Session Program

Feb 18 – 20, 2019

Big Data Science in Astroparticle Research - Workshop

Deep Learning

RWTH Aachen University SuperC
RWTH Aachen University Templergraben 57, 52062 Aachen phone:0241 8090801

Tue, February 19

9:00 AM

Deep Learning

Session |
Location: RWTH Aachen University SuperC, RWTH Aachen University Templergraben 57, 52062 Aachen phone:0241 8090801

09:00 – 09:15   **Welcome at the RWTH Aachen University**

Speaker

Prof. Carsten Honerkamp

09:19 – 09:34

Deep Neural Networks for Energy and Position Reconstruction in EXO-200

Speaker

Mr Tobias Ziegler

09:38 – 09:53

A Deep Neural Network for Pixel-Level Electromagnetic Particle Identification in the MicroBooNE Lar TPC (tbc)

Speaker

Mr Davide Porzio

09:57 – 10:12

Deep learning techniques applied to the physics of extensive air showers

Speaker

Mr Juan Miguel Carceller

10:16 – 10:31   **Inspection of the AIXNET network for air shower reconstruction**

Speaker

Mr Niclas Eich

10:35 AM

11:05 AM

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11:05 – 11:20

Application of Deep Learning methods to analysis of Imaging Atmospheric Cherenkov Telescopes data

Speaker

Mr Matthias Büchele

11:24 – 11:39

Recovery of Radio Signals from Cosmic Ray Induced Air Showers with Deep Learning

Speaker

Felix Schlüter

11:43 – 11:58

Reconstruction of air-shower radio pulses from real Tunka-Rex background with autoencoder network

Speaker

Mr Pavel Bezyazeekov

12:02 – 12:17

Event classification in Compton-Pair telescopes using Deep Learning Techniques

Speaker

Mr Jan Peter Lommler

12:21 – 12:36   **Cascade Reconstruction in IceCube using Generative Networks**

Speaker

Mirco Huennefeld

12:40 – 12:55

Precise simulation of electromagnetic calorimeter showers using a Wasserstein Generative Adversarial Network

Speaker

Mr Thorben Quast

1:00 PM

2:30 PM

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14:30 – 15:05

Deep Learning and Mathematical Modeling: Taking the Best out of Both Worlds

Speaker

Prof. Gitta Kutyniok

15:10 – 15:25   **Contracting alignment patterns of mixed composition nuclei**

Speaker

Marcus Wirtz

15:30 – 15:45

Exploring Optical Properties of Antarctic Ice with IceCube Using Gradient Descent

Speaker

Mr Alexander Harnisch

3:50 PM