



Astroparticle Physics for Europe

Francesca Moglia, Thomas Berghöfer, Christian Stegmann
Astroparticle physics in Germany – status and perspectives
Mainz, 17.09.2018

- Europe has impressive knowledge, capacities and capabilities in astroparticle physics across countries, research organisations and universities.
- Astroparticle physics is in a phase transition from experiments to large research infrastructures (CTA, KM3NeT, ET, DARWIN, LEGEND, ...)
- Increasingly growing research infrastructures require increasingly European and international coordination.
- We need European coordination to enable maximum scientific progress together with all European and international partners.

Brief description of APPEC

- Founded in 2012
- The **AstroParticle Physics European Consortium** is an international body of
 - Ministries
 - Funding agencies
 - Alternatively, their designated national institutionsactive in funding astroparticle physics
- Developed within the EU-funded projects ASPERA and ASPERA-2
- Acting jointly, but with a division of tasks across Europe

Brief description of APPEC

- Is based on a Memorandum of Understanding (MoU)
- Has at the moment :
 - 19 partners
 - 5 observers, including CERN, ESO and ECFA
 - A budget of 70k€/a
- Is seeking contact to all countries interested in astroparticle physics

Participation in APPEC

Interested eligible members can join either as:

- **APPEC Partners**
 - Signing the MoU
 - Full voting rights (one per country)
- **APPEC Observers**
 - Exchanging of letters
 - Speaking rights
 - Involvement in all information channels

APPEC partners and observers



RIA (Ireland)

STFC (UK)

NWO (NL)

FRS-FNRS, FWO (Belgium)

CEA, CNRS (France)

SNSF (Switzerland)

LSC (Spain)

FCT (Portugal)

OSI (Finland)

VR (Sweden)

DESY, KIT (Germany)

JINR (Dubna)

NCN (Poland, obs.)

HAS (Hungary)

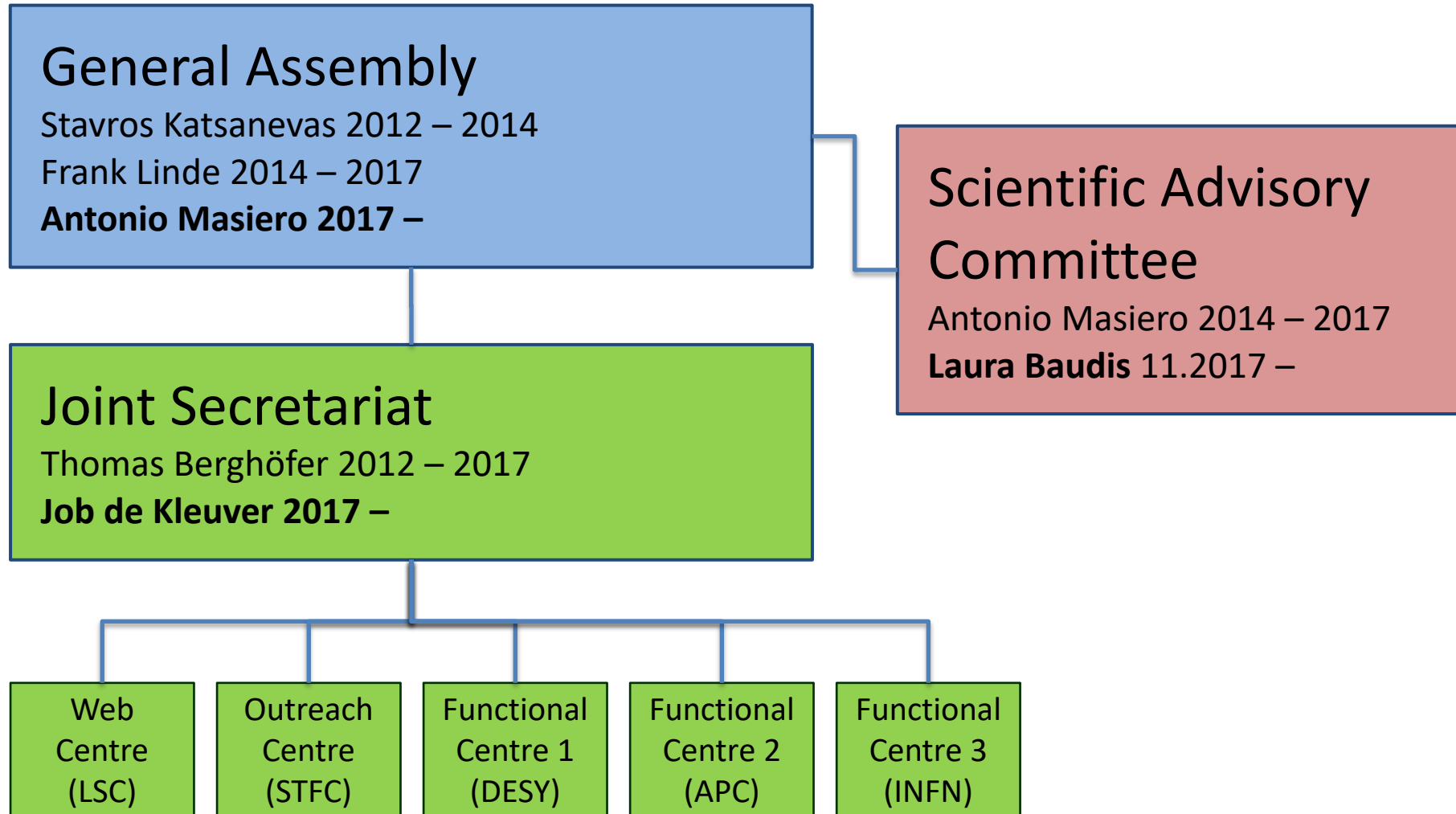
IFIN-HH (Romania)

