



**CEIDEN**

PLATAFORMA TECNOLÓGICA DE ENERGÍA NUCLEAR DE FISIÓN



**INDUSTRIALES**  
ETSII | UPM



**POLITÉCNICA**

***5th UPM/CEIDEN Workshop on  
“Impact of recent nuclear data evaluations on energy and  
non-energy nuclear applications”***

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

**May 23, 2023**

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**

**CEIDEN**

PLATAFORMA TECNOLÓGICA DE ENERGÍA NUCLEAR DE FISIÓN

**INDUSTRIALES**  
ETSII | UPM**POLITÉCNICA**

## Agenda (15 technical presentations)

Start - End	Presenter (Institution)	Title
9:00 – 9:15	O. Cabellos (UPM)	Welcome
	J. Dies (CSN)	Introduction ( <a href="#">VIDEO</a> )
	A. Plompen (JRC)	Introduction: JEFF Project
9:15 – 9:30	A. Jiménez-Carrascosa (PSI)	Assessment of nuclear data libraries performance for SFR simulation
9:30 – 9:45	P. Romojaro (SCK·CEN)	Nuclear data requirements for an accurate estimation of the neutron production rate of spent nuclear fuel
9:45 – 10:00	C. Ratero (SCK·CEN)	Benchmarking of JENDL-5 and JEFF-4T2 in depletion calculations against isotopic inventories
10:00 – 10:15	F. Grimaldi (SCK·CEN)	Neutron data benchmarking at the VENUS-F zero power reactor for MYRRHA
10:15 – 10:30	C. Guerrero (US)	Neutron absorption in the Cr isotopes of structural materials affects the criticality of fast reactor assemblies
10:30 – 10:45	Y. Huang (Xi'an Jiaotong University)	Uncertainty Quantification Comparisons in Different Evaluated Libraries Based on the ENDF-6 Formatted Sampling Method
10:45 – 11:00	Y. Qiu (KIT)	Current status and urgent needs of nuclear data and experiments for the IFMIF-DONES design analysis
11:00- 11:15	<b>Coffee break and photo of participants</b>	

CONTINUE -&gt;



**CEIDEN**

PLATAFORMA TECNOLÓGICA DE ENERGÍA NUCLEAR DE FISIÓN



**INDUSTRIALES**  
ETSII | UPM



**POLITÉCNICA**

## *Agenda (15 technical presentations)*

Start - End	Presenter (Institution)	Title
11:15 – 11:30	Sonia Panizo (CIEMAT)	Impact of nuclear data library uncertainties in MYRRHA v1.8 with SUMMON. Library intercomparison
11:30 – 11:40	Blanca Aguado (INGENIA/UPM)	Overview of INGENIA activities: Course 2022-2023
11:40 – 11:50	Antonio Silván (INGENIA/UPM)	EXFOR – Outlier identification (EXFOR - ENDF)
11:50 – 12:00	Alejandro Velasco (INGENIA/UPM)	Mapping of ND Evaluations. An example with JEFF-4T2.2
12:00 – 12:10	Álvaro Antón (INGENIA/UPM)	Processing & Benchmarking JEFF-4T2.2 – A comparison with other evaluations
12:10 – 12:20	José Miras (INGENIA/UPM)	Benchmarking & Validation JEFF-4T2.2 – A comparison with other evaluations
12:20 – 12:30	Miguel López (INGENIA/UPM)	Processing into JANIS format: Uncertainty Quantification with different evaluations using NDaST code
12:30 – 12:35	Closing the meeting	



**CEIDEN**

PLATAFORMA TECNOLÓGICA DE ENERGÍA NUCLEAR DE FISIÓN



**POLITÉCNICA**

## *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 **12min** + 2min 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!***

# 5<sup>th</sup> Edition 'INGENIA-NUCLEAR': course 2022-2023



ingenianuclear  
Escuela Industriales UPM

**5th Workshop of Spanish Users on Nuclear Data**

**"Impact of recent nuclear data evaluations on energy and non-energy nuclear applications"**

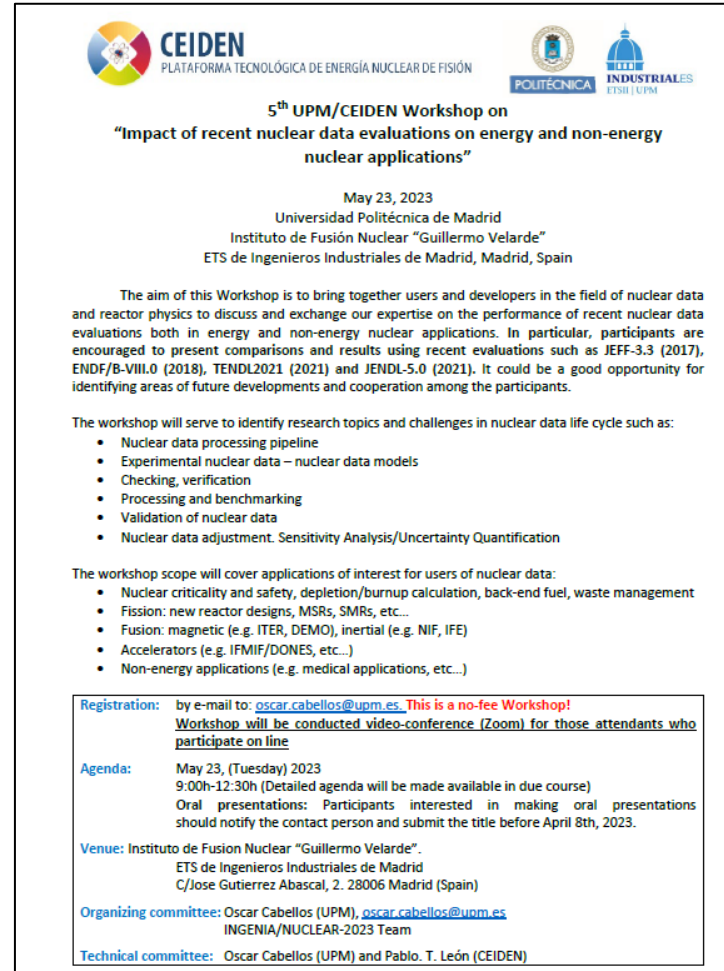
**May 23, (Tuesday) 2023  
9:00h-12:30h**


