



**CEIDEN**

PLATAFORMA TECNOLÓGICA DE ENERGÍA NUCLEAR DE FISIÓN



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**POLITÉCNICA**

# ***4th Workshop of Spanish Users on Nuclear Data on “Neutronic Design of Small Modular Reactors”***

***Welcome by Prof. Oscar Cabellos***

**May 19, 2022**

Universidad Politécnica de Madrid

Instituto de Fusion Nuclear “Guillermo Velarde”

ETS de Ingenieros Industriales de Madrid, Madrid, Spain

## What ‘INGENIA-NUCLEAR’ course is?

- ❑ INGENIA-NUCLEAR is focused “on design & simulation of PWRs
- ❑ Course within in the “Master in Industrial Engineering” and “Master in Nuclear Science and Technology” Programs at the Polytechnical University of Madrid (UPM)
- ❑ 12 ECTS : 5hours/week – 2 semesters
- ❑ INGENIA is based on the CDIO (Conceive-Design-Implement-Operate) initiative, which has been also adopted by other Universities: Delft, Politecnico di Milano, MIT, Stanford...
- ❑ See more information about CDIO at: [www.cdio.org](http://www.cdio.org)

## Other INGENIA projects at UPM (in total 14)



**PV facility**



**Videogame development**



**Design of Daily-life products**



**Automotive Engineers**



# 4<sup>th</sup> Edition 'INGENIA-NUCLEAR': course 2021-2022



ingenianuclear




4TH UPM/CEIDEN WORKSHOP

## NEUTRONIC DESIGN OF SMALL MODULAR REACTORS

Video-conference


The aim of this Workshop is to bring together users and developers in the field of nuclear data and reactor physics to discuss and exchange our expertise on neutronic design of Small Modular Reactors



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**MAY 19, 2022**  
**9:00H-13:00H**

**Registration**  
by email to [oscar.cabellos@upm.es](mailto:oscar.cabellos@upm.es)  
**Technical committee**  
Oscar Cabellos (UPM) and Pablo. T. León (CEIDEN)



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## *Participants in the 4<sup>th</sup> Workshop on “Neutronic Design of SMRS”*

### Statistics of the Workshop

Statistics of the Workshop						
by Country	#	Country	Participants	#	Country	Participants
	1	Argentina	7	11	Switzerland	2
	2	Belgium	1	12	The Netherlands	2
	3	Bolivia	1	13	Turkey	1
	4	Brasil	1	14	UAE	2
	5	France	3	15	UK	2
	6	Germany	9			
	7	Japan	1			
	8	Mexico	9			
	9	Slovenia	1			
	10	Spain	54			
					TOTAL	96

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## Statistics of the Workshop

### by Institution

#	Institution	P.	#	Institution	P.
1	A.I.E. CCNN ALMARAZ-TRILLO	1	18	INVAP(Argentina)	3
2	Agencia Bolivia de Energía Nuclear	1	19	JABOBS	1
3	ARN (Argentina)	2	20	JAEA	1
4	CEA	2	21	JRC	1
5	CNEA	2	22	JSI	1
6	CSN	3	23	NFQ	5
7	EDF-ENERGY	1	24	NRG	1
8	ENSO	2	25	PSI	2
9	ENUSA	4	26	SEA Ingeniería	1
10	ESFM-IPN	4	27	TUM	1
11	HZDR	1	28	TRACTEBEL	1
12	IDOM	2	29	University of Sharjah	2
13	IEN (Brazil)	1	30	UNED	1
14	ININ (Mexico)	3	31	UPM	32
15	INR/KIT	7	32	UPV	4
16	IPN (Mexico)	2	33	Yalova University	1
17	IRSN	1		TOTAL	96



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## Agenda (10 technical presentations)

Start – End	Presenter (Institution)	Title
9:00 – 9:05	O. Cabellos (UPM)	Welcome
9:05 – 9:15	J. Dies (CSN)	Introduction
9:15 – 9:35	C. Queral (UPM)	The EU/H2020 McSafer Project
9:35 – 9:55	L. Mercatali (INR/KIT)	KIT neutronics computational tools for SMR-design
9:55 – 10:15	V. J. Casas, E. Redondo (UPM)	Simulation SMR-NuScale with PARCS code
10:15 – 10:25	P. Mendivil (UPM)	INGENIA NUCLEAR: UPM-CDIO Project in Nuclear Engineering Education
10:25 – 10:40	J. Vargas (UPM)	Simulation PWR-type (NuScale) SMR with SEANAP system
10:40 – 11:00	A. Espaliú, O. Cabellos (UPM)	Analysis of a PWR-type SMR (NuScale) using SEANAP system: ATFs, Nuclear Data and Manoeuvres
11:00 – 11:20	L. F. Durán (UPM)	Simulation SMR-NuScale with COBAYA code
11:20 – 11:40	A. Jiménez-Carrascosa (UPM)	Sensitivity/Uncertainty Analysis in NuScale
11:40 – 11:55	All	Discussion
11:55 – 12:00	V. Martínez (ENSO)	Hands on training on NPP simulations with TH codes: Building up a full model of an SMR reactor.
		Barcelona, June 27 - July 1, 2022
12:00		AOB



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## *Some kind remarks*

### **For all participants**

- During the meeting ....**please** ... mute your microphones by default and unmute to speak
- Use of headphones is recommended to prevent audio feedback loops
- Please, type your questions in the chat or ask a question out loud by using Zoom's 'raise hand', if time allows.

### **For speakers**

- You will be asked to **share your screen** and present through your desktop using Zoom
- The format of the presentation is **15 min.** + 5 min. questions
- Please, keep the presentations within the allotted time. This will allow to keep the session running to schedule
- Send your final presentation file for distributing to all participants

***Many thanks for your attention!***

***ENJOY THE WORKSHOP!***