

ERASMUS MUNDUS TRAINING COURSE

EMTRAIC 2023 - 11th edition

Jordan Cavalier

Ústav fyziky plazmatu AV ČR, Praha

Welcome everybody!

Supervisors and helpers:

J. Adamek, M. Berta, J. Brotankova, A. Casolari, J. Cavalier, J. Cerovsky,
R. Dejarnac, O. Ficker, P. Hacek, A. Havranek, J. Horacek, N. Isernia, F. Jaulmes,
J. Krbec, L. Kripner, N. Lemoine, S. Lukes, P. Macha, T. Markovic, E Matveeva,
J. Seidl, V. Svoboda, V. Yanovskiy

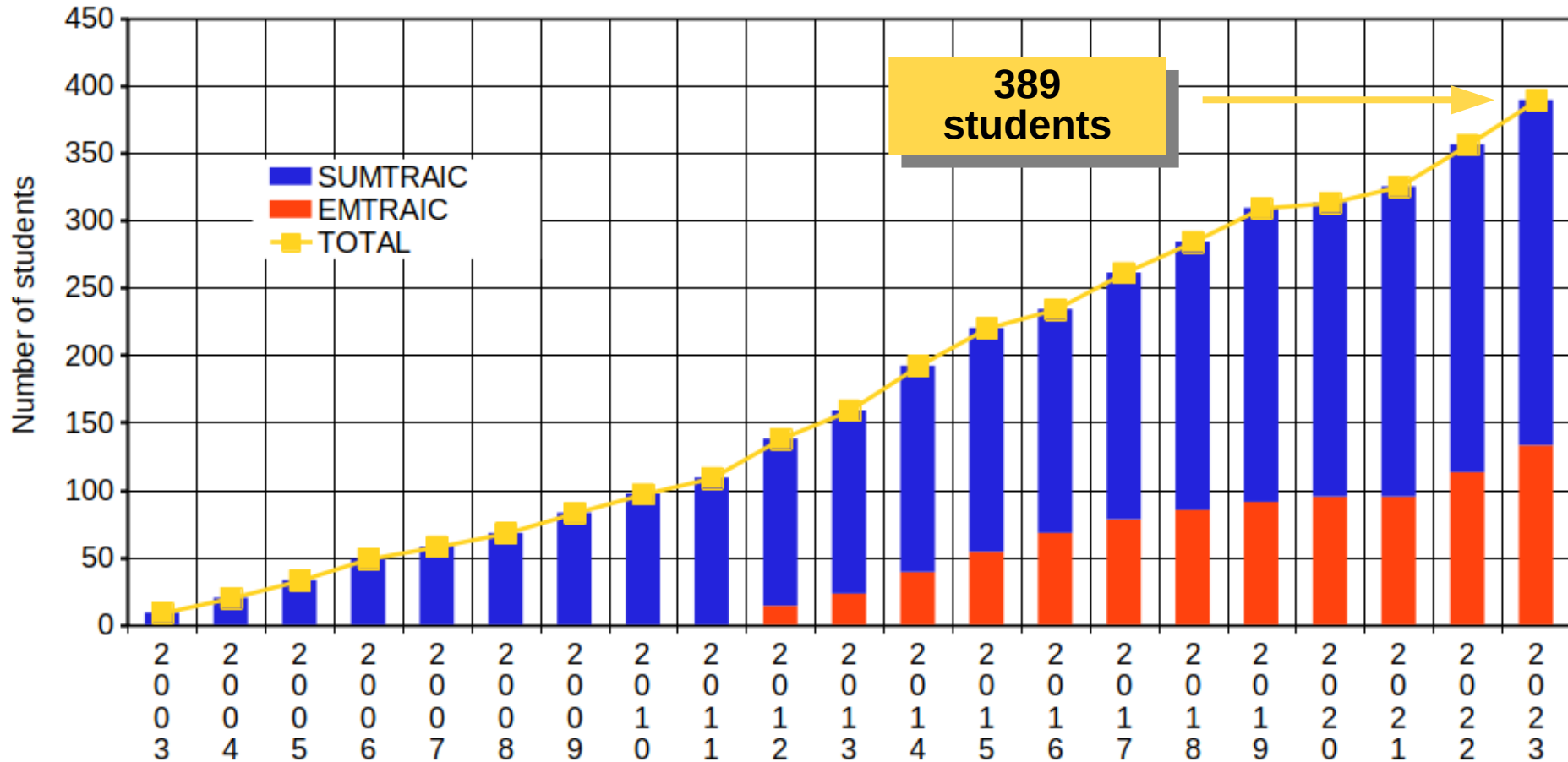
Objectives of the EMTRAIC

The EMTRAIC is a training school to get **practical experience** with tokamak physics

The main goal is to acquaint participants with most aspects of plasma physics on a tokamak:

- real scientific topic assigned
- *planning of experiment*
- *participation in measurements*
- experimental data analysis or simulation related to experiments
- discussion of results within the working group
- presentation of achieved results at the closing workshop

Just one day is devoted to introductory lectures
→ **not a passive event**



SUMTRAIC:

- Summer school from **2003 (19 years)**
- Advertise to interested students

EMTRAIC:

- Winter school from **2012 (11 years)**
- Part of EP-fusion curriculum

In memory of Jan Stöckel



Jan Stöckel, also known as Honza, who **founded EMTRAIC** in 2012, passed away last year (2022) at the age of 77.

The event will be continued in his legacy, i.e. [joy, enthusiasm for science and friendship](#).

20 participants from 14 countries – 9 women & 11 men

1	Ayman Atef Abdelsatar	Ahmed Hamada	Egypt
2	Hina	Ali	Pakistan
3	Godsfavour	Amanekwe	Nigeria
4	Eva	Bervas	France
5	Niamh	Clarke	Ireland
6	Federico	Coto Vilchez	Costa Rica
7	Wout	Creyf	Belgium
8	Hernán	Domingo Ramos	Spain
9	Theo	FRANCONNET	France
10	Sergio	García Herreros	Spain
11	Sanah	Hussain	Pakistan
12	Daniil	Kabirov	Spain
13	Rajbir	Kaur	India
14	Ian	Lesnik	United States
15	Carlos Refugio	Muñoz García	Mexico
16	Nastasija	Petkovic	Serbia
17	Maria	Reji	India
18	Amado Armando	Saavedra Vargas	Panama
19	Bojana	Stefanoska	North Macedonia
20	Abha	THAZHATHE PEEDIKA	India

