

Program of PUMMA European workshop on

## Fuel Cycle Scenarios

CIEMAT, Madrid, November 2<sup>nd</sup>-3<sup>rd</sup>, 2021



<b>Day 1 (November 2<sup>nd</sup>, 2021)</b>			
<b>Time</b>	<b>Title</b>	<b>Lecturer</b>	<b>Organization</b>
9:00	ID presentation at CIEMAT main gates and short walk to Building 1		
9:30	<b>Session 1: Introduction</b>		
9:30	Introduction of CIEMAT (15')	F. Alvarez-Velarde/A. V. Skarbeli/E. M. González-Romero	CIEMAT
9:45	Organization (5')	F. Alvarez-Velarde	CIEMAT
9:50	Overview PUMMA (30')	N. Chauvin	CEA
10:10	What is a nuclear fuel cycle? (30' + 5' questions)	A. V. Skarbeli	CIEMAT
10:55	Coffee break (15')		
11:10	<b>Session 2: National Plans and International Activities</b>		
11:10	National plans (5 short presentations?) (15' + 5' questions)	CEA?/E. González or F. Alvarez-Velarde/P. Romojaro-V/R. Taylor-V/ S. Hakkinen	CEA/CIEMAT/SCK-CEN/UK/VTT
12:50	Lunch break (70')		
14:00	Advanced fuel cycle activities at OECD/NEA (25' +5' questions)	G. Grassi-V	OECD
14:30	IAEA fuel cycle activities (25' +5' questions)	A. González-Espartero	IAEA
15:00	Coffee break (10')		
15:10	<b>Session 3: Simulation codes</b>		
15:10	Example of a code: NFCSS (25' + 5' questions)	K. Agarwal-V	IAEA
15:40	Codes review (25'+5' questions)	F. Courtin	CEA
16:10	Benchmark NEA (25' + 5' questions)	B. Carlier	Framatome
16:40	The FIT project (25' + 5' questions)	N. Thiollière	CNRS
17:10	End of day		

<b>Day 2 (November 3<sup>rd</sup>, 2021)</b>			
<b>9:00</b>	<b>Session 4: Modelling</b>		
9:00	Reactor (25' + 5' questions)	M. Szieberth	BME
9:30	Facilities (25' + 5' questions)	R. Hughes-V	NNL
<b>10:30</b>	<b>Session 5: Uncertainties + Optimization</b>		
10:30	State of the art (20' + 5' questions)	M. Ernoult	CNRS
10:55	Coffee break (15')		
11:10	Monte Carlo (20' + 5' questions)	P. Romojaro-V	SCK-CEN
11:35	Sensitivity (20' + 5' questions)	F. Alvarez-Velarde	CIEMAT
12:00	Scenario disruption (20' +5' questions)	M. Ernoult	CNRS
12:25	Optimization + Uncertainties (30' + 5' questions)	A. V. Skarbeli	CIEMAT
13:00	Lunch break (90')		
<b>14:30</b>	<b>Session 6: Machine learning</b>		
14:30	Artificial neural networks (25' + 5' questions)	X. Doligez	CNRS
15:00	Unsupervised learning (25' + 5' questions)	A. V. Skarbeli	CIEMAT
<b>15:30</b>	<b>Session 7: NNN PhD presentations (15' + 5' questions)</b>		
15:30	PhD 1 on Integrity examination of sodium bound metallic fuels by simulation method (15' + 5' questions)	S. Saurav	?
15:50	PhD 2 on Verification and validation of MCNP/CINDER burnup capabilities (15' + 5' questions)	S. Panizo	CIEMAT
16:10	...		
16:30	PhD n on ... (15' + 5' questions)	TBC	
16:50	End of Workshop		

TBC: To be confirmed

V: Virtual connection