

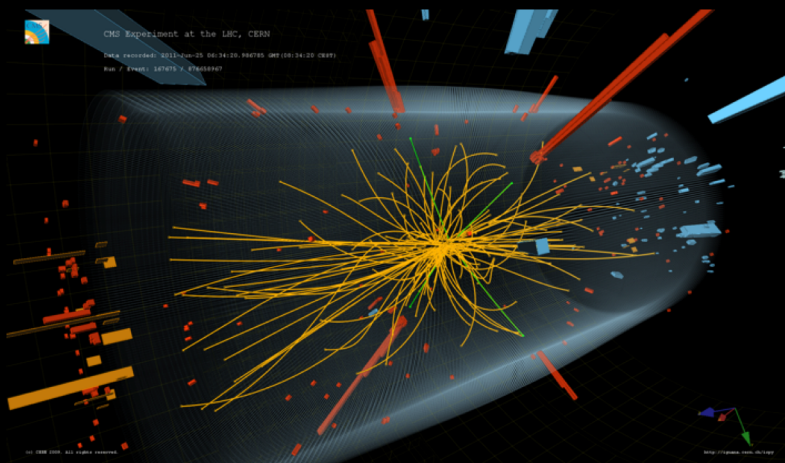
The KIT Center Elementary Particle and Astroparticle Physics KCETA

Anke-Susanne Müller, KCETA Spokesperson

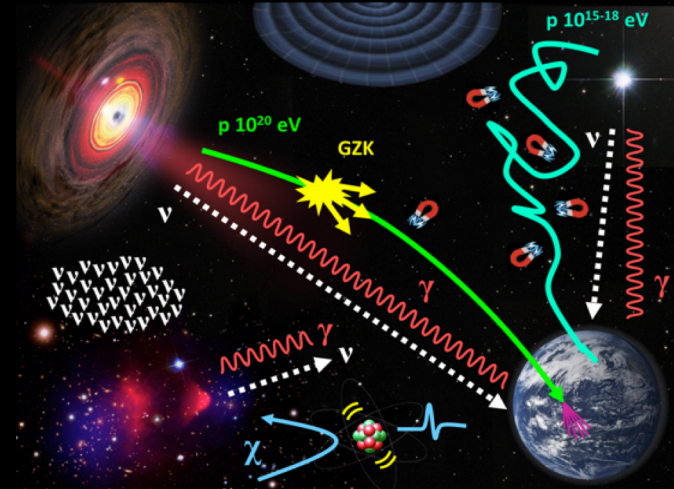


KCETA: What we do

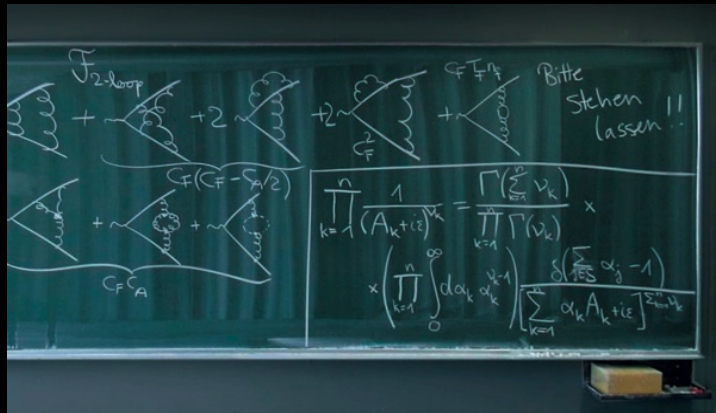
- KCETA fosters experimental and theoretical research and education at the interface between astroparticle physics, elementary particle physics and cosmology, and related technologies.
- KCETA builds on the successful tradition that has been lived for many years in particular in the Center of Excellence for Particle and Astroparticle Physics CETA and in the doctoral school KSETA.
- KCETA engages in large-scale international projects for knowledge-driven fundamental research – with a 360° view covering the entire value chain.
- KCETA is a platform for mutual science, enabling trustful exchange in a protected space and thus paving the way for new ideas and projects.