A word about you:

- Your name
- Where do you come from?
- Why fusion?
- Into experimental, simulation, data analysis?
- Interest for future (PhD...)?

Task	Supervised by	Participants
<p>Task 1 Sheath heat transmission coefficient study according to different models - new divertor probes</p>	<p>Jiri Adamek Jordan Cavalier</p>	<p>Federico Coto Vilchez Hernan Domingo Ramos</p>
<p>Task 2 – Control room Matlab 1) Causality in nuclear fusion on the basis of measured data 2) Automatic ELM detection using statistical approach on COMPASS and JET data</p>	<p>Miklos Berta Renaud Dejarnac Helpers: Ekaterina Matveeva Ales Havranek Martin Imrisek</p>	<p>Hina Ali Wout Creyf Sergio García Herreros</p>
<p>Task 3 Influence of reciprocating probes on edge plasma studied by fast imaging</p>	<p>Nicolas Lemoine Helper: Jordan Cavalier</p>	<p>Godsfavour Amanekwe Amado Armando Saavedra Vargas</p>
<p>Task 4 – Control room Matlab Estimating global energy fluxes during COMPASS disruptions via magnetic measurements</p>	<p>Nicola Isernia Ondrej Ficker Vadim Yanovskiy</p>	<p>Daniil Kabirov Bojana Stefanoska</p>
<p>Task 5 Experimental testing on plasmatron of an innovative heat shield</p>	<p>Jan Horacek Samuel Lukes Helpers: Plasmatron team</p>	<p>Niamh Clare Maria Reji</p>
<p>Task 6 Runaway electron current generation and self-consistent electric field evolution in COMPASS with DREAM</p>	<p>Andrea Casolari Jaroslav Cerovsky</p>	<p>Carlos Refugio Minoz Garcia Ian Lesnik</p>
<p>Task 7 Characterization of the plasma turbulence in the presence of RMP</p>	<p>Lukas Kripner Petr Macha Helper: Jakub Seidl</p>	<p>Nastasija Petkovic Rajbir Kaur</p>
<p>Task 8 Study of coherent MHD structures in tokamak plasmas</p>	<p>Jana Brotankova Tomas Markovic GOLEM operator: Vojtech Svoboda</p>	<p>Eva Bervas Abha Thazhathe Peedika</p>
<p>Task 9 – Control room Matlab DYON-FIESTA simulations of the COMPASS breakdowns and comparison with relevant diagnostics COMPASS U breakdown study</p>	<p>Fabien Jaulmes Martin Imrisek Pavel Hacek Jaroslav Krbec</p>	<p>Sanah Hussain Ayman Ahmed Theo Franconnet</p>

