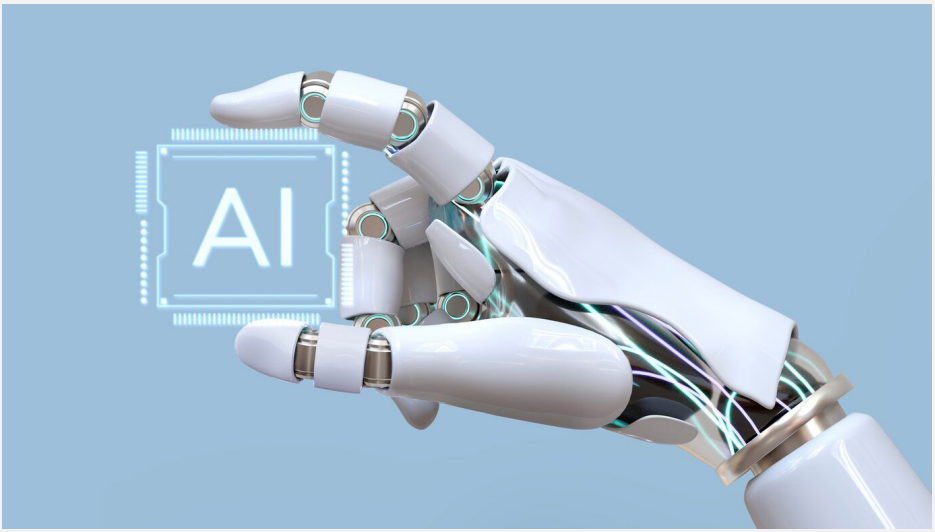

The Symposium on Artificial Intelligence

Nov 27 | 3 PM GMT-5

Embassy of the Republic of Slovenia,
2410 California St NW,
Washington, DC

Recent rapid developments in artificial intelligence and other novel technologies are revolutionizing scientific research and are beginning to have an impact on our everyday lives. While such technologies provide many benefits and opportunities, they also pose certain risks.

This symposium brings together Slovenian experts from the leading institutions in the U.S. to present how these technologies are affecting their work in the fields of medicine, law, computer science, urban planning, astrophysics, and cosmology.

ASEF
AMERICAN SLOVENIAN EDUCATION FOUNDATION

REPUBLIC OF SLOVENIA
EMBASSY IN WASHINGTON

3:00 PM

Opening remarks

Tanja FAJON, Minister of Foreign and European Affairs
H.E. Ambassador Iztok MIROSIC

3:10 PM

Dr. Marinka ZITNIK
Harvard University

Scientific Discovery in the Age of AI

For centuries, the method of discovery — the fundamental practice of science that scientists use to systematically and logically explain the natural world — has remained largely unchanged. To reshape this paradigm, we are developing self-supervised, multimodal, knowledge-guided, and generative AI. In this talk, I will describe how we are laying the foundations for AI that contributes to the scientific understanding of medicine and the design of safe and effective drugs. This AI will ultimately acquire knowledge autonomously, enabling it to learn and innovate on its own.

3:35 PM

Dr. Alenka POPLIN
Iowa State University

Serious Geogames and Artificial Intelligence

This talk concentrates on serious games, games that are designed for more than just entertainment and fun. They can be educational, community engagement games or used as tools to teach STEM related topics. It provides examples of how AI may contribute to novel ways of modelling player-experience or gesture recognition, procedural and automated content generation in the form of creative environments and storytelling, and to a better understanding of user behavior applying data mining techniques.

4:00 PM

Dr. Urska VELIKONJA
Georgetown University

LawGPT: how generative AI is transforming legal education and practice

When ChatGPT first came out, law was identified as a discipline that would be among those most significantly affected by generative AI, and quickly. Within a year, computers would conduct legal research and draft briefs within a minute or less. Almost a year later, we are still learning about the promise and the limitations of the technology. In law, accuracy and truth matter. Moreover, lawyers are beginning to appreciate the significant limitations that attorney-client privilege imposes. As has been the case with new technologies generally, their adoption is inevitable and tends to reinforce existing market structures, instead of replacing them.

4:25 PM

Dr. Luka POCIVAVSEK
University of Chicago

Personalizing Aortic Care - Using Simulation and Data to Time Surgical Intervention

Aortic shape, curvature, and angulation in the proximal seal zone are known to impact the long-term success of an endovascular repair.The challenge in TEVAR is quantitating the impact of shape on endoleak development in the setting of baseline aortic arch curvature and dynamic evolution of arch anatomy over time. We create an imaging-based aortic classification space utilizing patient CT data that predicts the likelihood of endoleak post-TEVAR; and second, we develop a simulated trajectory of a given patient's thoracic aortic anatomy informed by patient-specific imaging that predicts the shape evolution of that specific aorta beyond the input imaging timepoints. This yields a usable mathematical relationship between aortic shape and seal zone stability can be identified from a high-dimensional candidate feature space using feature selection (e.g., L2-regularization). It is our expectation, that identification and access to this function will allow for a personalization of thoracic aortic management by determining optimal timing for re-imaging as well as timing and extent of surgical intervention.

4:50 PM

Dr. Jernej BARBIC
University of Southern California

Artificial Intelligence for Digital Humans in the Metaverse

The Metaverse is a digital world where users can interact, socialize, and engage in various activities using avatars or digital representations of themselves. It will be the digital communication platform of the next decades of the 21st century, combining augmented reality, virtual reality, and the internet, and offering a wide range of immersive experiences such as gaming, education, work, entertainment, and social interactions. Creating digital replicas of real humans is a key component of the Metaverse. I will talk about how AI can be used to rapidly generate and animate digital humans in the Metaverse.

5:15 PM

Dr. Andrej PRSA,
Villanova University

Using AI to overcome the computational bottleneck in modeling eclipsing binary stars

Eclipsing binary stars are systems where two stars revolve around the mutual center of mass in a plane that is aligned with our line of sight. The alignment causes eclipses of one star by the other, which in turn cause a periodic variation in the amount of light we receive from such objects. Owing to simple geometry and well known laws of physics that govern the motion of stars, we can work out the fundamental stellar parameters (masses, radii, temperatures and luminosities) to ~2-3%. As the stars are (quite literally!) at astronomical distances, it turns out that there is no other direct way to measure their properties; thus, all modern astrophysics hinges critically on the values derived from eclipsing binaries. Yet this is an arduous process that takes ~2 weeks of computing cluster time per system. In this talk I will present an AI-powered methodology that reduces the time cost by whopping 7 orders of magnitude, allowing us to analyze much larger datasets and truly anchor stellar properties across the galaxy.

6:00 PM

Reception