CSF (Croatia, obs.)

INFN (Italy)

NOA (Greece)

Observers: CERN, ECFA, ESO



Distributed duties of the APPEC functional centers



DESY:
International contact,
Computing, Industrial
relations, Common Fund,
Archive

STFC:
Outreach

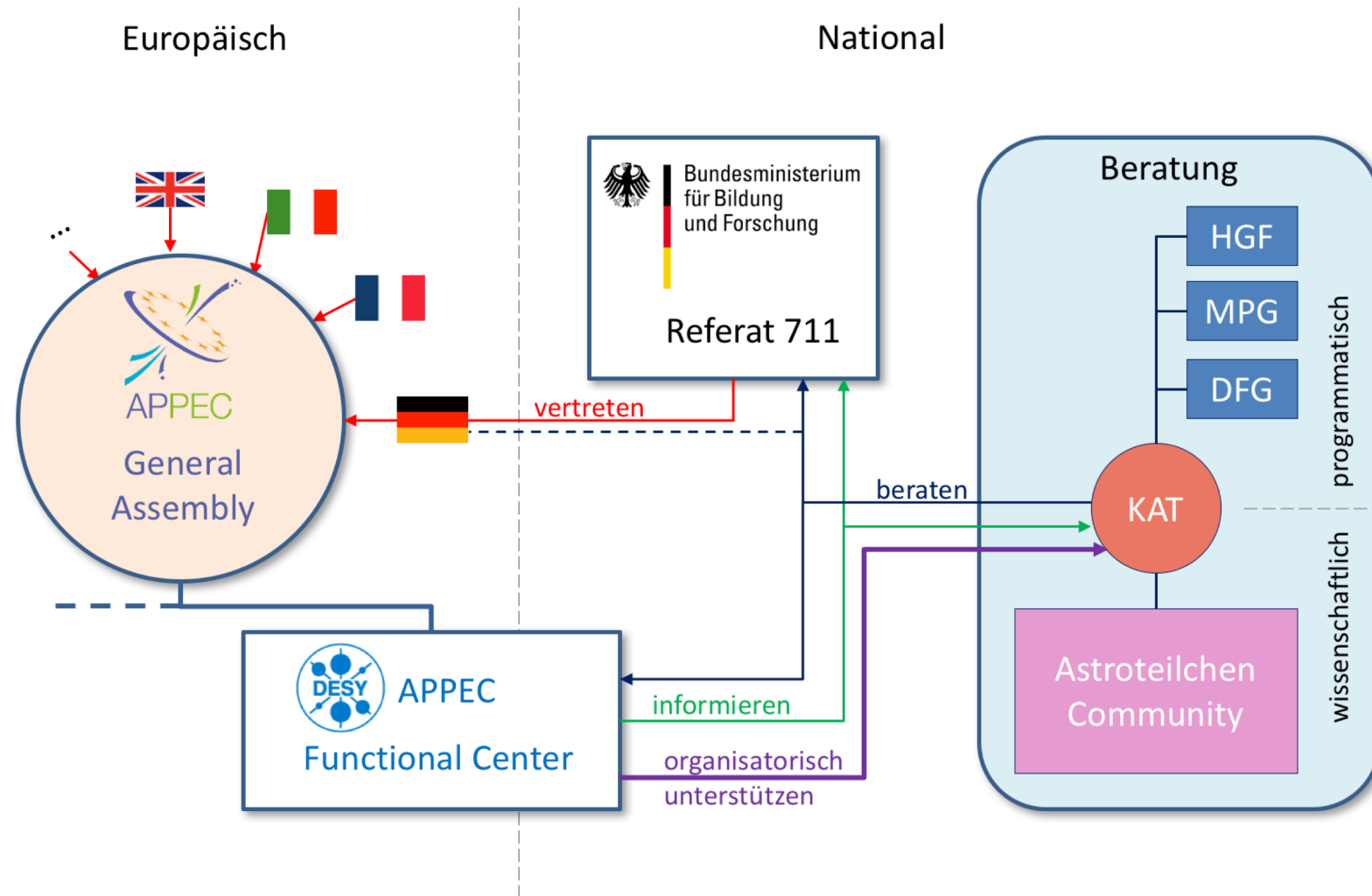
APC/CNRS:
Roadmapping,
Strategic actions,
Interdisciplinarity

