

Cluj Academic Days 2017

**CONNECTIONS IN ASTRONOMY, ASTROPHYSICS,
SPACE AND PLANETARY SCIENCES**

International Conference, 29-30 May 2017, Cluj-Napoca

Programme



ROMANIAN ACADEMY
ASTRONOMICAL INSTITUTE
CLUJ-NAPOCA BRANCH - ASTRONOMICAL OBSERVATORY
ROMANIAN ASTRONOMICAL NATIONAL COMMITTEE



"BABEŞ-BOLYAI" UNIVERSITY CLUJ-NAPOCA
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE
FACULTY OF PHYSICS

In the framework of ASTRES – Centre of Competence for Planetary Sciences

Monday, May 29th 2017

Astronomical Observatory Cluj-Napoca
Str. Cireşilor nr. 19

9:00

Registration

09:30

Inaugural speech

by The President of the Romanian Academy Cluj-Napoca Branch
Acad. Emil BURZO

Plenary session 1

Chairman: Mihail BĂRBOSU

Tiberiu HARKO (Department of Mathematics, University College London, Gower Street,
London WC1E 6BT, United Kingdom)

Thin accretion disks around neutron and quark stars

Aurelia PĂŞCUT (E. Rutgers University, The State University of New Jersey, USA)

Cool core evolution in groups and clusters of galaxies

Francisco S.N. LOBO (Instituto de Astrofísica e Ciências do Espaço, Campo Grande, Ed. C8
1749-016, Lisboa, Portugal; Departamento de Física da Universidade de Lisboa,
Campo Grande, Lisboa, Portugal)

Hybrid metric-Palatini gravity

Dana FICUŢ-VICAŞ (Romanian Academy, Cluj-Napoca Branch, Astronomical Institute of
the Romanian Academy, Astronomical Observatory Cluj-Napoca, Cluj-Napoca,
Romania)

A view on bars: the case of DDO168 and DDO133

Mark T. RUSHTON (Astronomical Institute of the Romanian Academy, Str. Cuţitul de
Argint 5, 040557 Bucharest, Romania),

Cristina POPESCU (Astronomical Institute of the Romanian Academy, Str. Cuţitul de
Argint 5, 040557 Bucharest, Romania; Jeremiah Horrocks Institute, University of
Central Lancashire, Preston, PR1 2HE, United Kingdom)

Richard TUFFS (Max Planck Institute for Nuclear Physics, Saupfercheckweg 1, 69117
Heidelberg, Germany)

Giovanni NATALE (Jeremiah Horrocks Institute, University of Central Lancashire, Preston,
PR1 2HE, United Kingdom)

Dumitru PRICOPI (Astronomical Institute of the Romanian Academy, Str. Cuţitul de Argint
5, 040557 Bucharest, Romania)

***Modeling the ultraviolet/submillimetre spectral energy distributions of spiral
galaxies***

Coffee&tea break

12:00

Plenary session 2

Chairman: Alin NEDELICU

Shoaib MUHAMMAD (Abu Dhabi Mens College, Higher Colleges of Technology, P.O. Box 25035, Abu Dhabi, United Arab Emirates)

Analytical Stability Criteria for the Caledonian Symmetric Four and Five Body Problems

Mihail BĂRBOSU (School of Mathematical Sciences, Rochester Institute of Technology (RIT), Rochester, NY, USA)

Tiberiu OPROIU (Romanian Academy, Astronomical Institute, Astronomical Observatory Cluj-Napoca, Cluj-Napoca, Romania)

Tamas WIANDT (School of Mathematical Sciences, Rochester Institute of Technology (RIT), Rochester, NY, USA)

High Accuracy Force Function Approximation in the Restricted Three-Body Problem

Emil POPESCU (Astronomical Institute of the Romanian Academy, Str. Cuțitul de Argint 5, 040557 Bucharest, Romania; Technical University of Civil Engineering, Lacul Tei Bvd.122 – 124, 020396, Sector 2, Bucharest, Romania)

