ERASMUS + K131 BLENDED INTENSIVE PROGRAMME (BIP)

Erasmus+

Ud'A Università degli Studi "G. d'Annunzio"

University of Gdańsk

Le Mans Université

WHAT IS A BLENDED INTENSIVE PROGRAMME (BIP)?

Joint programme of HEIs in at least **three** programme countries, where learners come together. The learners can be either students or staff who go on a training activity. Includes both a physical activity and an online component.

The BIP should foster:

- development of transnational and transdisciplinary curricula
- innovative ways of learning and teaching
- online collaboration
- research-based learning
- challenge-based approaches that tackle societal challenges

STUDENTS

The physical activity can be **5-30 days** and the virtual component is compulsory.

- Our BIP: 5 Days in Italy and 4 days online

The BIP should award **3 ECTS** credits, or an equivalent workload.

Our BIP: 3 ECTS/CFU

Each participant should get from their sending institution mobility grant.

- Individual support is **€70 per day and travel grant based on distance-band**.

Talks will be **recorded**.

PDF of the slides will be **available**.

Online Learning Agreement (OLA) for the BIP: Beyond Human Performance

Requirements and assessment

Presence (at least **80% of the lesson hours** – 7 hours absence)

Science slam

The Science Slam is a special form of oral presentation that reaches a broad audience.

It offers funny and creative, but still informative, scientific, and applied presentations of up-to-date and original research.

It should last approximately **5 min** and be **coherent with the BIP program (individual).**

Neurolimits: Beyond human performance

The BIP will focus on the topic of **human performance** across **four** main domains:

1. **Mental and physical effort**: this module aims to better understand the complex and paradoxical interplay between cognitive processes and physiological responses, shedding light on the mechanisms underlying humans' will to exert resources, and how the perception of effort may affect underlying psychological and physiological processes.

Speakers

- A) Mental effort and Effort paradox (Michael Inzlicht, University of Toronto, Canada)
- B) Perceived fatigability (Samuele Maria Marcora, University of Bologna, Italy)
- C) The Intention-Behaviour Gap in Physical Activity: Unravelling the Critical Role of the Automatic Tendency towards Effort Minimisation (Boris Cheval, Université de Rennes,France)
- D) Linking mental and physical fatigue (Bart Roelands, University of Brussels - Vrije, Belgium)

Neurolimits: Beyond human performance

2. Motor control: the second module concerns the neural mechanisms governing motor behaviors, delineating current approaches and methodologies to study movement, its coordination, skill acquisition, and motor learning.

Speakers

- A) Deciphering Motor-Cognitive Interference: Insights from Mobile Brain/Body Imaging (Uros Marusic, Science and Research Centre Koper, Slovenia)
- B) The effects of neuromuscular fatigue on motor adaptation (Matteo Bertucco, University of Verona, Italy)
- C) Origins and consequences of cognitive fatigue (Mathias Pessiglione, Paris Brain Institute – Pitié-Salpêtrière Hospital, France)
- D) EEG Hands on activity: recording with a 64-channel wifi system and data analysis – Brainproducts (Gianluigi Rubino, BrainProducts GmbH, Italy; Marika Berchicci, UdA; Valentina Bianco, Pavia University)

Neurolimits: Beyond human performance

3. Decision-making: in this module, participants will be engaged with the cognitive and neural underpinnings of decision-making processes, dissecting the factors that may influence their choices under varying conditions of uncertainty, pressure, and requirements.

Speakers

- A) An active inference approach to modelling sensory processing and interoception (Pierpaolo Iodice, Le Mans Université, France)
- B) Embodied decision-making (Annalisa Tosoni, University of Chieti-Pescara “G. d’Annunzio”, Italy)
- C) Brain, body and architecture (Zakaria Djebbara, Aalborg University, Denmark)
- D) Effects of sensory and motor experience on anticipatory brain functions and cognitive control (Valentina Bianco, University of Rome “Foro Italico”, Italy)

Neurolimits: Beyond human performance

4. Performance optimization: the closing module will cover cutting-edge strategies for enhancing human performance, leveraging insights from current research approaches to optimize training methodologies and maximize human potential.

