

IncluSMe Summer School

Intercultural Learning in Science Education
20 – 29 June, 2018, Prague

For prospective science teachers:

Join a unique intercultural experience preparing you for the future classroom!

For intercultural learning, first-hand experiences are indispensable and in particular relevant for the future classroom. Yet, prospective science teachers need to be aware of the cultural realities of many science tasks as well as of culturally different algorithms. They should be able to perceive culturally different perspectives and develop intercultural sensitivity.

Participating students of the IncluSMe summer school will have numerous opportunities for intercultural exchange, both within the international student group and outside when meeting local students, teacher and pupils. This will enable them to gain rich intercultural experience connected to their own future profession.

Lectures will be held by an international team of renowned lecturer from 7 countries!

Venue: Faculty of Education, Charles University, Prague, Czech Republic (M. D. Rettigová street 4, closest Metro station – Národní třída or Můstek)

Main target group: Natural sciences students in teacher education programmes – also interested university teachers welcome!

Application deadline: 30 April, 2018

Award: 3 ETCS credits from University of Hradec Králové, certificate of participation

Language: English

Costs for students of IncluSMe partner universities: Attendance fee 25,- EUR.

Fee for students of other universities: Attendance fee 100,- EUR. Travel, accommodation and subsistence costs on own expenses

Organizer: IncluSMe Project - University of Hradec Kralove in cooperation with Charles University Faculty of Education

Contact for information: martin.bilek@uhk.cz or martin.bilek@pedf.cuni.cz

Web: <http://inclusme-project.eu>

Programme

Students profit from the summer school as an excellent opportunity for gaining international and intercultural experiences which enable them to better appreciate and understand cultural and social diversity. During the summer schools, students will live and work in an intercultural setting together with students from many different European countries, having numerous opportunities for intercultural communication.

The programme provides lectures and workshops on intercultural learning as well offers activities to make own experiences in activities that are offered after the lectures and workshops: for example visits of the Czech National Museum, the Technical Museum and the expositions of the Faculty of Natural Sciences of the Charles University. Also, a school and non-governmental institution excursions will be organised to give prospective teachers an insight into school life in another country.

Modules

During the summer school lectures and workshops with a particular emphasis on those topics will be held:

- Introduction Module A: Intercultural competencies (JU in cooperation with the teams of lecturers from the other participating universities – before Summer School)
- Module B: Intercultural science learning outside of school (NTNU)
- Module C: Culture-related context for mathematics and Science Education UU
- Module D: Different perspectives on current ecological problems (UHK)
- Module E: Relevance of language in science education (UNIC)
- Module F: Scientific problems involving moral, ethical or cultural aspects(UJA)
- Module G: Assessment in mathematics and science in multicultural contexts UoM
- Module H: Additional culture related study events (UHK)

Participation in the modules A to G is mandatory to apply for 3 ETCS credits. Participation in module H is voluntary.

Module descriptions

Introduction **Module A: Intercultural competencies**

Accompanying prospective teachers in making intercultural experiences

Team of lecturer from the Jönköping University, Sweden in cooperation with the teams of lecturer from the other participating universities

This module will be offered to prospective teachers of mathematics and science prior to their field exchanges or stays abroad, in this case the summer school in Prague. The introduction module aims to prepare the prospective teachers for intercultural teaching experiences, by equipping them with necessary knowledge, skills and values. Aims include helping prospective teachers reflect on their own experiences and learn from the field exchange, including reflecting on their own attitudes, values and development of intercultural competences. The module will also equip students with methods for reflecting one's own experiences during stays abroad or field work, including ethnographic field notes as a tool for analyzing classroom practice.

This module will be offered to students prior to the Summer School, either at their university or via a skype lecture with other international students.

Module B: Intercultural science learning outside of school

Diversity in school, diversity in nature

Team of lecturers from the Norwegian University of Science and Technology (NTNU), Norway

The environmental challenges in today's society are growing simultaneously with the challenges faced by school due to increasing cultural diversity. This module aims to equip future science teachers with knowledge and skills to teach topics related to education for sustainable development in an intercultural context. Different backgrounds and pre-knowledge of preservice teachers are seen as resources. The focus is on interactions between preservice teachers that have diverse cultural backgrounds. In this module, preservice teachers, through well-prepared outdoor fieldwork, will acquire subject and culturally relevant pedagogical content knowledge on e.g. the biodiversity in different ecosystems, processes and factors influencing them. Being at the intersection between out-of-school pedagogy, science education and interculturality, this module offers a unique opportunity for preservice teachers to learn on the benefits of "outside of school" for integrating cultural diversity with science learning.

