ENSITE Summer School – Varna, Bulgaria
July 31st – August 11th, 2022

Dealing with environmental issues in science education - Deeping future science and maths teachers' learning by teaching

Intensive programmes for higher education learners

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1. Objectives

The aim of this summer school is to provide future teachers with experience in teaching small groups of high school students with specific STEM interests and in introducing environmental SSI. It will allow participants to learn (gaining knowledge, skills and competences) but also to gain experiences in teaching. In addition, they will not only learn about teaching concepts but will be able to try them out in a realistic context. This will be achieved through inviting high-school students (from regional schools) to serve as test group.

2. Target groups

The main target groups of this summer school are:
- Science and maths ITE students
- PhD students in STEM fields
- High school students interested in working on projects related to environmental socio-scientific concepts

All target groups learn about environmental SSI, future teachers gain knowledge on pedagogical concepts, widen their teaching scope and have the possibility to actively teach students and PhD students gain experience in both aspects and can elaborate on how gained knowledge might contribute to their research work.

3. Procedures and work-flow

The summer school will be set up following a format that has been refined during the last two decades in the annual summer school of the IMI High School Students, subsidiary of IMI-BAS. The experience of IMI-BAS has shown that future teachers like to work with high school students and

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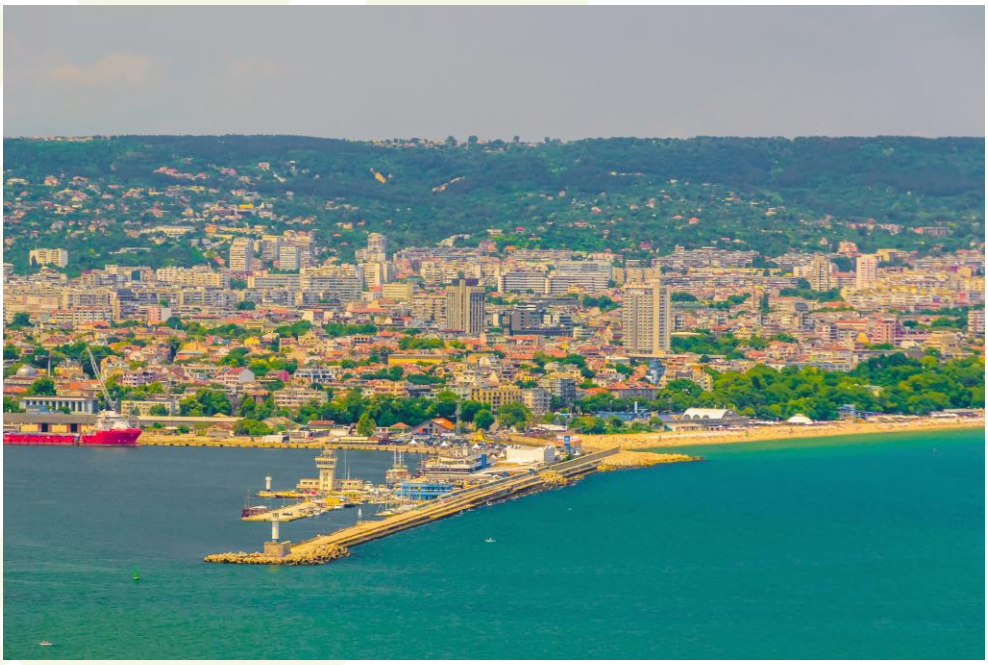
value the teaching experience. In turn, each future teacher will get support from experienced educators, who will oversee the process, provide useful advice and held seminars on relevant topics. The event will start with several days of training for participants, where they will be introduced to our IOs. The HE students will then work individually or in small groups to design lessons introducing SSI research topics. The summer school will end up with the future teachers presenting their work by teaching high school students the lessons designed in the previous stage. Finally, participants and experienced educators will present and discuss their observations in a workshop, highlighting good practices and important challenges, along with suitable strategies for addressing them.

4. Venue

The summer school will be held at the Conference and Recreation Centre of the Bulgarian Academy of Sciences (also known as Creativity House of BAS) in Varna, Bulgaria, from July 31st to August 11th, 2022. Referred to as the marine capital of Bulgaria, Varna is the third-largest city in the country and the largest seaside resort on the Black Sea Coast. It is a major economic, social and cultural centre.



A social cultural programme tailored to enrich the experience of the participants will be provided. Half-day trips to sites of cultural and/or scientific importance will be included, as well as shorter visits to relevant exhibitions and museums.

The organisers will issue a certificate for each student and each future teacher, describing the scope of the activity and the attained learning outcome. Suitable assessment tools will be developed both for the students and the mentors. It is intended that participants will get 3 ECTS points.

5. Schedule

July 31st, Sunday
Arrival day and registration

August 1st, Monday
09:30 – 10:00 ENSITE Summer School introduction and instructions
10:00 – 12:00 **Module IO2: Reasoning, Argumentation & Critical Thinking**
Lecturer: Gultekin Cakmakci & Zeki Bayram, Hacettepe University (HU), Turkey
14:00 – 18:30 Individual and/or team work on the topic.

August 2nd, Tuesday
09:30 – 12:00 **Module IO10: Lesson Planning II**
Janka Medova, Veronika Bockova, CPU Nitra, Slovakia
14:30 – 18:00 **Module IO10: Lesson Planning II**
Janka Medova, Veronika Bockova, CPU Nitra, Slovakia

August 3rd, Wednesday
09:30 – 12:00 **Module IO10: Lesson Planning II**
Janka Medova, Veronika Bockova, CPU Nitra, Slovakia
14:30 – 18:00 **Module IO10: Lesson Planning II**
Janka Medova, Veronika Bockova, CPU Nitra, Slovakia

August 4th, Thursday
09:30 – 12:00 **Module IO5: Decision Making**
Martin Bilek, Univerzita Karlova, Czech Republic
Gultekin Cakmakci, Hacettepe University (HU), Turkey
14:00 – 18:30 Individual and/or team work.

August 5th, Friday
9:30 – 12:00 Individual and/or team work
14:00 – 18:00 Visit to the Astronomical Observatory and Planetarium and to the Nature Museum

August 6th, Saturday
9:30 – 12:00 **Module IO3: Data collection**
Evgenia Stoimenova, IMI – BAS, Bulgaria
14:00 – 18:00 Individual and/or team work

August 7th, Sunday – August 9th, Tuesday
9:30 – 12:00 Individual and/or team work
14:00 – 18:00 Individual and/or team work

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ICSE International Centre for STEM Education

ENSITE Environmental Socio-Scientific Issues in Initial Teacher Education

August 10th, Wednesday

09:30 – 12:00 Presentation of students' results
14:00 – 17:00 Presentation of students' results
17:00 – 18:00 Discussion and wrap-up

August 11th, Thursday

Departure

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