

SPP Summer School on Machine learning in geosciences Sept. 07-10, 2020

Monday

18:00 - 21:00	Dinner/Ice-breaker	
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Tuesday

08:30 - 09:00	Welcome/Organization details	C. Stolle/B. Fluche
09:00 - 09:30	Participants introduce themselves	
09:30 - 10:30	Traditional Methods for Feature Extraction and Classification of Remote Sensing Data (Theory)	B. Demir
10:30 - 11:00	Coffee break	
11:00 - 12:00	Deep Neural Networks for Analysis of Remote Sensing Data (Theory)	B. Demir
12:00 - 13:00	Lunch break	
13:00 - 15:00	Getting to know Pytorch and the Datasets (Hands-on)	M. Ravanbakhsh
15:00 - 15:15	Coffee break	
15:15 - 16:45	Application of Convolutional Neural Networks for Land-Cover Maps Generation (Hands-on)	M. Ravanbakhsh
16:45 - 17:00	Coffee break	
17:00 - 18:00	Dynamo studies using machine learning	S. Burnett

Wednesday

08:30 - 09:00	Speakers introduce their topics (Parallel sessions)	E. Camporeale I. Zhelavskaya
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Session I

09:00 - 10:30	Introduction to the plasmasphere dynamics and data (Theory)	I. Zhelavskaya
10:30 - 11:00	Coffee break	
11:00 - 12:00	Reconstructing the plasmasphere dynamics from sparse observations – Part I (Hands-on)	I. Zhelavskaya
12:00 - 13:30	Lunch break	
13:30 - 15:00	Reconstructing the plasmasphere dynamics from sparse observations – Part II (Hands-on)	I. Zhelavskaya
15:00 - 15:30	Coffee break	
15:30 - 17:00	Reconstructing the plasmasphere dynamics from sparse observations – Part III (Hands-on)	I. Zhelavskaya

Session II

09:00 - 10:30	Multivariate Gaussian distribution and Gaussian processes (Theory)	E. Camporeale
10:30 - 11:00	Coffee break	
11:00 - 12:00	Introduction to GPyTorch (Theory)	E. Camporeale
12:00 - 13:30	Lunch break	
13:30 - 15:00	Reconstruction of Earth's magnetic field by using Swarm and solar wind data – Part I (Hands-on)	E. Camporeale
15:00 - 15:30	Coffee break	
15:30 - 17:00	Reconstruction of Earth's magnetic field by using Swarm and solar wind data – Part II (Hands-on)	E. Camporeale

Thursday

09:00 - 10:30	Presentation by participants (3 x 30 min)	
10:30 - 11:00	Coffee break	
11:00 - 12:00	Discussion/Final remarks	C. Stolle et al.
12:00 - 13:00	Lunch break	