



RIGA TECHNICAL  
UNIVERSITY

Centre of High-Energy Physics and  
Accelerator Technologies



CERN Baltic Group

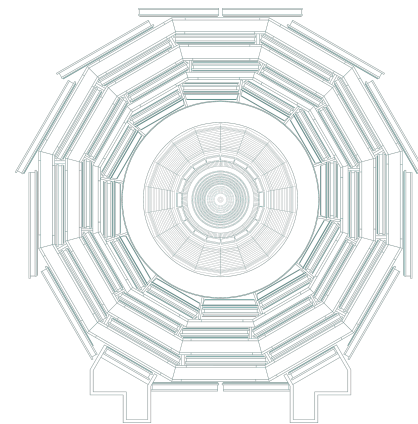
## CBG SPWG Update

CBG General meeting

**Kārlis Dreimanis**

**Toms Torims**

21.11.2022





- All previously enrolled students successfully continuing their studies:
  - 3rd year: Andris Potrebko (HEP, RTU);
  - 2nd year: Antra Gaile (HEP, RTU);  
Normunds Strautnieks (HEP, UL);  
Valts Krūmiņš (HEP, UL);  
Luca Piacentini (AT, RTU);  
Kristaps Paļskis (AT, RTU);  
Lazar Nikitonic (AT, RTU);
  - 1st year: Dace Osīte (HEP, RTU);  
Dimitrios S. Kontos (HEP, RTU);  
Conrado M. Diaz (HEP, RTU);  
Tobia Romano (AT, RTU), cotutelle with PoliMi;  
*Elyad Damerchi* (AT, RTU), cotutelle with Tartu;
- In case of Elyad, we are still working on the necessary steps in order to fully enrol him;

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**No UL students this year!  
Should avoid this in the  
future!**

\* - In case of Elyad, we are still working on the necessary steps in order to fully enrol him;

- It was not possible to make significant updates to the program over the last 6 months;
- The study direction encompassing this study program was being accredited in both RTU and UL;
- The accreditation process is *nearly* over;
- Our ability to make changes to the SP will partially depend on the outcome of the final accreditation report;
- **The near-future aims:**
  - To amend and improve the current syllabus (short term);
  - To initiate the expansion of this program to the Baltic level (mid-term);
  - Cotutelle students within Baltics is a good step towards this!
  - Planned master's program can be used as a test-bed!

# Master's program - the EMDM grant



- Lump sum grant of **55'000 kEur** awarded to the lead Higher Education institution (HEI) [RTU];
- The remaining consortium is not defined or constrained, but we should avoid straying too far;
- Project duration - 15 months (started 1st of October), end date is 31st of December 2023;
- Project milestones, timeline and deliverables are not monitored - attainment of all deliverables is expected by the end date of the project;
- The project is expected to result in the development of joint measures for the implementation of the study program between the HEIs and the host countries:
  - A joint, integrated master's program ready to be undertaken by the consortium;
  - Joint admission and evaluation rules, joint quality assurance policy;
  - Overall, joint management and administration;
  - [our expectation] A program fully eligible for EMJM;

- D.1.1:** Action plan;
- D.1.2:** State-of-play report;
- D.1.3:** Legal analysis report;
- D.1.4:** Joint mechanisms developed;
- D.1.5:** Curriculum developed;
- D.1.6:** Dissemination and advertising strategy;
- D.1.7:** Plan for the next steps developed;
- D.1.8:** Complete set of required documentation;

ACTIVITY	MONTHS														
	M 1	M 2	M 3	M 4	M 5	M 6	M 7	M 8	M 9	M 10	M 11	M 12	M 13	M 14	M 15
Task 1.1	█														
Task 1.2	█	█	█												
Task 1.3	█	█	█												
Task 1.4				█	█	█	█	█	█	█	█	█			
Task 1.5				█	█	█	█	█	█	█	█	█			
Task 1.6				█	█	█	█	█	█	█	█	█			
Task 1.7												█	█	█	
Task 1.8												█	█	█	█

We are a little behind schedule, but should have no problem re-establishing the timeline;

- **55'000 kEur** is a small war-chest, but one with which we plan to achieve or support a lot;
- **Travel:**
  - We plan to organise 4 in-person meetings for this EMDM project:  
Travel to each of the participating countries and to CERN;
  - We would aim to cover the costs of 1 representative per HEI involved;
  - Estimated travel expenditure : 5 kEur per meeting, a total of ~ 20 kEur;
  - Additional representatives, if required, should be covered by the HEI;
  - Other meeting organisation costs of ~ 1.5 kEur per meeting, a total of ~ 6 kEur;
  - Total expected costs ~25 kEur;
- **Development of the visual identity, website, dissemination costs, ~10 kEur;**
- **Costs associated with the preparation of required documentation, translator services consultations, etc., ~15 kEur;**
- **Remainder for other eligible costs ~5 kEur;**



- The consortium at the proposal submission stage:
  - RTU (lead);
  - University of Tartu;
  - Vilnius University;
  - Kaunas University of Technology;
- We hope to involve additional CBG institutes directly:
  - University of Latvia ?
  - NICPB ?
  - TalTech ?
- Not being involved directly would not mean we cannot collaborate within the scope of this SP!
- Participants can be changed (except RTU as the project holder),  
but we must retain at least one HEI from each of the three Baltic states!





