

# AI

## THE AI MOMENT @USJ Staff Development Day

June 2, 2023  
10:30 AM – 4:30 PM  
Don Bosco Auditorium

// 10:30 am // Morning coffee

// 10:45 am // Introductory remarks by the Revd. Prof. Stephen Morgan

// 11:55 am // Opening talk by Prof. Vitor Teixeira (+ Carlos Sena Caires)

### **A Possible Update on AI (and what is being said about it)**

*We have the perception that AI is inevitable, unstoppable, and spreading like wildfire, with new tools, apps, and applications appearing every day. We are also bombarded with news about people who petition, protest, quit, or are fired because of AI. Some companies are enjoying amazing profits, while others are almost bankrupt or have had to close down. Additionally, there is increased interest among academia, and thinkers from different fields of knowledge are bringing interesting ideas related to this topic. In this presentation, we will provide an update on the state of the art of AI and share some of the thoughts and thinks that are being said about it.*

// 11:15 am // Academic Staff Sharing Experiences on AI

#### 1. Prof. Duncan Miers (USJ-ELC)

##### **Pitfalls and Possibilities of AI Detection**

*Identifying original student writing is made more challenging by AI technology. What do AI detectors tell us? How can we use this technology as part of a protocol for maintaining author integrity? This presentation will seek to answer these questions by comparing AI and Human-generated texts and will propose some guidelines for processing student writing.*



2. Prof. Serge Stinckwich (UNU)

**About the Unsustainability of ChatGPT: Impact of Large Language Models on the Sustainable Development Goals**

*Artificial Intelligence can have a significant impact on achieving the Sustainable Development Goals. It can help identify solutions to complex challenges that we are facing at a global level, such as poverty, pandemics, and climate change. However, ensuring that AI systems are developed and used ethically, and their benefits are shared equitably is crucial. Large Language models (LLMs) like ChatGPT can raise new challenges and threats regarding achieving the SDGs. The United Nations University Institute in Macau is conducting research activities to understand these impacts better. This research can help to design evidence-based policies to mitigate the risks. To illustrate some of the benefits and risks associated with LLMs, I will provide examples.*

3. Prof. Mr. Chan Pong Lei (Pui Ching Middle School)

**The Development and Outcome Evaluation of the Artificial Intelligence Curriculum at Pui Ching Middle School, Macau**

*Since artificial intelligence (AI) is the main task for cities to develop high-tech industries. Pui Ching Middle School has implemented AI courses throughout the entire education system. The curriculum gradually progresses from basic programming concepts to more advanced techniques in AI analysis. This presentation will introduce the development of the AI curriculum and its outcome evaluation at Pui Ching Middle School.*

4. Prof. Hao Wu (USJ-SED)

**Promoting Unbiased and Reliable AI in Education: Empowering Students with Critical Thinking and Problem-Solving Skills.**

*With the increasing use of AI technologies (e.g. ChatGPT) in education, it is essential to understand these technologies' potential biases and limitations and how they can impact students' learning experiences. Through developing critical thinking and problem-solving skills, students can evaluate the credibility of the information produced by AI tools and identify potential biases and inaccuracies. This presentation will explore strategies for promoting a fair and reliable use of AI in education, with a focus on empowering students with these cognitive skills.*



5. Prof. Shirley Siu (USJ-ISE)

**Deep learning protein sequences for biological function prediction**

*This talk will cover the use of deep learning for predicting protein function from sequence data. We will discuss various deep learning architectures and how they can be used to correlate functions from the features of sequences. We will also explore the use of interpretable AI techniques to understand what contributes to the predicted function. Finally, we will conclude with the challenges that remain and ideas for future work.*

6. Gerald Estadieu (USJ-FAH)

**AI & Macau Soundscape**

*Macao SAR, China is one of the more densely-populated territories in the world, and as such necessarily struggles with Soundscape quality. Nonetheless, the territory has already been identified as a unique location to function as a Soundscape living lab, since it has a very small manageable area that includes many types of geographical varieties. In this talk we shall give a preliminary description of the Soundscape and the methodology for this research project. Finally, we will discuss the need for AI embedded devices as part of a system to be a rich diagnostic tool to understand the soundscape and its evolution over time, as well as a design strategy for a sustainable sonic future in the city.*