Powered by:




13 Me gusta  
ingenianuclear 🌟 More information in the bio! 🌟... más

Ver 1 comentario  
15 de marzo · Ver traducción



 **CEIDEN**  
PLATAFORMA TECNOLÓGICA DE ENERGÍA NUCLEAR DE FISIÓN

 **INDUSTRIALES**  
ETSII | UPM

**5<sup>th</sup> UPM/CEIDEN Workshop on**  
**"Impact of recent nuclear data evaluations on energy and non-energy nuclear applications"**

May 23, 2023  
Universidad Politécnica de Madrid  
Instituto de Fusión Nuclear "Guillermo Velarde"  
ETS de Ingenieros Industriales de Madrid, Madrid, Spain

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 the performance of recent nuclear data evaluations both in energy and non-energy nuclear applications. In particular, participants are encouraged to present comparisons and results using recent evaluations such as JEFF-3.3 (2017), ENDF/B-VIII.0 (2018), TENDL2021 (2021) and JENDL-5.0 (2021). It could be a good opportunity for identifying areas of future developments and cooperation among the participants.

The workshop will serve to identify research topics and challenges in nuclear data life cycle such as:

- Nuclear data processing pipeline
- Experimental nuclear data – nuclear data models
- Checking, verification
- Processing and benchmarking
- Validation of nuclear data
- Nuclear data adjustment. Sensitivity Analysis/Uncertainty Quantification

The workshop scope will cover applications of interest for users of nuclear data:

- Nuclear criticality and safety, depletion/burnup calculation, back-end fuel, waste management
- Fission: new reactor designs, MSRs, SMRs, etc...
- Fusion: magnetic (e.g. ITER, DEMO), inertial (e.g. NIF, IFE)
- Accelerators (e.g. IFMIF/DONES, etc...)
- Non-energy applications (e.g. medical applications, etc...)

**Registration:** by e-mail to: [oscar.cabellos@upm.es](mailto:oscar.cabellos@upm.es). **This is a no-fee Workshop!**  
Workshop will be conducted video-conference (Zoom) for those attendants who participate on line

**Agenda:** May 23, (Tuesday) 2023  
9:00h-12:30h (Detailed agenda will be made available in due course)  
Oral presentations: Participants interested in making oral presentations should notify the contact person and submit the title before April 8th, 2023.

**Venue:** Instituto de Fusión Nuclear "Guillermo Velarde".  
ETS de Ingenieros Industriales de Madrid  
C/ Jose Gutierrez Abascal, 2. 28006 Madrid (Spain)

**Organizing committee:** Oscar Cabellos (UPM), [oscar.cabellos@upm.es](mailto:oscar.cabellos@upm.es)  
INGENIA/NUCLEAR-2023 Team

**Technical committee:** Oscar Cabellos (UPM) and Pablo. T. León (CEIDEN)



**CEIDEN**

PLATAFORMA TECNOLÓGICA DE ENERGÍA NUCLEAR DE FISIÓN



**INDUSTRIALES**  
ETSII | UPM



**POLITÉCNICA**

*Participants in the 5<sup>th</sup> Workshop CEIDEN/UPM on “Impact of recent nuclear data evaluations on energy and non-energy nuclear applications”*

**Statistics of the Workshop – (May 21, 2023)**

	#	Country	Participants	#	Country	Participants
by Country	1	Belgium	8	11	Switzerland	1
	2	Canada	1	12	UAE	1
	3	China	2	13	UK	3
	4	France	4	14	US	1
	5	Germany	3	15		
	6	Italy	1	16		
	7	Mexico	1	17		
	8	Slovak Republic	1	18		
	9	Spain	45	19		
	10	Sweden	1			
					TOTAL	73

**CEIDEN**

PLATAFORMA TECNOLÓGICA DE ENERGÍA NUCLEAR DE FISIÓN

**INDUSTRIALES**  
ETSII | UPM**POLITÉCNICA**

## Statistics of the Workshop – (May 21, 2023)

	#	Institution	P.	#	Institution	P.	#	Institution	P.
by Institution	1	AMPHOS21	1	21	TECF3IR-UNED	1			
	2	CIEMAT	3	22	TU Berlin	1			
	3	CSN	4	23	TUM	1			
	4	ENEA	1	24	UKAEA	2			
	5	ENEL	2	25	UNED	1			
	6	ENUSA	2	26	University of Cambridge	1			
	7	ESS-Bilbao	1	27	UPM	22			
	8	IFIC-UPV	1	28	UPV	4			
	9	IRSN	4	29	US	1			
	10	JRC	4	30	UU	1			
	11	KIT	1	31	Xi'an Jiaotong University	2			
	12	MOLTEX	1	32					
	13	NCSU	1	33					
	14	NFQ	1	34					
	15	KAIST	1	35					
	16	NPI	1	36					
	17	PSI	1	37					
	18	SCK·CEN	4	38					
	19	SEA Ingenieria	1	39					
	20	STUBA	1	40					
				TOTAL		73			