Date	Morning	Afternoon
Sun. 26.11	Arrival-accommodation	Arrival-accommodation
Mon. 27.11	Introduction, tour, servers + CDB, logbook	COMPASS lecture, discussion in groups How to Czech: survival guide in CZ (17:00)
Tue. 28.11	Python lecture (09:00) Work on topic	Work on topic Dinner party (19:00)
Wed. 29.11	Work on topic, plasmatron experiment, GOLEM experiment	Work on topic, plasmatron experiment, GOLEM experiment
Thu. 30.12	Work on topic	Work on topic
Fri. 1.12	Work on topic	[date not sure yet] Three visiting scholar presentations (13:30) Work on topic
Sat. 2.12		
Sun. 3.12		Visit of Prague (14:00)
Mon. 4.12	Work on topic, plasmatron experiment, GOLEM experiment	Work on topic, plasmatron experiment, GOLEM experiment
Tue. 5.12	Work on topic Guide on a successful presentation (11:30)	Work on topic + preparation of presentation Visit of the plasma lab & GOLEM tokamak (18:00)
Wed. 6.12	Preparation of presentation St Nicolas	Preparation of presentation St Nicolas
Thu. 7.12	Preparation of presentation	Preparation of presentation
Fri. 8.12	!!! Final presentations !!!	!!! Final presentations !!! Committee meeting Feedback Closing Workshop
Sat. 9.12	Departure	

Morning working hours 9:00 – 12:00
Afternoon working hours 13:00 –18:00

Yes, it is possible
to stay longer

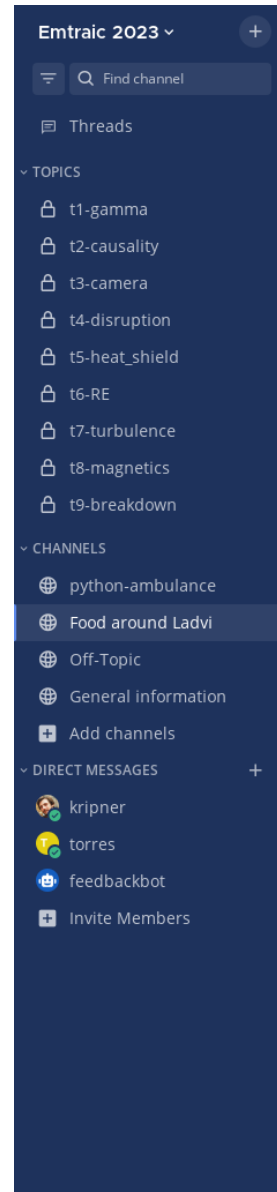
MONDAY

Time	Topic	Presenter
9:15	Introduction to EMTRAIC (groups, supervisors)	Jordan Cavalier
10:00	Introduction of COMPASS	Radomír Pánek
12:00	Lunch	
13:30	Tour around IPP: COMPASS-U hall and flywheels	Josef Havlicek
14:30	Access to COMPASS servers Data acquisition system and COMPASS database	Ales Havranek + Stanislav Tokos
15:30	Organization of the COMPASS logbook	Pavel Hacek
16:00	Discussion with supervisors	
17:00	How to czech: survival guide in CZ	Jordan Cavalier
17:30	General information	Jordan Cavalier