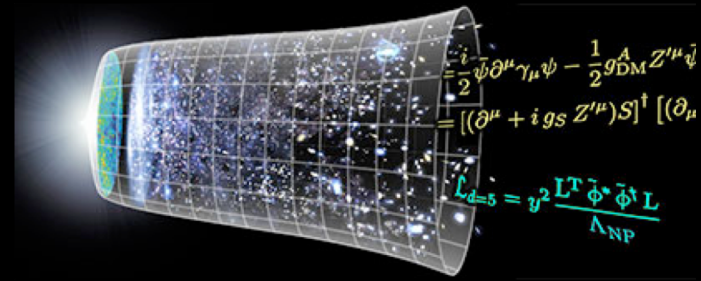
Experimental Particle Physics



Experimental Astroparticle Physics



Theoretical Particle Physics



Theoretical Astroparticle Physics

KCETA covers the entire value chain.....

experimental and theoretical
particle/astroparticle physics



applied physics, engineering &
research in technologies



prototype KCETA alumni....?

KCETA Research Topics

Astroparticle Physics

Cosmic Rays

Dark Matter Searches

High-energy Neutrino-Astronomy

Astroparticle Theory

Experimental Particle Physics

Neutrino Physics

Experimental Collider Physics

Flavor Physics

Accelerator Physics

Theoretical Particle Physics

Theoretical Collider Physics

Quantum Field Theory

Flavor Physics

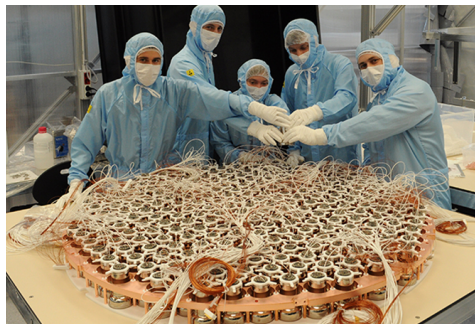
Sensors, Detectors, Electronics

Computing, Data Science, GridKa

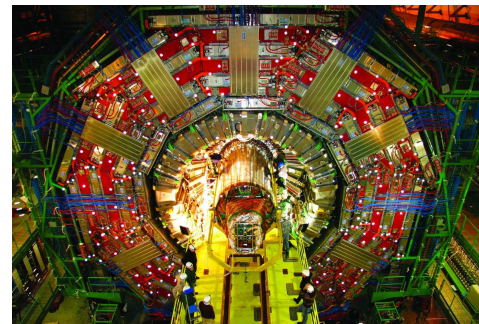
Large-scale Experiments & Collaborations