- We aim explicitly(!) to develop a program eligible to be submitted to the Erasmus Mundus Joint Masters call;
- EMJM:
  - Supports the implementation of Joint-Masters programs for up to 74 months;
  - Allows for the support of up to 5 full editions of a 2-year master's cohorts;
  - Financial support:
    - Institutionally: 750 Eur/month per student for up to 100 students;
    - Stipends: 1'400 Eur/month stipend for up to 60 students (up to 12 per cohort);
  - At least 1 semester in 2 partner-HEIs other than in the country of residence of the student;
  - For our program, at least 1 semester in each of the three Baltic countries;



# The overall structure of our program



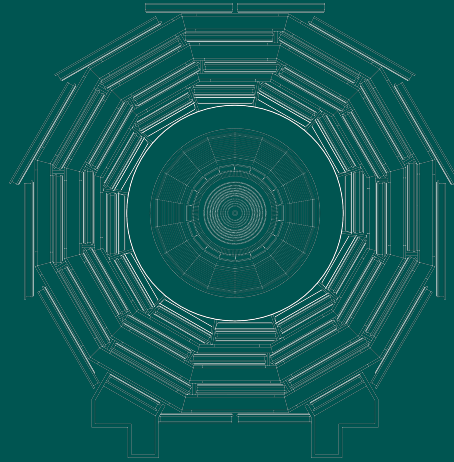
- **Semester 1:**
  - Fundamental courses attended by all students in country A;
- **Semester 2:**
  - Specialist courses given in country B;
- **Semester 3:**
  - Specialist courses given in country C;
- **Semester 4:**
  - Finishing their project and thesis at their main (home) institution in countries A, B or C;
- **Three tracks (?):**
  - Experimental particle physics (project and thesis in RTU or VU [or UL]);
  - Theory / phenomenology (project and thesis in UT);
  - Accelerator physics & technology (project and thesis in RTU, KTU or UT);
- **Important** : the thesis project could also be led by an institution not directly involved in this SP!



# Summary of EMDM



- Erasmus Mundus Design Measures (EMDM) is a small project aimed at giving HEI consortia the resources to develop a joint masters study program;
- Project award is 55'000 Eur lump sum to single beneficiary;
- Project duration is 15 months (end: 31st of December);
- Expected outcomes:
  - A joint, integrated master's program ready to be undertaken by the consortium;
  - Joint admission and evaluation rules, joint quality assurance policy;
  - Overall, joint management and administration;
- We must be ready to admit the first students in the new master's program in September 2024 at the latest, with or without further EMJM support!
- **Today:**
  - Would like to receive an official CBG mandate to implement this project under the CBG umbrella;



# Discussion

# The overall structure of our program (?)



- Keep courses modular (aim at 5 ECTS each course);
- Aligns us with some programs in Helsinki - aim to attract some Erasmus exchange from there?
- Below (extremely preliminary) proposed courses and their arrangement :

## Semester 1 : General Base Knowledge ;

- Advanced Mathematics I 5 ECTS;
- Classical Mechanics 5 ECTS;
- Classical Electromagnetism 5 ECTS;
- Quantum Mechanics 5 ECTS;
- Special Relativity 5 ECTS;
- Applied programming for research 5 ECTS;

## Semester 2 : General Specialist knowledge ;

- Advanced Mathematics II 5 ECTS;
- Advanced Particle Physics 5 ECTS;
- Accelerator Physics I 5 ECTS;
- Physics of Particle Detectors 5 ECTS;
- General Relativity 5 ECTS;
- Master's project I 5 ECTS;

## Semester 3 : Specialist knowledge ;

- 3rd semester course I 5 ECTS;
- 3rd semester course II 5 ECTS;
- 3rd semester course III 5 ECTS;
- 3rd semester course IV 5 ECTS;
- Master's project II 10 ECTS;

## Semester 4 : Master's project ;

- 4th semester course I 5 ECTS;
- 4th semester course II 5 ECTS;
- Master's project III 20 ECTS;



# After the kick-off meeting ...



- This is a kick-off with the aim of beginning to develop the program and the consortium;
- For *today*, we should agree on the interest amongst partners - which CBG HEIs will participate?
- Interested parties should, in the next 2-3 weeks:
  - Collate a list of all existing applicable master's courses at their Universities;
    - Subject;
    - Credits;
    - Timing (semester, etc.);
    - Composition (contact hours, individual study hours, etc.);
  - Collate basic information on the legal framework for 2-year master's in your country (in ENG):
    - Obligatory number of contact hours;
    - Rules and requirements for the award of a degree;
- We would prepare the proposed action plan for the EMDM project;