Dumitru PRICOPI, Diana Rodica CONSTANTIN (Astronomical Institute of the Romanian Academy, Str. Cuțitul de Argint 5, 040557 Bucharest, Romania)

Orbits stability under the influence of Mücket-Treder potential

Mirel BÎRLAN (Institut de Mécanique Céleste et des Calculs des Ephémérides, CNRS UMR8028, Observatoire de Paris, PSL Research University, 77 av Denfert Rochereau, 75014 Paris, Cedex, France; Astronomical Institute of the Romanian Academy, Str. Cuțitul de Argint 5, 040557 Bucharest Romania)

Asteroid families: diversity inside the small solar system body population

Lunch Break

16:00

Plenary session 3

Chairman: Vlad TURCU

Tim FLOHRER (Space Debris Office, European Space Agency / European Space Operations Center, Robert Bosch Strasse 5, 64293, Darmstadt, Germany)

ESA activities in Space Surveillance and Tracking and in Space Debris Research

Vlad OLTEANU (Romanian Space Agency, Str. Mendeleev 21-25, Bucharest, Romania)

EU/ESA programmes in the field of satellite navigation - opportunities for the Romanian industry

Octavian CRISTEA (BITNET CCSS Cluj-Napoca, Str. Madach Imre, Nr.6, Cluj-Napoca, Romania)
Space Domain Awareness Data Collection and Fusion Experiment

Tibor HEGEDŰS (Baja Astronomical Observatory, Baja, Hungary)
Some preliminary results of a new "meteor dark flight" integrator, and the case study of Hungarian "Easter Bolide" of 2015

Coffee&tea break

18:00

Plenary session 4

Chairman: Mirel BÎRLAN

Cristiana DUMITRACHE, Octavian BLĂGOI, Cristian DĂNESCU, Liliana DUMITRU, Adrian ŞONKA, Oana STERE (Astronomical Institute of the Romanian Academy, Str. Cuţitul de Argint 5, 040557 Bucharest, Romania)
Weather Programs – Past and present at the Bucharest SolarStation

Octavian BLĂGOI, Cristian DĂNESCU, Adrian ŞONKA (Astronomical Institute of the Romanian Academy, Str. Cuţitul de Argint 5, 040557 Bucharest, Romania)
Solving technical problems by upgrading the solar instruments for space weather programs

Andreea Ioana GORNEA (Astronomical Institute of the Romanian Academy, Str. Cuţitul de Argint 5, 040557 Bucharest, Romania)
Some results regarding statistical evaluation of the CCD astro-geodetic vertical deviation

Adrian ŞONKA (Astronomical Institute of the Romanian Academy, Str. Cuţitul de Argint 5, 040557 Bucharest, Romania)
SID station - Romania 2

19:30

Poster session

Dan Alin NEDELICU (Astronomical Institute of the Romanian Academy, Str. Cuţitul de Argint 5, 040557 Bucharest, Romania)

Mirel BÎRLAN (Institut de Mécanique Céleste et des Calculs des Ephémérides, CNRS UMR8028, Observatoire de Paris, PSL Research University, 77 av Denfert Rochereau, 75014 Paris, Cedex, France; Astronomical Institute of the Romanian Academy, Str. Cuţitul de Argint 5, 040557 Bucharest Romania)
Fast numerical integration of Solar System bodies orbits with precomputed planetary positions

Mihail BĂRBOSU (School of Mathematical Sciences, Rochester Institute of Technology (RIT), Rochester, NY, USA)

Ciprian CHIRUȚĂ (The University of Agricultural Sciences and Veterinary Medicine, Iași, Romania)

Tiberiu OPROIU (Romanian Academy, Astronomical Institute, Astronomical Observatory Cluj-Napoca, Cluj-Napoca, Romania)