KATRIN



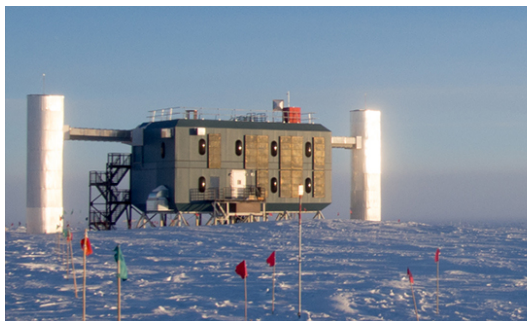
XENONnt



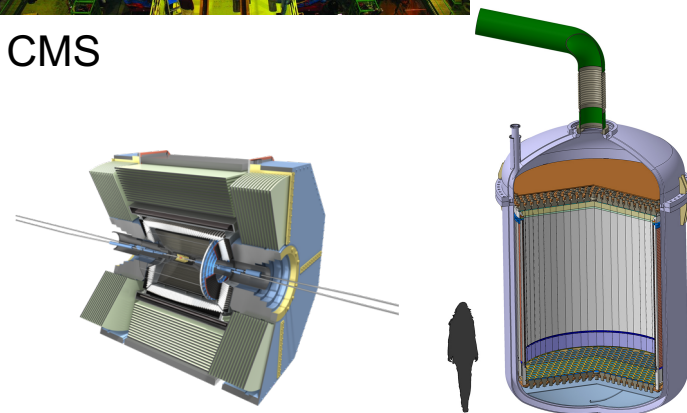
CMS



Pierre Auger Observatory



IceCube Observatory



BELLE II

DARWIN

Research infrastructure and facilities



Grid Computing Center
Karlsruhe (GridKa)



Tritium Laboratory
Karlsruhe (TLK)



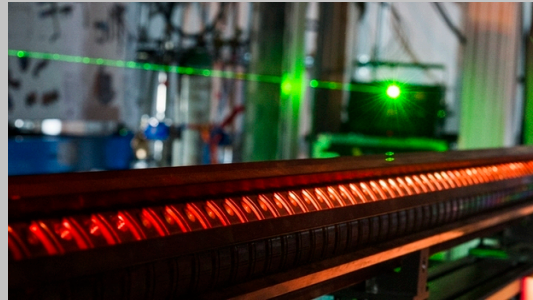
Karlsruhe Research Accelerator (KARA)



ASIC- and Detector Laboratory



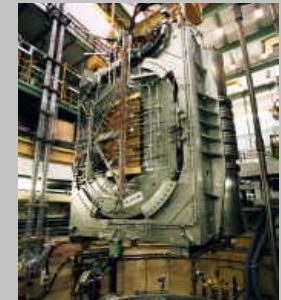
Irradiation center/ cyclotron



Far infrared Linac- and test experiment (FLUTE)



Clean room for production of
superconductive sensors



Superconductive magnet
test facility

KCETA at KIT – The Research University in the Helmholtz Association

Cryo
technology

GridKa

Sensor and
detector development

Five Discipline-oriented
Divisions

Division I
Biology, Chemistry
and Process
Engineering

Division II
Informatics,
Economics
and Society

Division III
Mechanical
and Electrical
Engineering

Division IV
Natural and Built
Environment

Division V
Physics and
Mathematics

Eight Interdisciplinary
KIT Centers



Energy



Information
Systems
Technologies



Mobility
Systems



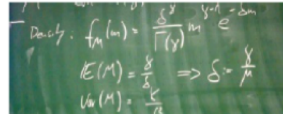
Elementary
Particle and
Astroparticle
Physics



