



LOUISIANA SCHOLARS' COLLEGE

## ABOUT SLAI

The Symposium on Logic and Artificial Intelligence ("Symposium on L&AI" or "SLAI") is annually organized by the International Society for Logic and Artificial Intelligence (ISLAI) in cooperation with research, development and educational organizations worldwide. SLAI is intended to add synergy to the efforts of researchers working on logic, AI, and their confluence. Round tables are planned to ensure an open debate on the state of the art and new directions.

SLAI-2022 is organized in cooperation with:

- [International Society for Logic and Artificial Intelligence](#),
- [Louisiana Scholars' College at Northwestern State University, Louisiana, USA](#), Host
- [Taras Shevchenko National University of Kyiv, Ukraine](#),
- [Alexandru Ioan Cuza University of Iasi, Romania](#),
- [Vladimir Andrunachievici Institute of Mathematics and Computer Science, Chisinau, Moldova](#),
- [Ukrainian Logic Society, Ukraine](#),
- [Academy of Sciences, Moldova](#).



**CHAIR:** Alexei Muravitsky (USA)

### CO-CHAIRS:

- Mykola Nikitchenko (Kyiv, Ukraine)
- Inga Titchiev (Chisinau, Moldova)
- Adrian Iftene (Iasi, Romania)
- Svetlana Cojocaru (Chisinau, Moldova)
- Ioachim Drugus (Chisinau, Moldova)

### WEBSITE:

<https://slai2022.islai.org/>

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# SLAI-2022: THE SYMPOSIUM ON LOGIC AND ARTIFICIAL INTELLIGENCE

# PROGRAM

January 13-15, 2022

SLAI-2022 is devoted to the **World Logic Day**.

## Collocated to SLAI-2022 events are

- *Moldovan Prizes in Logic and Artificial Intelligence* (<https://islai.org/mplai-2022/>)
- *Romanian Prizes in Logic and Artificial Intelligence* (<https://logic-prize-romania.islai.org/>)
- *Ukrainian Seminar on Logic and its Applications – 2022* (<http://logic.net.ua/>)

**SLAI-2022 with collocated events is a cluster of World Logic Day events.**

Each talk will be scheduled per Eastern European Time (EET).

The conference will be held in online mode via ZOOM.

## ZOOM LINK TO ALL SLAI-2022 SESSIONS:

<https://zoom.us/j/2022131415>

Time is EET (Romania-Moldova-Ukraine time)

**JANUARY 13, 2022**

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OPENING

15:30 – 16:00

SESSION 1

16:00 - 18:45

Chairs: Svetlana Cojocaru, Alexei Muravitsky

**Ioachim Drugus, Alexei Muravitsky**

**Invited talk introduced by Lluís Godó (Spain)**

- **16:00-16:45 Irina Perfilieva (Ostrava, Czech Republic).** Fuzzy sets, fuzzy partitions and manifolds.

Regular talks

- 17:00-17:20 **Alexander Sakharov.** Knowledge Base Logics
- 17:30-17:50 **Jørgen Villadsen.** A Formulation of Classical Higher-Order Logic in Isabelle/Pure

**Invited talk introduced by Sheila McIlraith (Canada)**

- **18:00-18:45 Leora Morgenstern (Palo Alto, USA).** From text to battle simulations using formal representations: How NLP, logic, and planning work together in COMBAT

Break

SESSION 2

19:00 - 20:20

Chairs: Inga Titchiev, Ioachim Drugus

- 19:00-19:20 **Asta Halkjær From, Agnes Moesgård Eschen and Jørgen Villadsen.** More Formalized Axiomatic Systems for Propositional Logic in Isabelle/HOL
- 19:20-19:40 **Meenesh Solanki.** Using Twitter to measure the impact of immigration by studying people's mood
- 19:40-20:00 **Oleksiy Oletsky.** Use of the Model "State-Probability of Choice" for Modelling Decision Making within Uncertain Reasoning
- 20:00-20:20 **Mohammed Alshehri.** Fuzzy logic based explainable AI approach for the easy Calibration of AI models in IoT environments

## WORLD LOGIC DAY

### SESSION 3

16:00 - 17:40

Chairs: Inga Titchiev, Adrian Iftene

### SESSION 4

18:00-20:45

Chairs: Adrian Iftene, Inga Titchiev

## JANUARY 14, 2022

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- 16:00-16:20 **Cristian Simionescu**. Privacy Aware Self-Supervised Deep Learning Approaches for Medical Data
- 16:20-16:40 **Bogdan Cretu and Adrian Iftene**. Flower Recognition Using Neural Networks
- 16:40-17:00 **Ingrid Stoleru**. Developing an early predictive system for the diagnosis of Alzheimer's disease and identifying lead biomarkers for this condition
- 17:00-17:20 **Irimia Cosmin-Iulian**. Decentralized infrastructure for digital notarizing, signing and sharing files securely using Blockchain
- 17:20-17:40 **Bogdan Aman and Gabriel Ciobanu**. Timed Modal Logic for rTiMo

### Break

- 18:00-18:20 **Ioana Madalina Tugui and Adrian Iftene**. Ocular Disease Recognition
- 18:20-18:40 **Mihai Andrei Costandache**. Using Machine Learning and Sound Processing Techniques to Improve Patient Health
- 18:40-19:00 **Nicoleta-Tatiana Trifan and Adrian Iftene**. Appetite – Nutritionist Assistant
- 19:00-19:20 **Paola Cattabriga**. Uniqueness Violations
- 19:20-19:40 **Sergiu Amihaesei and Cristian Frasinaru**. Tourist Trip Design Problem - A Practical Application

### Invited talk introduced by Sven Ove Hansson (Sweden)

- **20:00 -20:45 David Makinson (London, UK)**. Logicians like climbing trees

## JANUARY 15, 2022

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### SESSION 5

16:00 - 20:00

Chairs: Mykola Nikitchenko, Inga Titchiev

#### Invited talk introduced by Ioachim Drugus (Moldova)

- **16:00-16:45 Anatol Reibold (Darmstadt, Hessen, Germany).** Deep learning as a special case of abductive reasoning

#### Regular talks

- 17:00-17:20 **Ioachim Drugus.** Towards an Extensional Model of Natural Languages
- 17:30-17:50 **Victoria Bobicev, Tudor Bumbu, Victor Didic, Dumitru Prijilevschi and Gheorghe Morari.** Punctilog Compared to Dependency Grammar and Constituency Grammar

#### Invited talk introduced by Valentin Goranko (Sweden)

- **18:00-19:00 Dimiter Vakarelov (Sofia, Bulgaria).** Region-based theories of space and time

#### Regular talks

- 19:00-19:20 **Mykola Nikitchenko** Towards methodological foundations of propositional logic
- 19:20-19:40 **Ervin Maffei, Cristian-Mihai Roşu, Cristi-Constantin Rusu and Adrian Ifene.** Using Natural Language Processing for Centralising Research Project Calls
- 19:40-20:00 **Alexandr Parahonco and Mircea Petic.** E-course: developing a model for content generation