

RESULTS OF UKRAINIAN LOGIC SOCIETY PRIZE – 2021

Four papers were submitted for the Prize:

- **Dr. Andrii Kryvolap.** Investigating Separation Logic as Logic of Quasiary Predicates;
- **Dr. Ievgen_Ivanov.** On Induction Principles for Partial Orders;
- **PhD students Maksym_Poltorackiy and YuliiaTarasich.** Formation of Requirements for the Verification System of Formal Models of Programs;
- **PhD student Tohrul_Mamedov.** Application of the First-Order Logic of Partial Quasiary Predicates with the Complement Composition.

Ukrainian Logic Society formed a Jury of the logic contest

(<http://logic.net.ua/content/ukrainian-logic-society-prize-%E2%80%93-2020>)

consisting of:

- **Prof. Dr. Anatoliy Petravchuk** – *Taras Shevchenko National University of Kyiv* (Chairman)
- **Prof. Dr. Ihor Dutsyak** – *Lviv Polytechnic National University*
- **Dr. Yaroslav Kokhan** – *Skovoroda Institute of Philosophy of the National Academy of Sciences of Ukraine*
- **Prof. Dr. Michael Lvov** – *Kherson State University*
- **Prof. Dr. Mykola Nikitchenko** – *Taras Shevchenko National University of Kyiv*
- **Prof. Dr. Grygoriy Zholtkevych** – *V. N. Karazin Kharkiv National University*

On the 3rd World Logic Day, January 14, 2021, the Chairman of the Jury Prof. Anatoliy Petravchuk announced the results of The Ukrainian Logic Society Contest for young scientists:

The Winner was declared **Dr. Ievgen_Ivanov** for the paper “**On Induction Principles for Partial Orders**”.

Our congratulations to Dr. Ievgen_Ivanov!

The Winner presented his paper during celebration of the **3rd World Logic Day at the VI International Conference on Mathematical Foundations of Informatics MFOI-2020** (<http://mfoi2020.inf.ua/index.html>)

Abstract of the paper: Inductive proofs are widely used in mathematics and computer science. Ordinary induction by a natural number parameter and its generalizations have applications in different domains and frequently appear in formal (computer assisted) mathematics and in formal methods which deal with modeling of the behavior of hardware and software systems and verification of such systems. Formalizations of mathematical results, algorithms, and systems in such computer proof assistant as Isabelle and Coq frequently use induction principles.

Induction by a parameter which takes discrete values is the most widely known. However, in the literature one can find principles of induction over a continuous (or not necessarily discrete) parameter, which have a certain analogy with an ordinary mathematical induction, and which are usually called real or continuous induction. The topic of this work is investigation of generalizations of such principles to partially ordered sets, i.e. we study the construction of inductive proofs by a parameter which takes values in a partially ordered set, without assuming that these values are in a certain sense discrete.

CV of Dr. Ievgen Ivanov



Nationality: Ukrainian

Academic Record

Dates	: 2010 – 2014
Name of institutions	: Taras Shevchenko National University of Kyiv and Paul Sabatier University, Toulouse
Qualification	: PhD degree in informatics (“Investigation of abstract systems with inputs and outputs as partial functions of time”)
Dates	: 2008 – 2010
Name of institution	: Taras Shevchenko National University of Kyiv
Qualification	: Master’s degree with honors, informatics
Dates	: 2004 – 2008
Name of institution	: Taras Shevchenko National University of Kyiv
Qualification	: Bachelor’s degree with honors, applied mathematics

Main publications

1. I. Ivanov. On representations of abstract systems with partial inputs and outputs. Theory and Applications of Models of Computation - 11th Annual Conference, TAMC 2014, Lecture Notes in Computer Science, Vol. 8402, Springer, pp. 104-123, 2014.
2. I. Ivanov. On a strong notion of viability for switched systems. Proceedings of the 11th International Conference on ICT in Education, Research and Industrial Applications: Integration, Harmonization and Knowledge Transfer, CEUR-WS.org, Vol. 1356, pp. 396-407, 2015.
3. I. Ivanov. On local characterization of global timed bisimulation for abstract continuous-time systems. Coalgebraic Methods in Computer Science - 13th IFIP WG 1.3 International Workshop, CMCS 2016, Springer, pp. 216-234, 2016.
4. I. Ivanov. On the underapproximation of reach sets of abstract continuous-time systems. Electronic Proceedings in Theoretical Computer Science, Vol. 247, pp. 46-51, 2017.
5. I. Ivanov. On induction for diamond-free directed complete partial orders. Proceedings of the 16th International Conference on ICT in Education, Research and Industrial Applications. Integration, Harmonization and Knowledge Transfer, Volume 2: Workshops, CEUR-WS.org, Vol. 2732, pp. 70-73, 2020.

Scopus publications: 23

Scopus h-index: 6

Work experience

2019 – present: Taras Shevchenko National University of Kyiv, Faculty of Information Technology, Docent

2014 – 2019: Taras Shevchenko National University of Kyiv, Faculty of Information Technology, Assistant

Scientific interests: Systems theory; formal methods; program logics

Call for Papers (<http://logic.net.ua/content/ukrainian-logic-society-prize-%E2%80%93-2020>
and <http://logic.net.ua/content/ukrainian-logic-society-prize-%E2%80%93-2021>):

UKRAINIAN LOGIC SOCIETY PRIZE – 2021

The Ukrainian Logic Society announces the contest for young scientists.

- 1) The Prize will be awarded every three years.
- 2) Contestants should submit an unpublished paper (between 10 and 30 pages) in any area of logic, written in English. The paper should have at most two authors (both young scientists).
- 3) The jury consists of Ukrainian researchers from different regions of the country who represent various areas of logic.
- 4) The prize, besides being an honor, will support the winner's participation in the [World Congress of Universal Logic](#) and the publication of the paper in the [Logica Universalis](#) journal, Birkhauser. The prize is a part of the project [A PRIZE OF LOGIC IN EVERY COUNTRY](#).
- 5) Contestants must be from 18 to 35 years old. Contestants should live in Ukraine and be affiliated with a university (or other educational institution) in Ukraine.
- 6) Jury of the logic contest:
 - Prof. Dr. Anatoliiy Petravchuk – *Taras Shevchenko National University of Kyiv* (Chairman)
 - Prof. Dr. Ihor Dutsyak – *Lviv Polytechnic National University*
 - Dr. Yaroslav Kokhan – *Skovoroda Institute of Philosophy of the National Academy of Sciences of Ukraine*
 - Prof. Dr. Michael Lvov – *Kherson State University*
 - Prof. Dr. Mykola Nikitchenko – *Taras Shevchenko National University of Kyiv*
 - Prof. Dr. Grygoriy Zholtkevych – *V. N. Karazin Kharkiv National University*
- 7) It is expected that the papers should be presented at the **Third World Logic Day in Ukraine on January 14, 2021**.
- 8) Deadline for paper submission: **December 28, 2020**. The paper and the author's CV with a list of publications should be sent to logicukraine@gmail.com