Stability of Triangular Equilibrium Points in Rein's ER3BP with Drag

Doina IONESCU (Astronomical Institute of the Romanian Academy, Str. Cuțitul de Argint 5, 040557 Bucharest, Romania)

On the Romanian Popular Calendar

Vlad TURCU, Dan MOLDOVAN, Liviu MIRCEA (Romanian Academy, Astronomical Institute, Astronomical Observatory Cluj-Napoca, Cluj-Napoca, Romania)

Asteroid „2014 JO25” observational results

Cristina VARGA; Corina BRATU, Erika BUTYKA, Ciprian IOVU, Andreea MARIAN, Natalia SINIȚÎN, Henrietta SZIMMA, Gabriela VORNICU, Bianca ZOB (“Babeș-Bolyai” University Cluj-Napoca, Faculty of Letters, Department of Applied Modern Languages, Cluj-Napoca, Romania)

ASTROTERM –English-Romanian Lexicon in the Field of Astronomy

Iharka CSILLIK (Romanian Academy, Astronomical Institute, Astronomical Observatory Cluj-Napoca, Cluj-Napoca, Romania)

Orbital flowers

Remus BOATĂ (Romanian Academy, Cluj-Napoca Branch, Astronomical Institute of the Romanian Academy, Timișoara Astronomical Observatory, A. Sever Sq. 1, 300210, Timișoara, Romania)

Fuzzy systems applied in computing of the solar irradiation

Radu DĂNESCU (Technical University of Cluj-Napoca, Faculty of Automation and Computer Science, Computer Science Department)

Bogdan DĂNILĂ, Vlad TURCU (Romanian Academy, Astronomical Institute, Astronomical Observatory Cluj-Napoca, Cluj-Napoca, Romania)

Single pass real time adjustment of orbital parameters for prediction of follow up observations

Alexandru MARCU (“Babeș-Bolyai” University Cluj-Napoca, Faculty of Physics, Department of Biomolecular Physics, Cluj-Napoca, Romania)

The Dynamic Behavior of the Solar Rain

Sorin MARIN (Astronomical Institute of the Romanian Academy, Str. Cuțitul de Argint 5, 040557 Bucharest, Romania)

Installing the Foundations of Contemporary Romanian Astronomy. The Meridian Hall of Bucharest Observatory in 1926 - The people, the Instruments and the Building

Amelia LINDNER (“Babeş-Bolyai” University Cluj-Napoca, Faculty of Physics, Cluj-Napoca, Romania)

Vlad TURCU (Romanian Academy, Astronomical Institute, Astronomical Observatory Cluj-Napoca, Cluj-Napoca, Romania)

Alexandru MARCU (“Babeş-Bolyai” University Cluj-Napoca, Faculty of Physics, Department of Biomolecular Physics, Cluj-Napoca, Romania)

Y Leonis oEA system scrutiny

Mirel BÎRLAN (Institut de Mécanique Céleste et des Calculs des Ephémérides, CNRS UMR8028, Observatoire de Paris, PSL Research University, 77 av Denfert Rochereau, 75014 Paris, Cedex, France; Astronomical Institute of the Romanian Academy, Str. Cuşitul de Argint 5, 040557 Bucharest Romania)

François COLAS (Institut de Mécanique Céleste et des Calculs des Ephémérides, CNRS UMR8028, Observatoire de Paris, PSL Research University, 77 av Denfert Rochereau, 75014 Paris, Cedex, France)

François COCHARD (Shelyak Instruments 73, rue de Chartreuse 38420 Le Versoud, France)

Benoît CARRY (Observatoire de la Cote d'Azur (Boulevard de l'Observatoire 06300 Nice cedex, France; Institut de Mécanique Céleste et des Calculs des Ephémérides, CNRS UMR8028, Observatoire de Paris, PSL Research University, 77 av Denfert Rochereau, 75014 Paris, Cedex, France)

Pierre VERNAZZA (LAM rue Frédéric Joliot Curie, 13013 Marseille cedex, France)