Speakers

- A) Neurophysiological bases of the placebo effect in the motor domain (Mirta FIorio, University of Verona, Italy)
- B) Does mental fatigue impact exercise performance? A critical review of the empirical evidence (Daniel Sanabria, University of Granada, Spain)
- C) Brain endurance training (Jesus Diaz Garcia, University of Birmingham, UK)
- D) Eye-tracking and skin conductance to monitor task engagement during EEG neurofeedback (Agustina Fragueiro, National Institute for Research and Digital Science and Technology, France)
- E) Electrophysiological signature of body posture in resting state networks (Marco Marino, University of Padua, Italy)

Online sessions- Day 1: today (May 16th)

- h 9-10: General information and presentation of the topics with reading and studying suggestions. Students' presentation.
- h 10-11: **Boris Cheval** (Université de Rennes, France): The Intention-Behaviour Gap in Physical Activity: Unravelling the Critical Role of the Automatic Tendency towards Effort Minimisation.
- h 11-12: **Mathias Pessiglione** (Paris Brain Institute – Pitié-Salpêtrière Hospital, France): Origins and consequences of cognitive fatigue.
- h 12-13: **Daniel Sanabria** (University of Granada, Spain): Does mental fatigue impact exercise performance? A critical review of the empirical evidence.

Online sessions – Day 2: tomorrow (May 17th)

- h 9-10: **Zakaria Djebbara** (Aalborg University, Denmark): Brain, body and architecture.
- h 10-11: **Uros Marusic** (Science and Research Centre Koper, Slovenia): Deciphering Motor-Cognitive Interference: Insights from Mobile Brain/Body Imaging.
- h 11-12: **Jesus Diaz Garcia** (University of Birmingham, UK): Brain endurance training.

UdA Chieti - Pescara

ARRIVAL BY AIRPLANE

- Roma Airports: even if you land in Fiumicino “Leonardo da Vinci” Airport or in Ciampino “G. B. Pastine” Airport, in order to reach Pescara or Chieti, you need to take the bus.

BUS

https://dicarlobus.com/linee/autobus-pescara-fiumicino/

https://clikbus.it/pescara-ciampino-fiumicino/

- Pescara International Airport of Abruzzo (PSR) is located 3 kilometres from the Pescara city centre.

To get to the city you can take bus no. 38, which departs every 15 minutes.

The bus leaves from outside the airport terminal to the railway station in Pescara’s city centre. The trip takes about 10 minutes, and tickets are sold in automatic machines in the Arrivals Area.

The buses are run by the company GTM: www.gtm.pe.it

TRIP FROM PESCARA TO CHIETI

The Pescara-Chieti journey lasts for about 20 minutes by train.
Train station departure is “Pescara Centrale” and the arrival station is “Chieti-Madonna Delle Piane”

SUGGESTED TRAIN SCHEDULE IS THE FOLLOWING:

FROM PESCARA TO CHIETI-MADONNA DELLE PIANE

08:13 ⟶ 08:31 | **TICKET 2.10€**

FROM CHIETI-MADONNA DELLE PIANE TO PESCARA

13:57 ⟶ 14:20 | **TICKET 2.10€**

For more info, schedules, rates and ticket purchase:
www.trenitalia.com/en

From Chieti-Madonna Delle Piane station to Aula multimediale

If you are going to book hotels within the same area, we will have a shuttle running back and forth

MEETING VANUE

- The Chieti Campus is located at "Madonna delle Piane", in Chieti Scalo. In addition to the lecture halls and libraries, it houses the Rector's Office, the General Management and the central administrative offices.
- The University Campus in Chieti, surrounded by green fields and parks, offers services, facilities, activities and recreation.