LSC:
Webserver,
Electronic tools

INFN:
Networking, Theory and
Education center

Germany in APPEC

Under discussion

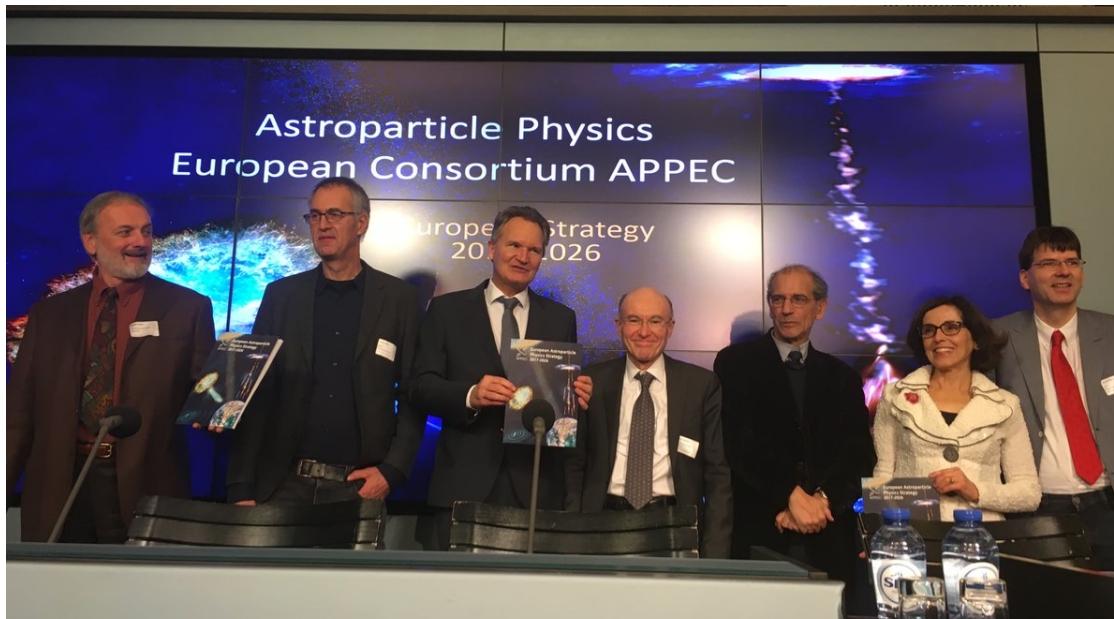


APPEC internal activities in 2018

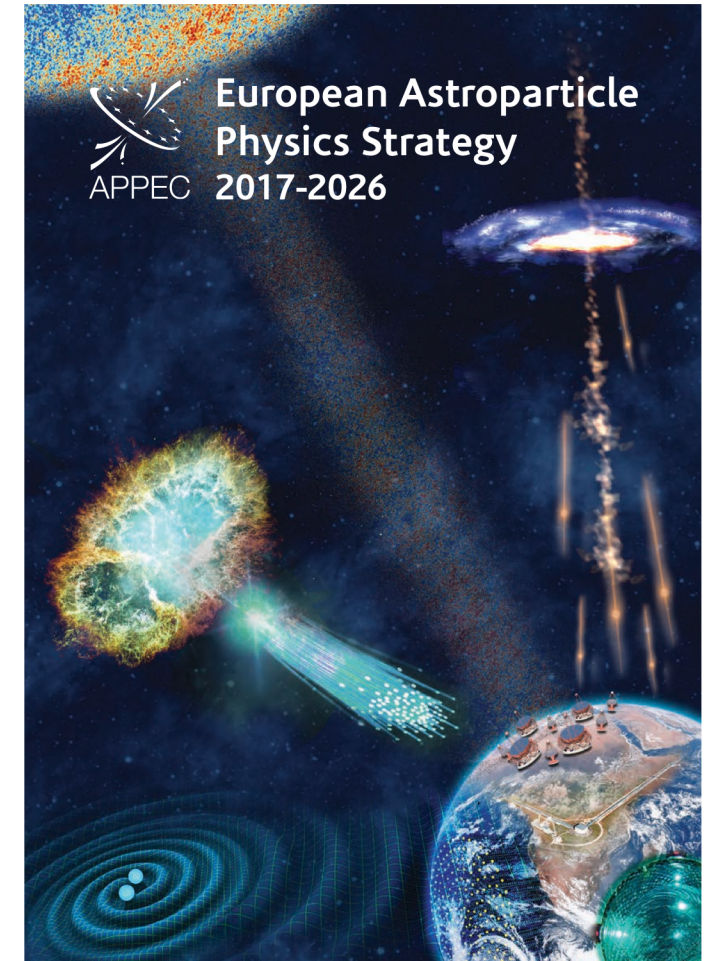
- Hungary is a new partner of APPEC
- The new Scientific Advisory Committee (SAC):
 - **Laura Baudis** (Uni Zurich) is the new SAC chair
 - The total amount of members has been reduced and in part substituted by new members
 - Priority list for more detailed recommendations (start: ν -less 2β -decay experiments)
- Internal proposal for a European Centre for Astroparticle Theory – EuCAPT
 - Activities in different institutes in Europe coordinated by a central hub

APPEC for the community in 2018

- APPEC Roadmap 2017-2026 presented in Bruxelles on January, 9



Giorgio Rossi (ESFRI), Frank Linde (APPEC), Robert-Jan Smits (EU), Stavros Katsanevas (APPEC), France Cordova (NSF), Job de Kleuver (APPEC)



APPEC for the community in 2018

- Intensify collaborations of APPEC with:
 - ET collaboration: support in the coordination of the national country contributions and to increase visibility by the EU (ESFRI Roadmap)
 - CERN council: input in the Update of the EU Strategy for Particle Physics
 - ECFA and NuPECC: working together for a common diversity charter

- APPEC Technology Forum 2018 – November, 12-13, Veldhoven (NL)
 - Topic: **Active and passive stabilization systems and sensors**
 - Scientists and companies from different fields are invited to talk about a common challaning topic
