



EUROPEAN UNION
European Structural and Investment Funds
Operational Programme Research,
Development and Education



Workshop on Applied Mathematics – Dynamical Systems

Time: Tuesday, 16th April 2019, 8⁴⁵-12⁰⁰

Venue: Room NA2, Nová Aula, VŠB – TU Ostrava

https://www.vsb.cz/cs/.content/galerie-obrazku/mapa_poruba_legenda.jpg

Free Registration: <https://forms.gle/NhXEL66Sp2xv3SFY7>

Program:

Chairman: Marek Lampart

8⁴⁵ - 9⁴⁵ **Francisco Balibrea Gallego** - *Origin, motivation and application of some difference equations*

10⁰⁰ - 11⁰⁰ **Juan Luis García Guirao** - *Periods of continuous maps on some compact spaces*

11⁰⁰ - 11³⁰ coffee break

11³⁰ - 11⁴⁵ **Radek Halfar** - *Characterization of cardiac cell electrophysiology model using recurrence plots*

11⁴⁵ - 12⁰⁰ **Judita Nagyová** - *Movement characterization of a model with circular equilibrium*

Abstracts:

Francisco Balibrea Gallego - *Origin, motivation and application of some difference equations*

In this talk, I will deal with some difference equations (with their counterpart on discrete dynamical systems) of interest in applications to Population developments, Biology and Art. In particular, I will concentrate in detail with two well-known examples: Lyness equations and logistic non-linear equations with two delays. In the first case, I will deal with the formulation introduced by Coxeter on "frieze patterns". In the second case, I will analyze the effect of food in animals populations.

Juan Luis García Guirao - *Periods of continuous maps on some compact spaces*

The objective of this talk is to provide information on the set of periodic points of a continuous self-map defined in the following compact spaces: S^n (the n -dimensional sphere), $S^n \times S^m$ (the product space of the n -dimensional with m -dimensional spheres), CP^n (the n -dimensional complex projective space) and HP^n (the n -dimensional quaternion projective space). We use as the main tool the action of the map on the homology groups of these compact spaces.

About invited speakers:

Francisco Balibrea Gallego - is a full professor at Universidad de Murcia, Spain; he is the father of the research group of dynamical systems in Murcia originated in 1987; he is a well-known expert in the field of discrete dynamical systems; he wrote more than 100 papers; he was cited more than 550 times and has H-index 12.

Juan Luis García Guirao - is a full professor at Universidad Politécnica de Cartagena, Spain; he is Editor-in-Chief of *Applied Mathematics and Nonlinear Sciences*; he is a well-known expert in the field of discrete dynamical systems, he wrote more than 120 papers; he was cited more than 110 times and has H-index 5.

Project: Technology for the Future 2.0

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