

Level 3 Course on Artificial intelligence in Nuclear Medical Imaging

Duration **Author**

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ESMIT

Session I - Introduction I			
09:30 - 09:40	Introduction of the Speaker and the Participants	10 min	all
09:40 - 10:00	Evaluation Quiz/Assessment of Starting Knowledge*	20 min	all
10:00 - 10:30	Hands on session I (abs project)	30 min	all
10:30 - 11:00	Introduction - Part I: General principles of Machine/ Deep Learning I	30 min	SN
11:00 - 11:20	Coffee Break	20 min	
Session II - Introduction II			
11:20 - 11:50	Introduction - Part II: General Principles of Machine / Deep Learning II	30 min	SN
11:50-12:10	Introduction - Part III Basic principles in image reconstruction	20 min	DV
12:10 - 12:40	Introduction - Part IV: Basics in image quantification	30 min	SN
12:40 - 13:00	Discussion	20 min	all
13:00 - 13:45	Lunch Break	45 min	
Session III - Image formation			
13:45 - 14:45	Introduction - Part V: Basics in image analysis: segmentation, radiomics etc	60 min	DV
14:45 - 15:15	Deep learning in image segmentation	30 min	all
15:15 - 15:20	Discussion	5 min	all
15:20 - 15:40	Coffee Break	20 min	
Session IV: Data corrections			
15:40 - 16:10	Data corrections current state of the art: attenuation, scatter, resolution	30 min	all
16:10 - 16:30	Hands on session II (segmentation)	20 min	all
16:30 - 17:20	DL based data corrections	50 min	all
17:20 - 18:00	Discussion/Interactive session II	40 min	all
18:00	End of Day 1		
Session V: Image processing I			
09:00 - 09:30	Deep learning based image reconstruction / denoising	30 min	all
09:30 - 10:00	Deep learning based dosimetry	30 min	DV
10:00 - 10:30	Deep learning and radiomics	30 min	all
10:30 - 11:15	Discussion/Interactive session III (or hands of training data analysis)	15 min	all
11:15 - 11:30	Coffee Break	15 min	all
11:30 - 12:00	Potential clinical applications of DL in nuclear medicine	30 min	MS
Session VI: Clinical applications			
12:00 - 12:45	Major challenges in AI implementation and acceptability	45 min	all
12:45 - 13:15	Hands on Training: session III (abs project II)	30 min	all
13:15 - 14:00	Lunch Break	45 min	
Session VII: Perspectives			
14:00 - 14:30	Discussion/Interactive session IV	30 min	all
14:30 - 15:00	Perspectives and future of AI in NM	30 min	MS
15:00 - 15:30	Panel discussion: role of AI in NM	30 min	all
15:40 - 16:00	Discussion/Interactive session V	20 min	all
16:00 - 16:30	Evaluation/Test of Gained Knowledge	30 min	all
16:30 - 17:00	Debriefing of the Course/Discussion on Last Open Questions	30 min	all
17:00	End of Day 2		

Day 1

Day 2