

UHECR 2012, CERN, Feb 13 -16

Monday 13 Feb. (Auditorium, afternoon with outreach presentations)

14:00 – 15:45	<p>Welcome address (15 min, Bertolucci)</p> <p>History of UHECR research (35+10 min, Sokolsky) [early attempts, first big events, development of fluorescence technique, contradictory results]</p> <p>Review of current status of measurements (35+10 min, Privitera) [Auger, HiRes, TA, Yakutsk]</p>
15:45 – 16:15	Coffee break
16:15 – 18:00	<p>Theoretical challenges: acceleration and propagation (30+5 min, Blasi) [max. injection energy, injection power, astrophysical source candidates, propagation effects, GZK horizon]</p> <p>Review of model predictions on spectrum/composition (30+5 min, Berezinsky) [scenarios for injection spectra/composition at source and transition galactic to extragalactic sources, implications]</p> <p>Theoretical challenge: connecting accelerator experiments and cosmic ray showers (30+5 min, Pierog) [review of accelerator results, in particular LHC and their importance for understanding air showers]</p>

Welcome Reception in the Globe

Tuesday 14 Feb. (Auditorium)

<p>09:00 – 11:00</p>	<p>Energy spectrum by HiRes & Telescope Array (15+5) Doug Bergmann</p> <p>Energy spectrum by Auger (15+5) Markus Roth</p> <p>The Yakutsk array experiment: main results (15+5) A.A. Ivanov</p> <p>WG Review of UHE spectrum data (30+10) Yoshiki Tsunesada</p> <p>Nitrogen fluorescence in air for observing EAS (15+5) Bianca Keilhauer</p>
<p>11:00 – 11:30</p>	<p>Coffee break</p>
<p>11:30 – 12:50</p>	<p>Mass Sensitive Observables of the Pierre Auger Observatory and Their Possible Implications (15+5); M. Unger</p> <p>Hires & TA Composition Measurements (15+5) Yuichihiro Tameda</p> <p>WG Review of UHE composition data (30+10) NN</p>
<p>12:50 – 14:00</p>	<p>Lunch break</p>
<p>14:00 – 16:00</p>	<p>Theoretical challenges: particle physics connection (30+10 min., Ellis) [alternative models for sources, propagation, but also BH production in EAS, limits on LIV from UHECRs]</p> <p>Review of accelerator data of relevance to shower simulation (30+10 min., Itow) [minimum bias measurements, CMS, ATLAS, ALICE, TOTEM, LHCf, LHCb, MIPP, NA61, etc]</p> <p>Recent Results from LHCf (15+5) Gaku Mitsuka</p> <p>Estimates of the proton-proton cross section at UHE energy (15+5); Paolo Lipari</p>

16:00 – 16:30	Coffee break
16:30 – 18:30	<p>Measurement of the p-Air cross section by Auger (15+5) Ralf Ulrich</p> <p>Measurement of the Muon Shower Content at Auger (15+5) Alexey Yushkov</p> <p>New Physics at UHE energies (15+5) Glennys Farrar</p> <p>New technique and results of CR investigations (15+5) Anatoly Petrukhin</p> <p>WG Review of modeling and description of air showers (30+10); NN [comparison of model with accelerator data, discussion of model uncertainties and model predictions for air showers]</p>

Extra Poster Session

Wednesday 15 Feb. (morning: Auditorium; : Council Chamber)

<p>09:00 – 11:00</p>	<p>WG Review of anisotropy data (30+10) NN</p> <p>WG Review of UHE multi-messenger data (30+10) NN</p> <p>Review of TeV gamma-ray and neutrino data of relevance to UHECR (30+10 min., Gaisser) [diffuse flux, source candidates]</p>
<p>11:00 – 11:30</p>	<p>Coffee break</p>
<p>11:30 – 12:50</p>	<p>Review of interpretation of multi-messenger data (including magnetic field deflection) (30+10 min., Sigl) [limits on UHECR sources/propagation from multimessenger data, gamma-ray data on magnetic halos]</p> <p>UHE Nuclei Propagation and the spectrum of UHECR (15+5) Roberto Aloisio</p> <p>Deflection of ultra-high energy heavy nuclei in magnetic fields (15+5); G. Giacinty</p>
<p>12:50 – 14:00</p>	<p>Lunch break</p>
<p>14:00 – 16:00</p>	<p>Constraints on inductive acceleration of UHECRs in astrophysical sources (15+5); Sergey Troitsky</p> <p>Transition from Galactic to Extragalactic Cosmic Rays and cosmic ray anisotropy (15+5); Dmitri Semikoz</p> <p>Are UHECR and multiplets also galactic? (15+5) Daniel Fargion</p> <p>Extragalactic and galactic sources: new evidence, new challenges, new opportunities (15+5); Alexander Kusenko</p> <p>On UHECR Composition & Spectrum (15+5) Andrew Taylor</p> <p>A strategy to unveil transient sources of ultra-high-energy cosmic rays (15+5); Hajime Takami</p>

16:00 – 16:30	Coffee break
16:30 – 18:45	<p>Reconstruction of muon production depth by TTC (15+5) Michaelangelo Ambrosio</p> <p>What the radio signal tells about the cosmic-ray air shower (15+5); Olaf Scholten</p> <p>AERA: Results and Prospects of MHz Observations (15+5); Ad van den Berg</p> <p>First results from the Microwave Air Yield Beam Experiment (MAYBE) (15+5); Maria Monasor</p> <p>Status of the microwave detection of cosmic rays program at the Pierre Auger Observatory (15+5); Pedro Facal</p> <p>Microwave emission from extensive air showers as seen by CROME (10+5); Radomir Smida</p> <p>TARA: Forward-Scattered Radar Detection of UHECR at the Telescope Array (15+5); John Belz</p>

Conference Dinner

Thursday 16 Feb. (Auditorium)

<p>09:00 – 11:00</p>	<p>On the astrophysical value of larger, yet achievable UHECR detectors (15+5); Etienne Parizot</p> <p>Review of space-based approaches (30+10 min., Ebisuzaki) [TUS, JEM-EUSO, Super-EUSO, etc]</p> <p>The JEM-EUSO mission: context and status (15+5) Andrea Santangelo</p> <p>Performances of JEM-EUSO (15+5) Mario Bertaina</p> <p>Interdisciplinary Science with Large Aperture Cosmic Ray Detectors (15+5); Lawrence Wiencke</p>
<p>11:00 – 11:30</p>	<p>Coffee break</p>
<p>11:30 – 12:30</p>	<p>Ultra high energy particle physics and astrophysics: The need for multicomponent EAS measurement and primary particle identification (15+5); Antoine Letessier-Selvon</p> <p>A conceptual design for a large ground array of Fluorescence Detectors (15+5); Paolo Privitera</p> <p>Future plans of the Telescope Array experiment (15+5); Shoichi Ogio</p>
<p>12:30 – 14:00</p>	<p>Lunch break</p>
<p>14:00 – 16:00</p>	<p>Theory and phenomenology: summary & outlook (40 min. talk, Olinto)</p> <p>Experimental summary & future prospects (40 min. talk, Fukushima)</p> <p>Open discussion (round table) (40 min. discussion, Watson)</p>

Friday morning: Guided Tour (optional for those who asked for, max. 50 participants)