RECTOR BUILDING

ACCOMMODATION SUGGESTIONS: PESCARA

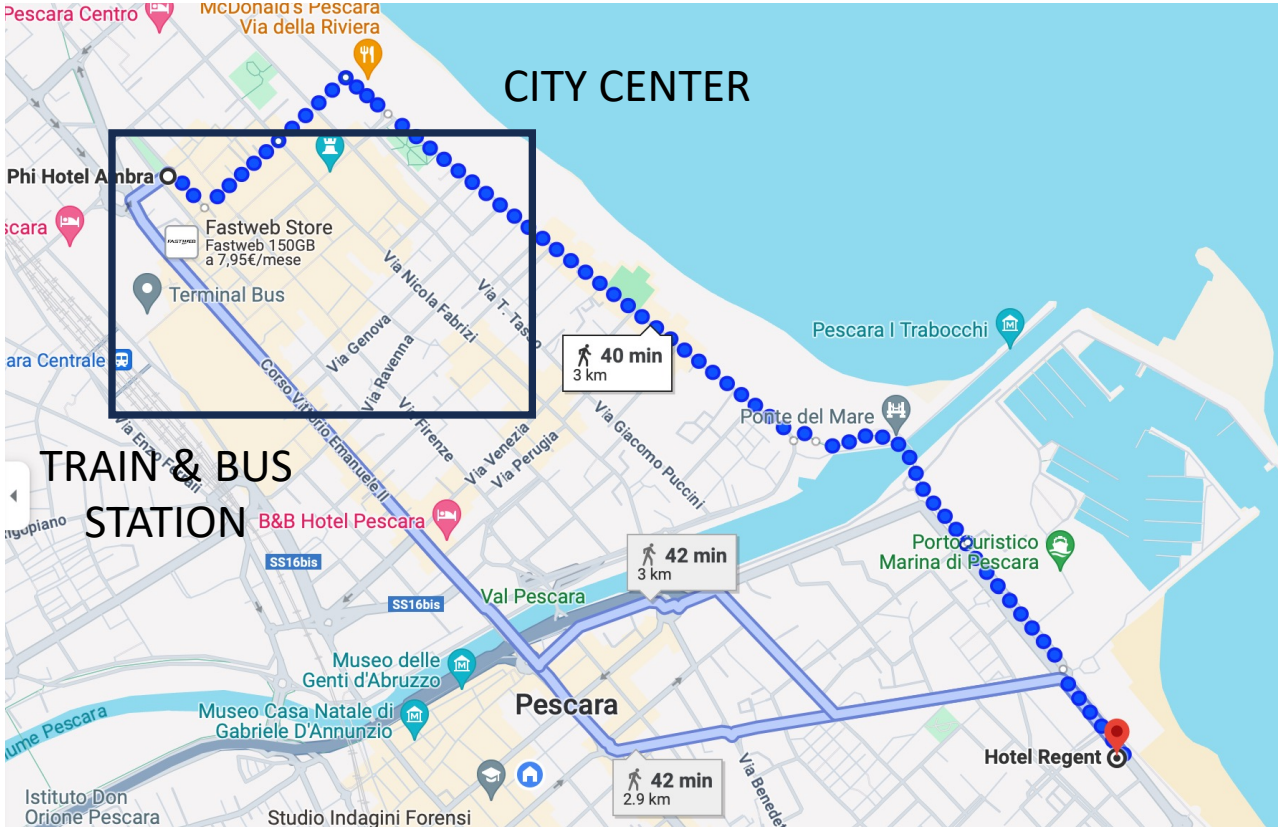
Hotel Regent

1-bed B&B = € 63,00 room/day

2-bed B&B = € 75,00

3-bed B&B = € 89,00

4-bed B&B = € 99,00



Hotel Ambra Palace

1-bed = € 59 room/day

2-bed = € 72

2-bed = € 85

3-bed = € 110

4-bed = € 129

STUDENTS' ORGANIZATION

On-site sessions – Day 1: June 3rd

h11-14

- Welcome greetings and lunch.

h 14-17 (coffee break included)