 - Occasion for interdisciplinary discussions and new collaborations
 - GW-search, dark-matter experiments, particle physics, ... And more.



Sign up now!

<http://indico.desy.de/indico/e/ATF2018>

- Spin-off:
 - SENSE: European Commission Horizon 2020 Coordination and Support Action (FET-OPEN) aiming to coordinate research and development efforts in academia and industry in low light level sensing
- Support:
 - Erice summer school: Astroparticle Physics: yesterday, today and tomorrow - The 40th anniversary of the ISCRA (August 2018)
 - DAWN IV Meeting 2018: Global strategies for Gravitational Wave Astronomy (August 2018)
 - Support of the art installation of Tim Otto Roth inspired by the IceCube experiment: **AIS³**
- Towards the European coordination of the CMB programme
 - Florence, September, 20-21: <https://indico.in2p3.fr/event/17625/>



Source:imachination

APPEC plans and ideas for 2019 and beyond

- Meeting to support synergies and collaborations with GEO-8 (equivalent to APPEC for Earth Sciences)
- Regular support of scientists and experiments in Russia
 - consider 3rd conference hosted by Russian laboratory
- Multimessenger astronomy requires revolution in computing techniques and exchange of data
 - consider tailored workshop
- Space and Computing for Big Science
 - consider event in Poland





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Thank you!

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