Tuesday

9:00	Python lecture	L. Kripner, M. Tomes, A. Podolnik, J. Hecko, K. Hromasova, J. Cavalier
------	----------------	------------------------------------------------------------------------

- Students should stay in the
 - **main meeting room**
 - **control room (Matlab)**
- Wifi:
 - login = **COMPASS**
 - password = **n83mil7host**
- Coffea, tea and some biscuits are served for you in the kitchen of the 1st floor
- **Mattermost channel** to communicate:
mattermost.tok.ipp.cas.cz/emtraic2023/




Food around Ladvi ☆

Find here daily food offers around the IPP location. Numerical codes are a [standardized food allergy chart](#).

Good morning!

Here are the menus for today

Slovanka:
Sour cabbage soup (A-1,7,9,12) 45,-
Dill sauce with sunny side-up egg and potatoes (A-1,3,7,9) 145,- (Vegetarian)
Serbian risotto with pork, shredded cheese and cucumber (A-7,9) 145,-
Chicken Caprese steak with baked potatoes, herb dip (A-1,7,9) 155,-
Food to order: Beef burger with grilled vegetables and cheddar, fries (A-1,3,7,11,12) 180,-
[Facebook](#)

Giovanni:
Rajčatová polévka - 55 Kč -
Domáci spaghetti alla carbonara - 149 Kč - slanina, smetana, vejce, parmezán
Pizza salamina - 159 Kč - rajčata - sugo, mozzarella, pikantní italský salám, oregano
Pizza al curry - 159 Kč - smetana, mozzarella, žampióny, hrášek, kuřecí maso, kari, oregano
Insalata caesar con gamberetti - 159 Kč - ledový a římský salát, grilované krevety, parmezán, c
Sýrová quesadilla - 169 Kč - 3 druhy sýra, pšeničná tortilla, mozzarella, niva, cheddar, rajčata,
Domáci apple pie - 69 Kč -
[Translate](#)

Cobolis:
Kuřecí vývar 1,3,7,9 - 55 Kč
Zapečený květák se sýrem, čalamáda 1,3,7 - 149 Kč
Pečená kuřecí křídla BBQ, hranolky, coleslaw 1,3,7,12 - 169 Kč
Vepřová kýta na houbách, houskový knedlík 1,3,7 - 159 Kč
Řížečky z panenky, bramborová kaše, okurka 1,3,7,12 - 169 Kč
[Translate](#)

U Zvonečku:
Polévka: Květáková (1,7) - 36 Kč
Nadívané pečené kuřátko, šťouchané brambory, salátek (1,3,7) - 142 Kč
Hovězí guláš, cibulka, domácí houskové knedlíky (1,3) - 142 Kč
Grilované kuřecí prsíčko s restovanou zeleninou na másle (1,7) - 146 Kč
Grilovaný vepřový steak s uzeným masem a sýrem, hranolky, salátek (1,7) - 146 Kč
Smažené sýrové krokety na zeleninovém salátu, dresing, opečený toast (1,3,7,10) - 144 Kč
Nadívané pečené kuřátko, šťouchané brambory, salátek, polévka, Radegast 0,3l/limo 0,3l / Pomelo-gre
Hovězí guláš, cibulka, domácí houskové knedlíky, polévka, Radegast 0,3l/limo 0,3l / Pomelo-gre
[Translate](#)

[Food allergy codes](#)

Dobrou chuť!

Write to Food around Ladvi

B I G H |

Have a nice stay at the IPP !!!