Module C: Culture-related context for Science Education

Team of lecturers from the Utrecht University (UU), Netherlands

The module introduces students/future teachers to the role and to the use of culture-related contexts in teaching and learning of mathematics and science. Students will perform better in science and mathematics when the central concepts are grounded in contexts that they can relate and/or recognize from daily life. This will depend on the cultural background of the students and you as a teacher. The module prepares future teachers for teaching in cultural diverse classrooms, acknowledging and appreciating the cultural background of their students. During the module we will explore and analyse subject-specific examples of contexts you find in your curriculum and design a lesson for teaching in diverse classrooms.

Module D: Different perspectives on current ecological problems

Different perspectives on current ecological problems on example of water

Team of lecturers from the University of Hradec Kralove (UHK), Czech Republic

The module is oriented to different perspectives on the water as one example of ecological problems with perspectives from different territorial/ cultural/ religious/ value/ historical standpoints. The focus is on the role of cultural contexts, and in particular the use of contexts from different cultures concerned elected ecological problem. The module content provides seminar activities for students to analyse and discuss the problem from different perspectives in order to raise their awareness and promote the development of social, civic and intercultural competence mainly for future science teachers on how to bring these issues into the classroom. Pedagogical approaches are used which promote an unprejudiced, open minded and appreciative attitude towards different cultures and allow reflection and own investigations into water as one of current global ecological problems.

Module E: The relevance of language in science

Team of lecturers from the University of Nicosia (UNIC), Cyprus

In this module high emphasis is set on introducing the relevance and role of language in science and how language, and the different cultural background can hinder learning. Pre-service teachers will learn about students' difficulties with language in science and also about frameworks and activities to support students from different language and cultural background. We will also point to the following exemplary challenges in connection to the topic: different use of language in everyday life and science, western science and cultural congruency, different framework supporting learners from different backgrounds in science and US programs aimed at supporting Latin speaking students in science and lessons learned.

Module F: Scientific problems involving moral, ethical or cultural aspects

Use of socio-scientific scenarios to enhance science learning in culturally diverse classrooms

Team of lecturers from the University of Jaen (UJA), Spain

Addressing the need to improve STEM education in multicultural classroom, this module will help you as a teacher, to enhance students' motivation and engagement by using media to raise motivation and bringing a sense of authenticity and relevance to science learning, by connecting science and culture by introducing engaging scenarios where science interacts with society and ethical values, by enhancing students' communication and collaboration, by promoting a classroom atmosphere of exploration of different perspectives, empathy and respect for others' ideas, by supporting active learning, ownership and empowerment in multicultural STEM students and by developing skills to design cultural responsive materials based on the use of socio-scientific issues for science education.

Module G: Assessment in science in multicultural contexts

Team of lecturers from the University of Malta (UoM), Malta

The main aim of this module is to enable prospective teachers to become 'assessment literate' with respect to multicultural contexts. According to literature being 'Assessment literate' means that prospective teachers have "a repertoire of skills and understandings to design quality assessments and to use achievement standards and evidence as a means by which to discern, monitor and improve learning as well as judge the qualities of student work". Therefore, this module aims to introduce prospective teachers to various procedures and help them develop skills that will allow them to take into account pupils' diversity and support them to address issues of equity and social justice.

Module H: Additional culture related study events

Team of the University of Hradec Králové (UHK), Czech Republic

Schedule

Introduction Module A will be held by JU in cooperation with the teams of lecturers from the other participating universities – in advance as a preparation to the Summer School.

Participation in the modules A to G is mandatory. Participation in module H is voluntary.

