kapodistrian University of Athens), B. LUCINI (Swansea University),
E. RINALDI (Arithmer 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. SCOMPARNI (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. FRESE (ANL), W. COSYN (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 EMM), F. GROSSA (INFN Torino)

*STRONG-2020 supported workshop

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2021 Activities

all activities online at least until August, most likely longer

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)

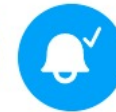


ECT*_Trento

4 Tweets



ECT*



Following

ECT*_Trento

@EctTrento Follows you

European Centre for Theoretical Studies in Nuclear Physics and Related Areas -
[#ectstar](#) [#Trento](#) [@FBK_research](#)

Trento, Italy [ectstar.eu](#) Joined April 2021

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 Surrey (UK)

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

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

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

[Martin Savage](#) | INT & University of Washington (USA)

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

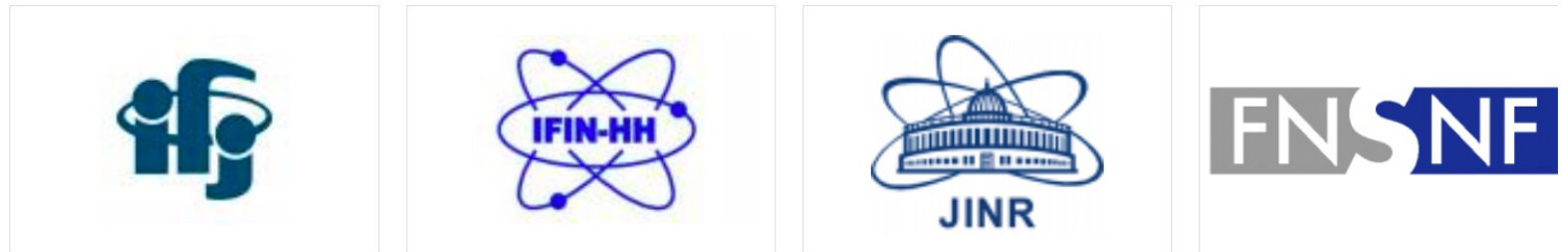
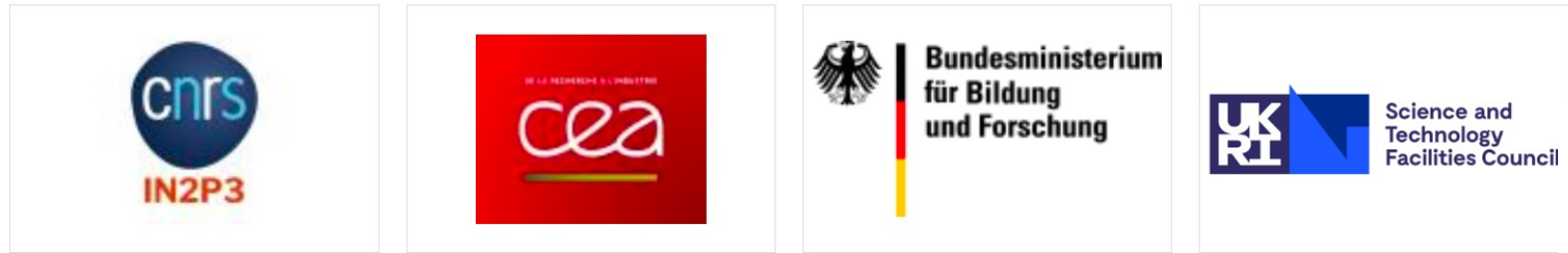
[Urs Wiedemann](#) | CERN-TH (CH)

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

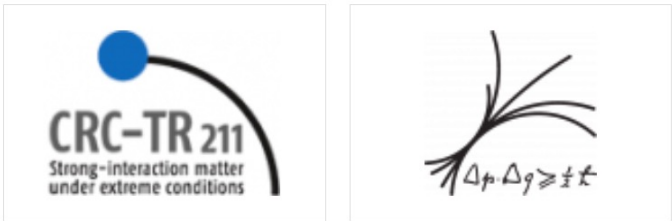
Funding

- 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:



Additional contributors (Germany):



Funding

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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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Enjoy the
meeting!