- **Decision-making**

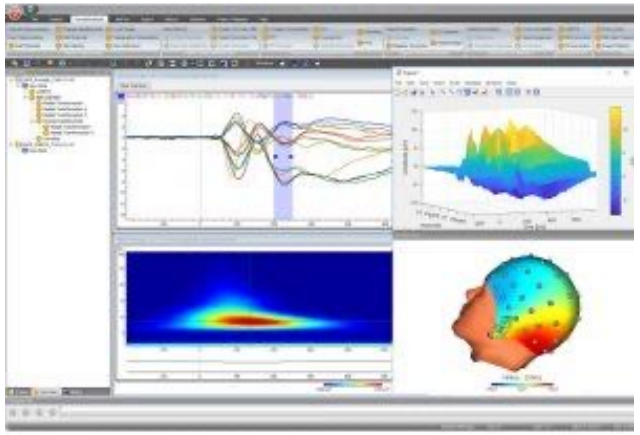
- An active inference approach to modelling sensory processing and interoception (Pierpaolo Iodice,Le Mans Univerité, France)
- Embodied decision-making (Annalisa Tosoni, University of Chieti-Pescara “G. d’Annunzio”, Italy)
- Effects of sensory and motor experience on anticipatory brain functions and cognitive control (Valentina Bianco, University of Pavia, Italy)

On-site sessions – Day 2: June 4th

h 9-14 (coffee break included)

- **Hands-on Activity**

Hands on activity with wifi EEG from BrainProducts – EEG Data recording and analysis during motor tasks (Gianluigi Rubino, BrainProducts GmbH, Italy; Marika Berchicci, UdA; Valentina Bianco, Pavia University)



On-site sessions – Day 3: June 5th

h 14-18 (coffee break included)

- **Performance optimization and motor control**

- Eye-tracking and skin conductance to monitor task engagement during EEG neurofeedback (Agustina Fragueiro, National Institute for Research and Digital Science and Technology, France)
- Neurophysiological bases of the placebo effect in the motor domain (Mirta FIorio, University of Verona, Italy)
- The effects of neuromuscular fatigue on motor adaptation (Matteo Bertucco, University of Verona, Italy)
- Electrophysiological signature of body posture in resting state networks (Marco Marino, University of Padua, Italy)

On-site sessions – Day 4: June 6th

h 9-13 (coffee break included)

- **Mental and physical effort**

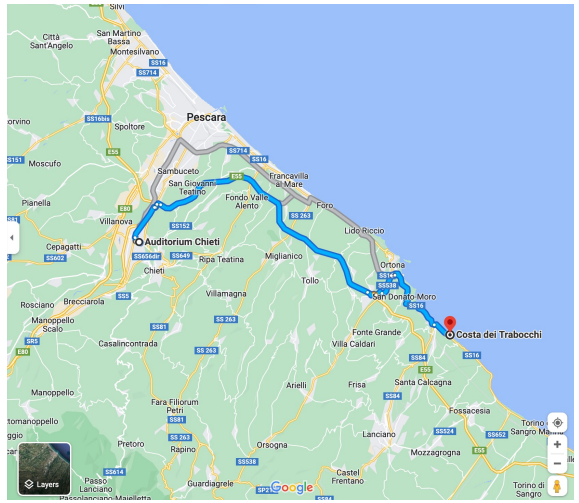
- Linking mental and physical fatigue (Bart Roelands, University of Brussels - Vrije, Belgium)
- Perceived fatigability (Samuele Maria Marcora, University of Bologna, Italy)
- Mental effort and Effort paradox (Michael Inzlicht, University of Toronto, Canada)
- Roundtable on mental and physical effort with speakers in presence and online

h 14-till late

- Afternoon trip to the “Trabocchi coast”, bike tour, visit to the Trabocco with aperitive, dinner in front of the beach.

Bike tour

- Afternoon trip to Costa dei Trabocchi by bus and bike tour
- Sunset in the Trabucco with aperitive
- Dinner on the cost
- https://www.palazzoflorio.com/anitas-blog/trabocco-magic



On-site sessions – Day 5: June 7th

h 9-14 (coffee break included + light lunch)

- Preliminary project work with students
- Administrative procedures

THIRD SESSION (online): July 4th - 5th

July 4th

h 10-12

- Science slam by students and discussion

July 5th

h 9-12 PM

- Science slam by students and discussion
- Closing remarks

ENJOY THE BIP

Student Self
Introduction