Wednesday 20 June

Time	Session	Contact Person
10:00 - 12:00	Arrival and Registration Department of Chemistry and Chemistry Education Faculty of Education Charles University, M. D. Rettigové street 4, 2 nd floor, room R201	
12:00 - 12:30	Welcome	Martin & Veronika from UHK and Charles University (CUNI), Faculty of Education (PeF)
12:30 - 15:00	General Introduction University Study and Students in Czech Republic (intercultural review of Czech academic environment) Introduction of participants country groups Group discussion (focus group) about intercultural society	Martin, UHK and CUNI Participants groups NTNU team
15:00 - 15:30	Break	
15:30 - 18:00	Module B “Intercultural science learning outside of school” (1)	NTNU team
18:00 – 19:00	Module B “Intercultural science learning outside of school” – preparation for session (2)	NTNU team on supervising
19:00 - 21:00	Module H Welcome in Prague –excursion in city centre from the perspective of the intercultural life in the city (dinner connected)	Czech Students

Thursday 21 June

Time	Session	Contact Person
09:00 - 11:30	Module H Culture-educational program in Prague	Martin & students
11.30 – 12.30	Lunch – time	
12:30 - 15:00	Module C “Culture-related context for mathematics and Science Education” (1)	UU team
15:00 - 15:30	Break	NTNU team
15:30 - 18:00	Module B “Intercultural science learning outside of school” (2)	
18.00 – 19.00	Module B “Intercultural science learning outside of school” – preparation for session (3)	NTNU team on supervising

Friday 22 June

Time	Session	Contact Person
09:00 - 11:30	Module B “Intercultural science learning outside of school” (3)	NTNU team
11.30 – 12.30	Lunch – time	
12:30 - 15:00	Module C “Culture-related context for mathematics and Science Education” (2)	UU team
15:00 - 15:30	Break	
15:30 - 18:00	Module D “Different perspectives on current ecological problems” (1)	UHK team

Saturday 23 June

Time	Session	Contact Person
09:00 - 11:30	Module C "Culture-related context for mathematics and Science Education" (3)	UU team
11.30 – 12.30	Lunch – time	
12:30 - 15:00	Module D "Different perspectives on current ecological problems" (2)	UHK team
15:00 - 15:30	Break	
15:30 - 20:00	Module H Culture and study programme in the city (details tba)	Czech Students

Sunday 24 June

Time	Session	Contact Person
09:00 - 20:00	Module H Whole day trip to Hradec Králové	UHK team and students
	Intercultural environment outside of Prague	
	Hradec Králové – Architectonical saloon of Czech Republic	
	University of Hradec Králové – history, current state and future	
	Culture and students in Hradec Králové	

Monday 25 June

Time	Session	Contact Person
09:00 - 11:30	Module E "Relevance of language in science education" (1)	UNIC team
11.30 – 12.30	Lunch – time	
12:30 - 15:00	Module E "Relevance of language in science education" (2)	UNIC team
15:00 - 15:30	Break	
15:30 - 18:00	Module D "Different perspectives on current ecological problems" (3)	UHK team

Tuesday 26 June

Time	Session	Contact Person
09:00 - 11:30	Module E "Relevance of language in science education" (3)	UNIC team
11.30 – 12.30	Lunch – time	
12:30 - 15:00	Module F "Scientific problems involving moral, ethical or cultural aspects" (1)	UJA team
15:00 - 15:30	Break	
15:30 - 18:00	Module F "Scientific problems involving moral, ethical or cultural aspects" (2)	UJA team

Wednesday 27 June

Time	Session	Contact Person
09:00 - 11:30	Module F “Scientific problems involving moral, ethical or cultural aspects” (3)	UJA team
11.30 – 12.30	Lunch – time	
12:30 - 15:00	Module H School and non-governmental institution excursion (details tba)	Martin
15:00 - 15:30	Break	
15:30 - 18:00	Module G “Assessment in mathematics and science in multicultural contexts” (1)	UoM Team

Thursday 23 June

Time	Session	Contact Person
09:00 - 11:30	Module G “Assessment in mathematics and science in multicultural contexts” (2)	UoM team
11.30 – 12.30	Lunch – time	
12:30 - 15:00	Module H School and non-governmental institution excursion (details tba)	Martin
15:00 - 15:30	Break	
15:30 - 18:00	General Module Writing self-reflection	Martin

