

**ECONOPHYSICS,  
NEW ECONOMY & COMPLEXITY  
12<sup>TH</sup> EDITION OF INTERNATIONAL CONFERENCE**

***“ENEC - 2019”***

**May 30 – June 1, 2019**

# **PROGRAMME**



**HYPERION UNIVERSITY**

**and**

**HYPERION RESEARCH & DEVELOPMENT INSTITUTE**

[www.enec.ro](http://www.enec.ro)

**ECONOPHYSICS,  
NEW ECONOMY & COMPLEXITY**  
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**PROGRAMME**

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**May 30 – June 1, 2019**

**BUCHAREST, ROMANIA**

[www.enec.ro](http://www.enec.ro)

# CONFERENCE CHAIRMAN:

**Professor Ion SPÂNULESCU, Ph.D.,**  
**President of the**  
**Hyperion University of Bucharest – Romania**

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CARMEN PĂUNA – *I.E.F., Romanian Academy, Romania*

***PROGRAMME SECTIONS OF THE CONFERENCE:***

***OPENING SESSION***

***FIRST SECTION: ECONOPHYSICS***

***SECOND SECTION: NEW ECONOMY***

***THIRD SECTION: COMPLEXITY***

# **OUTLINE OF PROGRAMME:**

## **THURSDAY, MAY 30**

### **CONFERENCE HALL – 6 FLOOR – BUILDING A**

**10<sup>00</sup> – 10<sup>30</sup> Participants' Registration & Welcome Coffee**

**10<sup>30</sup> – 11<sup>00</sup> OPENING SESSION**

**– Opening Address – Professor Ion Spanulescu – Chairman**

**11<sup>00</sup> – 12<sup>30</sup> – ECONOPHYSICS Section – Papers Presentation**

**12<sup>30</sup> – 12<sup>45</sup> – Coffee Break**

**12<sup>45</sup> – 14<sup>00</sup> – ECONOPHYSICS Section – continued**

**14<sup>00</sup> – 15<sup>30</sup> – NEW ECONOMY Section – Papers Presentation**

**15<sup>30</sup> – 16<sup>30</sup> – Scientific Lunch**

**16<sup>30</sup> – 17<sup>30</sup> – Discussions**

## **FRIDAY, MAY 31**

### **CONFERENCE HALL – 6 FLOOR – BUILDING A**

**9<sup>00</sup> – 9<sup>30</sup> Participants' Registration & Welcome Coffee**

**9<sup>30</sup> – 11<sup>30</sup> – COMPLEXITY Section – Papers Presentation**

**11<sup>30</sup> – 11<sup>45</sup> – Coffee Break**

**11<sup>45</sup> – 14<sup>30</sup> – NEW ECONOMY Section – continued**

**14<sup>30</sup> – 15<sup>30</sup> – Scientific Lunch**

**15<sup>30</sup> – 16<sup>30</sup> – Discussions and closing speech**

## **SATURDAY, JUNE 1**

**9<sup>00</sup> – SHORT SCIENTIFIC TRAVEL – organized by Anda Gheorghiu and Organizing Committee of the conference.**

# SCIENTIFIC PROGRAMME:

THURSDAY, MAY 30

CONFERENCE HALL – 6 FLOOR – BUILDING A

11<sup>00</sup> – 12<sup>30</sup> – **ECONOPHYSICS Section**<sup>1</sup>

**Chairmen: Anca Gheorghiu**

**Matti Estola**

30C – E1 – *A dynamic theory of economics: What are the market forces?*

**Alia Asha Dannenberg, Matti Estola and Anna Dannenberg**

University of Eastern Finland, Finland,

[matti.estola@uef.fi](mailto:matti.estola@uef.fi)

30C – E2 – *An Econophysics Model for Mixed Economy*

**Ion Spanulescu, Anca Gheorghiu**

Hyperion University, Bucharest, [rectorat@hyperion.ro](mailto:rectorat@hyperion.ro)

