



# Big Data Science in Astroparticle Research - HAP Workshop

## Monday 19 February 2018

### Deep Learning (14:00-15:45)

time	[id] title	presenter
14:00	[2] Welcome and organizational matters	Prof. ERDMANN, Martin
14:15	[0] Tutorial Deep Networks: Introduction, Fully-Connected, Convolutional Architectures	Mr. RATH, Yannik

### Deep Learning (16:15-18:15)

time	[id] title	presenter
16:15	[1] Tutorial on Adversarial Generative Networks, Wasserstein distance	Mr. GLOMBITZA, Jonas

# Tuesday 20 February 2018

## Deep Learning (09:00-10:40)

time	[id] title	presenter
09:00	[3] Welcome Message of the Vice-Rector for Research and Structure	Prof. MATHAR, Rudolf
09:15	[4] DeepJet: jet classification with the CMS experiment	Dr. STOYE, Markus
10:00	[6] Application of machine learning methods to H.E.S.S. data analysis	Dr. SHILON, Idan
10:20	[26] Event Reconstruction in IceCube using Deep Learning Techniques	Mr. HUENNEFELD, Mirco

## Deep Learning (11:10-13:00)

time	[id] title	presenter
11:10	[24] Efficient Similarity Search and Analysis	Dr. BEECKS, Christian
11:55	[9] Generating and refining particle detector simulations using the Wasserstein distance in adversarial networks	Mr. GEIGER, Lukas
12:15	[5] HexagDLy - Hexagonal Convolutions with PyTorch	Mr. HOLCH, Tim Lukas
12:35	[22] Deep machine learning implementation in FPGA	Dr. CASELLE, Michele Mr. WANG, Weijia

## Deep Learning: 1-2 Transparencies (16:30-17:00)

time	[id] title	presenter
16:30	[8] Investigating deep convolutional autoencoders to mitigate systematic differences between data and simulations	Dr. GEIßELSÖDER, Stefan
16:45	[10] Using Deep Learning to optimise a SUSY search at CMS	Dr. ELWOOD, Adam