7. Alexandre Lobo (USJ-FBL-LAN)

**AI - Practical applications to enrich data analysis in research**

*Artificial Intelligence is a powerful tool to enrich our capacity to extract information from data. In this work, three projects conducted at the LAN/USJ following different AI approaches are presented. The first one is the "PM-Analytics" tool, created to analyze data related to Project Management. The second is the "eSensing" platform, which implements AI algorithms in multiple layers to recognize facial expressions and eye gaze for multiple purposes. Finally, the "AI CEO", the new research project from the LAN/USJ intends to create a platform to simulate a company CEO based on Large Language Model Systems (LLMS).*

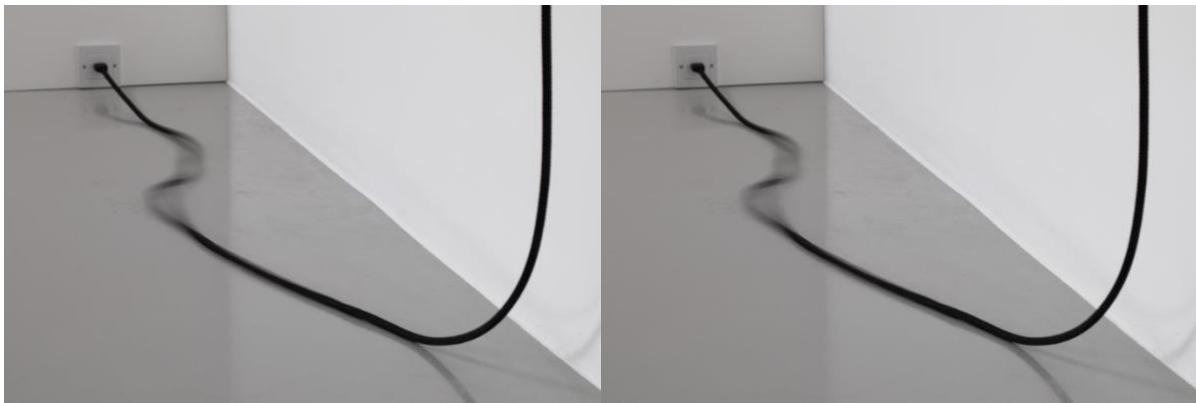
// 12:45 pm - 2:00 pm // Lunch break (USJ101)



// 2:00 pm // Group discussion (USJ102, USJ104, USJ1045 and USJ106)

*The participants will be divided into four working groups. The purpose of this group discussion is to collect your opinions, considerations, and any questions you may have regarding the subject matter. Each working group will receive a document containing considerations and some thought-provoking questions to support /guide the discussion. Your input will be instrumental in formulating a well-rounded proposal for USJ guidelines on AI. The input from the working groups will collate and the information analysed to integrate a comprehensive proposal for the guidelines.*

// 3:30 pm // Keynote by Prof. Samuel Bianchini (ENSAD, École Nationale Supérieure des Arts Décoratifs, Paris)



## **LEARN TO BE ALIVE - Exploring embodied intelligence through motion and emotion in contemporary art robotic objects**

*If, like sculpture, robotics is fundamentally material, it is also part of our tangible reality, acting and reacting in our physical environments. Robots have bodies. Robots are active bodies. They can be part of an industrial chain or act as social agents. They can also be works of art. While these need not be defined by tasks and other utilitarian objectives, such artworks do operate, acting as non-human performers. Their movements animate them: they tend to give them life. How can we conceive of such movements so that they become factors of life, a life considered first and foremost in its aesthetic, sensitive and affective dimension, rather than in its effectivity? Resulting at once from their physiology, their programming and their relationship and their adaptability to the environment, could these movements, now behaviours, be guided by a will: the will to learn, through experience. For these objects as much as for the humans who develop them.*