12<sup>30</sup> – 12<sup>45</sup> – **Coffee Break**

12<sup>45</sup> – 14<sup>00</sup> – **ECONOPHYSICS Section – continued**

30C – E3 – *Black Holes in Economics*

**Feodor Kusmartsev**

Loughborough University, [F.Kusmartsev@lboro.ac.uk](mailto:F.Kusmartsev@lboro.ac.uk)

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<sup>1</sup> The Lecture Number Stands for:

30 – date (May 30)

C – Conference Hall

E – Conference Section (Econophysics)

1 ... n – number of the paper

30C – E4 – *Non-Linear Analysis on Exxon Mobil Share Prices*

**S.Tsakonas<sup>1</sup>, L.Magafas<sup>2,3</sup>, M.Hanias<sup>2,3</sup>, and L.Zachilas<sup>1</sup>**

1. Department of Economics, University of Thessaly, 2. Department of Electrical Engineering, Eastern Macedonia and Thrace Institute of Technology, 3. Complex Systems Laboratory, Eastern Macedonia and Thrace Institute of Technology,

[stef1920@hotmail.gr](mailto:stef1920@hotmail.gr)

30C – E5 – *The Chaotic Inflation Growth Model*

**Vesna Jablanovic**

University of Belgrade, Faculty of Agriculture, Serbia,

[vesnajab@ptt.rs](mailto:vesnajab@ptt.rs)

30C – E6 – *Econophysics Gravitational Mechanical Model of Microeconomic Systems of Stocks,*

**Mihai Petrov**

Master Pharmacist, Burgas, Bulgaria,

[galantusgratus@abv.bg](mailto:galantusgratus@abv.bg)

**14<sup>00</sup> – 15<sup>30</sup> – NEW ECONOMY Section**

**Chairmen: Anda Gheorghiu  
Claudia Ionescu**

30C – NE1 – *Human Capital Innovation and Knowledge  
Economy. Romanian Case*

**Elena Pelinescu,**  
Institute for Economic Forecasting, Romanian Academy, Romania,  
[Elena\\_Pelinescu@yahoo.com](mailto:Elena_Pelinescu@yahoo.com)

30C – NE2 – *Regional Operational Program's Contribution to  
the New Economy*

**Claudia Ionescu**  
Bucharest Ilfov RDA, Romania, [adrbinvest@yahoo.com](mailto:adrbinvest@yahoo.com)

30C – NE3 — *The Competitiveness of the Banking Sector in  
Romania in the Post Crisis*

**Cătălin Emilian Huidumac-Petrescu, Adelina Elena Stan**  
The Bucharest University of Economic Studies, Romania,  
[catalinhuidumac@yahoo.com](mailto:catalinhuidumac@yahoo.com), [adelinastan205@yahoo.com](mailto:adelinastan205@yahoo.com)

30C – NE4 – *The Current Situation of the Vocational Training  
System in Romania*

**Mariana Bălan**  
Institute for Economic Forecasting-NIER, Romanian Academy, Romania,  
[dr.mariana.balan@gmail.com](mailto:dr.mariana.balan@gmail.com)

30C – NE5 — *A Review of Gulf Cooperation Council Sovereign  
Wealth Funds*

**Alexandru Cosmin Buteică,**  
The Bucharest University of Economic Studies, Romania,  
[cosmin.buteica@gmail.com](mailto:cosmin.buteica@gmail.com)



30C – NE6 – *Sovereign Wealth Funds and the Dynamics of  
Investments in Infrastructure*

**Alexandru Cosmin Buteică, Cătălin Emilian Huidumac-  
Petrescu**

The Bucharest University of Economic Studies, Romania,  
[cosmin.buteica@gmail.com](mailto:cosmin.buteica@gmail.com), [catalinhuidumac@yahoo.com](mailto:catalinhuidumac@yahoo.com)

**15<sup>30</sup> – 16<sup>30</sup> – Scientific Lunch**

**16<sup>30</sup> – 17<sup>30</sup> – Discussions**

**FRIDAY, 31 MAY**  
**CONFERENCE HALL – 6 FLOOR – BUILDING A**

**9<sup>30</sup> – 11<sup>30</sup> – COMPLEXITY Section**

**Chairmen: Elena Pelinescu**  
**Irina Dmitrieva**

31C – C1 – *Geometric transformations. A complete study of the rotations in the 3D space . Mathematical models. Informatics models.*

