

## GOMTRAIC-D 2021

### tokamak GOleM TRAIning Course - Distant mode

**Topic: Blended Workshop on the Tokamak physics, technology, operation and diagnostics.**

#### Introduction

Faculty of Nuclear Sciences and Physical Engineering at the Czech Technical University in Prague offers five-days mini-workshop on plasma experiments at the GOLEM tokamak (<http://golem.fjfi.cvut.cz>). Aim of the workshop is

- to have experience of tokamak operation and learn its basic principles.
- to learn basic instrumentation related to tokamak operation and diagnostics.
- to provide working experience with an integrated tokamak facility, including planning of experiments, plasma control, data acquisition and processing commonly used in today's fusion plasma experiments, finalization and presentation of experimental results.

#### Basic description:

- Number of students: 20 (8 participants from EuroTeQ Campus will have a priority reservation)
- Date of event (preliminary): 22.-26.11.2021
- Web of the event: <http://golem.fjfi.cvut.cz/gomtraic>
- Based on Hands-on experience GOMTRAIC-C (contact mode), see Final report at <http://golem.fjfi.cvut.cz/wiki/TrainingCourses/PlasmaSchools/GOMTRAIC.cz/19/FinalReport.pdf>

GOLEM offers following training tasks for the workshop-

Task 1: (All students) Measurements of basic plasma parameters like loop voltage, plasma current, toroidal magnetic field, electron temperature

Task 2: (4 students, supervisor Jaroslav Cerovsky) **Study of runaway electrons in the GOLEM tokamak.**

Task 3: (4 students, supervisors Jan Stockel, Vladislav Ivanov) : **Plasma start-up at Golem.**

Task 4: (4 students, supervisor Petr Macha): **Optimization of the maximum electron temperature  $T_e$**  varying Toroidal magnetic field and Current drive and see how these influence the shot duration, also proposing an explanation.

Task 5: (4 students, supervisor Katerina Hromasova) **Edge plasma studies using various electrostatic probes.**

Task 6: (4 students, supervisor Ondrej Grover) **Optimization of the maximum plasma current  $I_p$**  and see how it influences the shot duration, also proposing an explanation

## **Programme**

For the preparation of data processing, 3-4 weeks before the workshop, all the participants will communicate with their respective supervisors about the data analysis, software and the routines to be used during the course.

### **Day 1, Monday:**

#### **Talks**

- 1 10:00 Dr. Vojtech Svoboda: Welcome address, Introduction to the GOLEM tokamak.
- 2 13:00 Jaroslav Cerovsky: Introduction to the Runaway electrons in the (GOLEM) tokamak.
- 3 14:30 Katerina Hromasova: Electrostatic probes in the (GOLEM) tokamak.
- 4 16:00 Ondrej Grover: Golem specific data acquisition, manipulation and analysis.

### **Day 2: Tuesday**

Measurements of basic plasma parameters like loop voltage, plasma current, toroidal magnetic field, electron temperature

### **Day 3: Wednesday**

Tasks based experiments and data analysis: Each group will be engaged with their respective tasks

### **Day 4: Thursday**

**Morning** Tasks based experiments and data analysis: Each group will be engaged with their respective tasks

**Afternoon-** Preparation of presentations by participants

### **Day 5: Friday**

**Morning-** Presentations by participants and discussion of results

In the case of successful completion of this course, we are, of course, planning next edition.