Friday 29 June

Time	Session	Contact Person
09:00 - 11:30	Module G “Assessment in mathematics and science in multicultural contexts” (3)	UoM Team
11.30 – 12.30	Lunch – time	
12:30 - 15:00	General Module Final Colloquium	Martin and teams
15:00 - 15:30	Break	
15:30 - 18:00	General Module Farewell & Departure	Martin and teams

Prague – one of the most beautiful cities in Europe

For IncluSME Summer School we elected Prague as beautiful city in hearth of the Europe with great opportunities to meet and recognize multicultural society and intercultural relations. Venue in Prague offers to discover “genius loci” connected with intercultural feeling and rich historical memory.

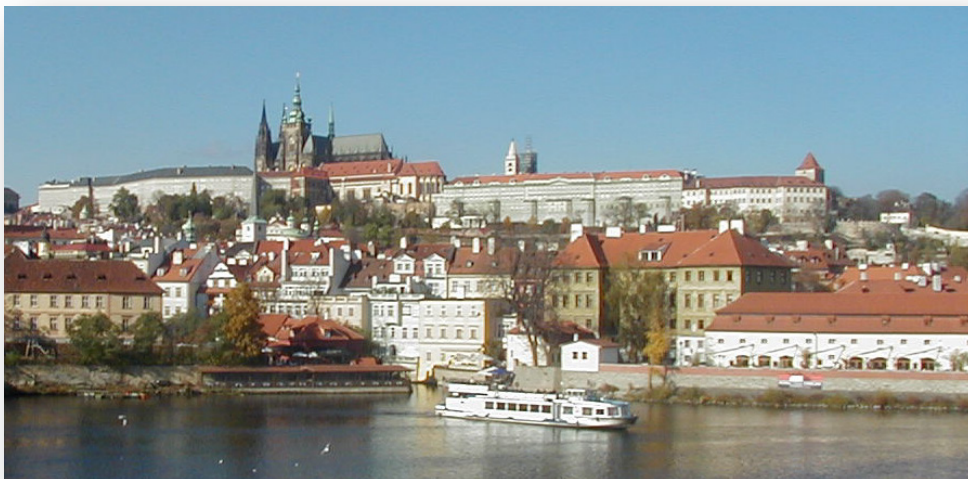


Photo: Martin Bilek

The IncluSMe project

IncluSMe (Intercultural learning in mathematics and science initial teacher education) focuses on increasing the quality of the initial teacher education (ITE) of prospective mathematics and science teachers by including intercultural learning into their curricula: Prospective mathematics and science teachers need to learn how to cope with **language barriers, culturally different pre-concepts about science and highly varying proficiencies of (immigrant) students** to be prepared to tackle the challenges of their future profession.

In turn, maths and science competences are crucial for civic participation, academic and professional success, not only for students with diverse backgrounds but for all. But if comprehension and communication problems due to language barriers or cultural differences are not addressed, students with immigrant background may perform poorly in maths and science. In order to secure educational opportunities for immigrant and refugee youth, it is essential to **include intercultural aspects into the initial education of maths and science teachers**.

Thus, our project, aims to improve the relevance of higher education curricula for prospective maths and science teachers by linking maths and science education with intercultural learning – and thereby strengthening students' social, civic and intercultural competences.

By offering **international summer schools** and **multiplier events**, IncluSMe will strengthen transnational cooperation between universities in establishing mobility programmes for maths and science students in initial teacher education.

The project brings together 11 teams of higher education institutions for initial teacher education from across Europe comprising experts in maths and science education, in inclusion and diversity, in mobility and intercultural learning, as well as people involved in pilot projects for refugees:

- University of Education Freiburg, Germany (coordinating institution)
- University of Nicosia, Cyprus
- University of Hradec Králové, Czech Republic
- University of Jaen, Spain
- National and Kapodistrian University of Athens, Greece
- Vilnius University, Lithuania
- University of Malta, Malta
- Utrecht University, Netherlands
- Norwegian University of Science and Technology, Norway
- Jönköping University, Sweden
- Constantine the Philosopher University, Slovakia

**We are looking forward to welcome you
at our Summer School in Prague!**

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