**Nicolae Popoviciu**

Hyperion University of Bucharest, Romania, [nicolae.popoviciu@yahoo.com](mailto:nicolae.popoviciu@yahoo.com)

31C – C2 – *Analysis of the Electrodynamical Process for the Flat Heterogeneous Resonator*

**Irina Dmitrieva**

Odessa National Academy of Telecommunications, Ukraine,  
[dmitrievairina2017@gmail.com](mailto:dmitrievairina2017@gmail.com)

31C – C3 – *How Does China Innovate? A Deconstruction of China's National Innovation System*

**Adrian Bazavan**

The Bucharest University of Economic Studies, Romania, [bzvadrian@gmail.com](mailto:bzvadrian@gmail.com)

31C – C4 – *Psycho-Informational Distal Influence in the Multivalent Context of Complexity Science*

**Aliodor Manolea**

Hyperion University of Bucharest, Romania, [aliodor@glide.ro](mailto:aliodor@glide.ro)

**11<sup>30</sup> – 11<sup>45</sup> – Coffee Break**

11<sup>45</sup>-14<sup>30</sup> – NEW ECONOMY Section continued

**Chairmen: Anda Gheorghiu  
Claudia Ionescu**

31C – NE7 – *Recent Trends of Internal Control and Internal Audit in Romania's Public Sector*

**Anda Gheorghiu**

Hyperion University of Bucharest, Romania, [anda.gheorghiu@gmail.com](mailto:anda.gheorghiu@gmail.com)

31C – NE8 – *Structural Transformation of the Romanian Economy. A Comparative Analysis*

**Andrei Silviu Dospinescu**

Center for Industrial Economics and Services, Romanian Academy,  
[dospinescuandreisilviu@gmail.com](mailto:dospinescuandreisilviu@gmail.com)

31C – NE9 – *The Premises of a New Economic Crisis - Similarities with the Previous Major Crises*

**Corina Maria Ene, Carmen Uzlau**

Hyperion University of Bucharest, Romania, [corina.maria.ene@gmail.com](mailto:corina.maria.ene@gmail.com),  
[carmen\\_uzlau@yahoo.com](mailto:carmen_uzlau@yahoo.com)

31C – NE10 – *Individual well-being in the context of the new economy: the challenges of financing the Romanian Small and Medium Enterprises,*

**Simona Maria Stanescu**

Research Institute for Quality of Life, Romanian Academy,  
Bucharest, Romania,  
[simona.stanescu@icev.ro](mailto:simona.stanescu@icev.ro)

31C – NE11 – *World FDI, The “Tip of the Iceberg”*

**Liviu C.Andrei<sup>1</sup>, Dalina Andrei<sup>2</sup>**

1. National University of Political Studies and Public Administration  
Bucharest, 2.Institute of Economic Forecasting of the Romanian Academy  
of Sciences in Bucharest, Romania,

[liviucandrei@yahoo.com](mailto:liviucandrei@yahoo.com), [dalinaandrei@yahoo.com](mailto:dalinaandrei@yahoo.com)

31C – NE12 – *Performance Management by Implementing the  
Balanced Scorecard - System of Indicators*

**Cristea Andrei**

Hyperion University of Bucharest, Romania, [cristeaandm@yahoo.com](mailto:cristeaandm@yahoo.com)

**14<sup>30</sup> – 15<sup>30</sup> – Scientific Lunch**

**15<sup>30</sup> – 16<sup>30</sup> – Discussions and Closing Speech**

# SATURDAY, JUNE 1

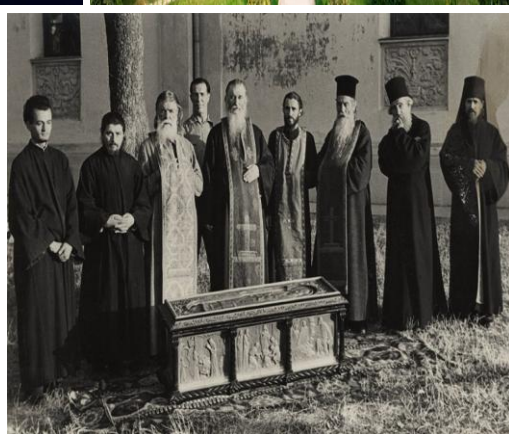
## 9<sup>00</sup> – SHORT SCIENTIFIC TRAVEL