Climate and
Environment



Materials

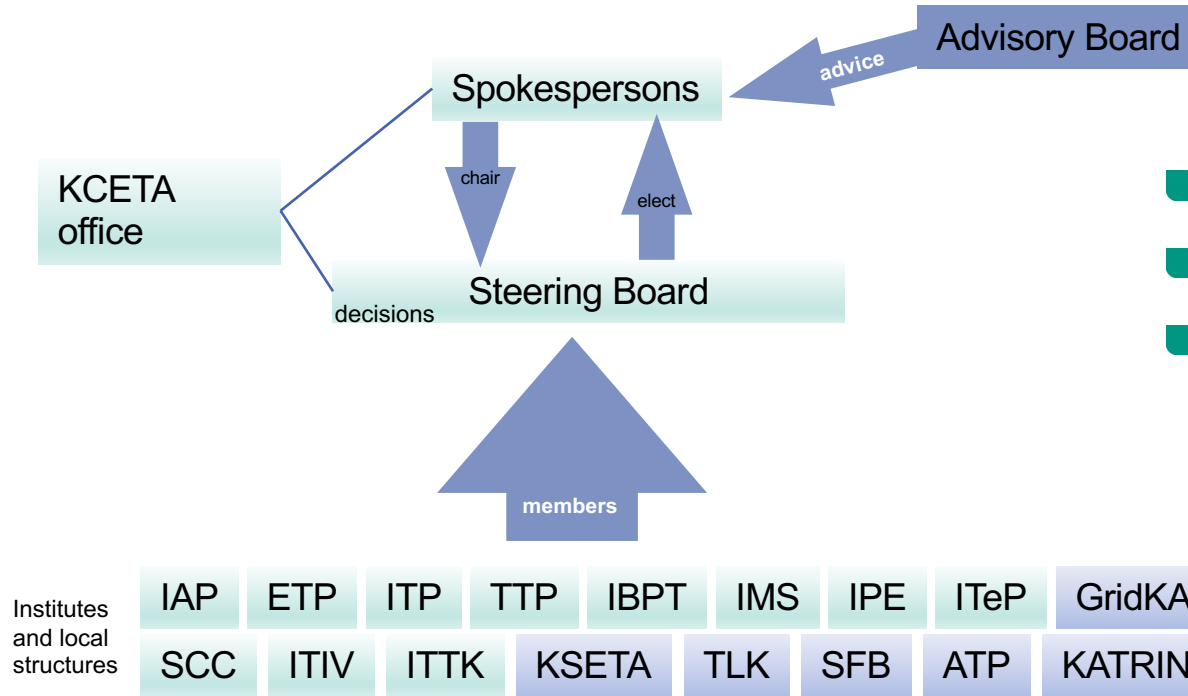


Mathematics in
Sciences, Engineering,
and Economics



Humans and
Technology

Governance and organization



- ~ 450 KCETA members
- Thereof ~ 120 PhD students
- Thereof ~ 45 lead scientists

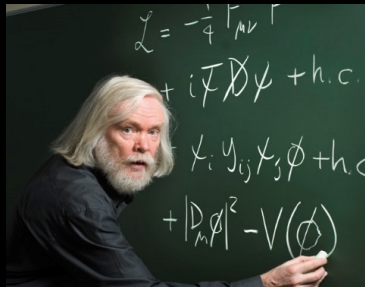
Karlsruhe Graduate School for Elementary Particle Physics and Astroparticle Physics: Science and Technology



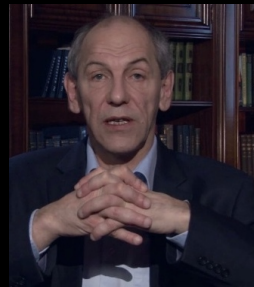
Julius Wess Award



Frank Wilczek
2008



Jonathan Ellis
2009



Valery Rubakov
2010



Guido Altarelli
2011



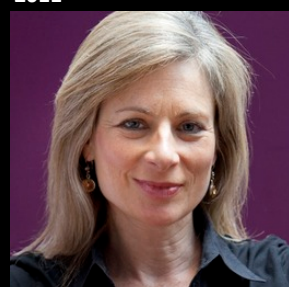
Peter Jenni und Michel Della Negra
2012



Takaaki Kajita
2013



Arkady Vainshtein
2014



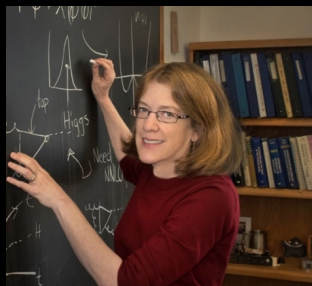
Lisa Randall
2015



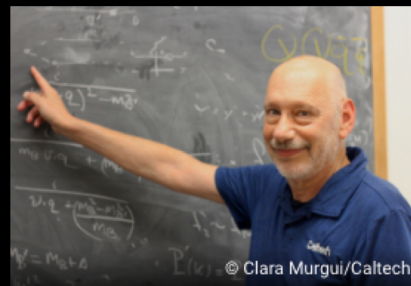
Robert Klanner
2016



Francis Halzen
2017



Sally Dawson
2018



Mark Wise
2021

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Phone Us Today!