Sonia FORNASIER, D. PERNA (LESIA, Paris Observatory 1 Place Jules Janssen, 92195 Meudon cedex, France)

New concept of spectrograf for Near-Earth Asteroid observations

Teodor-Marian NIŢESCU (University of Bucharest, Faculty of Mathematics and Computer Science, Bucharest, Romania)

Weird planets

20:00

Dine Around

Tuesday, May 30th 2017

Astronomical Observatory Cluj-Napoca
Str. Cireşilor nr. 19

09:30

Plenary session 5

Chairman: Alexandru MARCU

Elvira BOTEZ (Romanian Academy, Astronomical Institute, Astronomical Observatory Cluj-Napoca, Cluj-Napoca, Romania)

Cluj Members of the Romanian Academy of Sciences

Cristiana DUMITRACHE (Astronomical Institute of the Romanian Academy, Str. Cuţitul de Argint 5, 040557 Bucharest, Romania)

Active regions evolution – MHD numerical simulations

Donát CZAVALINGA (Szeged University, Szeged, Hungary)

Photometric examination of the open cluster NGC2281

Alexandru POP (Romanian Academy, Astronomical Institute, Astronomical Observatory Cluj-Napoca, Cluj-Napoca, Romania)

Călin VAMOŞ (Romanian Academy, "Tiberiu Popoviciu" Institute of Numerical Analysis, Cluj-Napoca, Romania)

Differential diagnosis of orbital period variability phenomena: cyclic magnetic activity and orbital motion. The case of AB Cas

Zoltán JÁGER (Szeged University, Szeged, Hungary)

Inferring physical parameters of supernova explosions via light curve modeling

Nedelia A. POPESCU, Cristiana DUMITRACHE, Oana STERE (Astronomical Institute of the Romanian Academy, Str. Cuţitul de Argint 5, 040557 Bucharest, Romania)

Interplanetary magnetic structures between 5 and 9 May 2016 and their geoeffectiveness

Coffee&tea break

12:00

Plenary session 6

Chairman: Alexandru POP

Liliana DUMITRU, Octavian BLĂGOI, Cristian Adrian DĂNESCU, Adrian Bruno ŞONKA, Oana STERE, Cristiana DUMITRACHE (Astronomical Institute of the Romanian Academy, Str. Cuţitul de Argint 5, 040557 Bucharest, Romania)

Analysis of two high eruptive active regions in the declining phase of the solar cycle 24

Adrian ŞONKA, Alin NEDELCU, Marcel POPESCU (Astronomical Institute of the Romanian Academy, Str. Cuţitul de Argint 5, 040557 Bucharest, Romania)
Minor planet photometry from AIRA

Oana STERE, Cristiana DUMITRACHE, Nedelia A. POPESCU (Astronomical Institute of the Romanian Academy, Str. Cuţitul de Argint 5, 040557 Bucharest, Romania)
Analysis of the complex event that gave a high geomagnetic storm on 4 April 2017

Marius OANCEA (“Babeş-Bolyai” University Cluj-Napoca, Faculty of Physics, Cluj-Napoca, Romania)
Properties of black hole shadows

Bogdan DĂNILĂ (Romanian Academy, Astronomical Institute, Astronomical Observatory Cluj-Napoca, Cluj-Napoca, Romania; “Babeş-Bolyai” University Cluj-Napoca, Faculty of Physics, Cluj-Napoca, Romania)

Tiberiu HARKO (Department of Mathematics, University College London, Gower Street, London WC1E 6BT, United Kingdom)

Gabriela MOCANU (Romanian Academy, Astronomical Institute, Astronomical Observatory Cluj-Napoca, Cluj-Napoca, Romania)
Radiation of a test particle in a circular equatorial orbit around a rotating black hole

Conference concluding remarks

Alexandru POP, Vlad TURCU

Romanian Academy, Astronomical Institute, Astronomical Observatory Cluj-Napoca;
Romanian Astronomical National Committee