TIME	ACTIVITY
<b>9</b>	<b>Departure from Bucharest by minibus</b>
<b>9.30</b>	<p>Arrival in <b>Cernica</b>, located 12 km east of Bucharest, a splendid monastic settlement to comfort the souls of those who come to meditate and to charge with positive energy. Visit of <b>Cernica Monastery, and Lake</b>. The place is situated in the middle of a splendid lake, surrounded by ancient forests, a place of pilgrimage and spiritual experiences. Attested at 1608, the monastery began his first mission as a simple wooden church. Between 1818-1850, arrives abbot Saint Hierarch Calinic (canonized in 1955), who builds the “Saint Gheorghe” church, the surrounding walls, the building of the abbey and the monks' cells. A great abbot and cultural personality, during his time, inside the abbey, was founded a library and a school of painting. The lake is famous for sheltering a big snake, some sort of “Loch Ness monster”, so it is the right time for a forensic search. The monastery ensemble also includes three chapels, the memorial house of the writer Gala Galaction and a museum. Take a few minutes to light a candle to the grave of Ioasaf Popa, the archimandrite who would have been 100 years old this year.</p>
<b>11.30</b>	<b>Departure to the manorial mansion from Manasia, situated 60 km away from Bucharest.</b>
<b>12.30</b>	<p>Visit of the <b>Manasia (or Hagianoff) manorial mansion</b>-an architectural monument, built at the beginning of 1899 with an eclectic style with classical and romantic architectural elements, in conformity with the designs of a Swiss architect. The mansion was built at the request of Ion Hagianoff – the former Bulgarian minister of external affairs, who took refuge in the Romanian Principedom for political reasons. All the original stylistic details were thoroughly restored – staccatos, column heads, plaster consoles, painted and enclosed ceilings, stained glass windows, the gate and the wrought iron stairs, as well as the coloured cement plates specific for the pre-war period that confer a special charm to this property. The generous natural light, the precious decorations and also the impressive painting collection recreate the aristocratic atmosphere of the times past, in complete harmony with the functional furniture and the modern technological facilities selected for each space.</p>
<b>13.30</b>	<b>Lunch and wine tasting in the wine cellar of the mansion, which once had the total storage capacity of 1 million litres, was made with bricks manufactured in the past predecessor’s privately-owned factory, Koska</b>

	<b>&amp; Hagianoff. Nowadays, the wine cellar has an area of 1,000 sqm. Enjoy the taste of delicious dishes, wines or beer and debate the latest trends in econophysics, complexity and new economy, in a friendly atmosphere ☺</b>
<b>15</b>	<b>Walk, discussions or simply birdwatching in the splendid Manasia Park, that reaches a surface of two hectares and was reconditioned by a team of landscape architects with British lawn and paved alleys. You can spend magical moments in the shade of the glorious plane-trees or you can walk along the rare species of time-honoured trees that enhance the rich history of the estate. You can discover scented flower gardens filled with roses, lilac, ginkgo tree, silk tree, tulips, iris or you can visit the domain's vegetable and spices own garden. The wooden stall on an artificial hill built by Prince Efreem Obrenovici, the pond with ducks, the white and blue peacocks that walk free in the park or the pottery studio are also exquisite attractions.</b>
<b>18</b>	<b>Departure-back to Bucharest</b>
<b>19</b>	<b>Arrival to Bucharest</b>

***The distance between Bucharest and Manasia is 60 km (by car).***

## IMAGES FROM THE PLACES WE WILL VISIT











# INSTRUCTIONS FOR AUTHORS

## Submission of papers

For ENEC International Conference, authors are encouraged to send theoretical and/or experimental contribution concerning up-to-date research, before the end of April every year.

Only original papers and invited papers in English are considered. To qualify for publication, papers must be previously reviewed by members of the Advisory Board and after presentation in the one of section of ENEC Conference. Submission of papers must be made to the Paper Submission section on the Conference Website: [www.enec.ro](http://www.enec.ro) .

### Papers structure and preparation

The following structure of a paper is recommended: 1. Introduction, 2. Experimental (Theory, Modeling, ...), 3. Results, 4. Discussion, 5. Conclusions.

The first page must contain:

- Title of paper (main title underlined);
- Authors names and the institute where the work was conducted;
- Keywords, for indexing purposes;
- Abstract.

The exact address complete, with a postal code of the principal author must be given. Add e-mail if possible.

For the preparation of the Conference Proceedings, please upload the abstract and the full paper in English, in electronic format to the Conference Website: [www.enec.ro](http://www.enec.ro)

In order to publish in the Proceedings of ENEC Conference, the manuscripts should be submitted in duplicate sets of illustration (of which one is original) typewritten double-spaced on one side of the paper, with a wide margin. In case of the manuscripts in electronic form, the operating system and word processing software used to produce your document should be WORD for WINDOWS. The following rules for text processing should be used. Main text and equations: Times New Roman 11 pt, spacing: single, first line; left indent 0,5 cm, alignment: justified Footnotes, figure explanations: Times New Roman 9 pt, spacing: single, first line; left indent 0,5 cm, alignment: justified Table content: Times New Roman 9 pt, spacing: single, alignment: centre References: Times New Roman 9 pt, spacing: single, first line; left indent 0,5 cm, alignment: justified, Author's names – plain; Books titles – italic; Publication titles – plain; Tome no. – bold.

References will be consecutively numbered in the text and collected at the end of the paper in the following style for journals, proceedings, books and sites, respectively:

- [1] D. K. Faley, *A Statistical Equilibrium Theory of Markets*, J. Econ. Theory, 62, 321-345 (1994) or D. K. Faley, J. Econ. Theory, **62**, 321 (1994).
- [2] I. Dmitrieva, *Diagnolization problems in the classical Maxwell theory and their industrial applications*, Proc. of ENEC 2008 International Conference, Victor Publishing House, Bucharest, Romania, 2008, p. 11.
- [3] R. N. Mantegna & H. E. Stanley, *An Introduction to Econophysics*, Cambridge University Press, Cambridge, 2000.
- [4] I. Spânulescu and Anca Gheorghiu, *Economic Amplifier – A new Econophysics Model*, in: arXiv.org > q.fin > arXiv: 0707.3703, 25 July 2009.

For papers written by economists the following style also can be used:

- [1] Galam, S. (2002), *Minority Opinion Spreading in Random Geometry*, European Physical Journal B 25, pp. 403-406
- [2] Amisano G. and Giannini C. (1997), *Topics in Structural VAR Econometrics*, Springer Berlin

Numbers of References must be limited (up to 20 references).

Figures and tables must be introduced in the text with their legends.

The manuscripts should be as concise as possible. Original whose length exceeds 12 pages are strongly discouraged.

The manuscripts should be sent to the following addresses:

Elena PETCU

HYPERION University of Bucharest 169, Calea Calarasilor, 030615, Bucharest, ROMANIA Phone: 401-323 41 67; 401-321 46 67, Fax: 401-321 62 96, and/or by e-mail or to: [rectorat@hyperion.ro](mailto:rectorat@hyperion.ro);

Olivia STĂNESCU

HYPERION University of Bucharest 169, Calea Calarasilor, 030615, Bucharest, ROMANIA Phone: 401-323 83 09; 401-321 46 67, Fax: 401-323 83 09, and/or by e-mail to: [office@hyperion.ro](mailto:office@hyperion.ro)

**ENEC 2019 INTERNATIONAL CONFERENCE IS INITIATED AND  
ORGANIZED BY:**

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**AND**

**HYPERION RESEARCH AND DEVELOPMENT INSTITUTE**

