

PERSONAL INFORMATION

Dănilă Bogdan +40729.958.771 Bogdan.danila22@gmail.com

Sex Male | Date of Birth 30 April 1989 | Nationality Romanian

EDUCATION AND TRAINING

October 2008 – March 2011

Courses in Robotics at Transylvania University, Brasov

- Mechanics
- Computer Science (4 modules)
- Electrical Engineering
- Robotics
- Material Resistance

October 2011 - July 2014

Physics (BSc) at "Babes-Bolyai" University Cluj-Napoca

Bachelor Thesis: "The Magnetohydrodynamic approximation. Application to accretion disks"

October 2014 – July 2016

Computational Physics (MSc) at "Babes-Bolyai" University Cluj-Napoca

Dissertation Thesis: "MHD Cellular Automata simulations and applications on GRB Afterglows"

October 2016 – Present

PhD in Physics at "Babes-Bolyai" University Cluj-Napoca

Topic: Extended gravity theories and their applications in astrophysics.

WORK EXPERIENCE

1 April 2015 – 30 June 2016

Physicist

Research project CDI 72/29.11.2013, „Computational methods in scientific investigations of space”, Project manager Conf. Dr. Marcu Alexandru, Physics Faculty, Babes-Bolyai University

Numerical simulations of dynamical Solar atmosphere phenomena using the FLASH code (<http://flash.uchicago.edu/>)

1 March 2016 – 30 June 2016

Research assistant

Research project in the ESA contract 4000114740/15/NL/MM TELEGAL: Angular Position Management of Galileo Satellite with Telescopes, Project Leader CS I Dr. Vlad Turcu, Astronomical Observatory Cluj, Romanian Academy, Cluj-Napoca Branch

1 July 2015 – 30 June 2018

Research assistant

Astronomical Observatory Cluj, Romanian Academy, Cluj – Napoca Branch

Photometric and astrometric observations and data reduction for variable stars and transient objects (asteroids), as well as satellite observations

January 2018 – February 2019

Research assistant

ESA Contract Nr. 4000122501/17/NL/LvH/md/03.01.2018, within programme E/0600-03-B-01 General Studies Programme, European Space Research and Technology Centre (ESTEC), Magnetic Field Perturbations by Thermo-Electric Effects – TherMag.

- March 2018 – November 2020 **Research Assistant**
 Research project Code: PN-III-P1-1.2-PCCDI-2017-0266, Contract Nr. 16 PCCDI/01.03.2018
Institutional capabilities and services for research, surveillance and forecasting of risks from extra-atmospheric space (SAFESPACE)
- January 2019 – February 2020 **Research Assistant**
 ESA Contract Nr. 4000125989/18/NL/IA *Simulation of magnetic disturbance at the SWARM ASM and VFM location*
- 1 July 2018 – Present **Researcher**
 Astronomical Observatory Cluj, Romanian Academy, Cluj – Napoca Branch
 Photometric and astrometric observations and data reduction for variable stars and transient objects (asteroids), as well as satellite observations

SCIENTIFIC ACHIEVEMENTS

- Publications**
- B. Dănilă, G. Mocanu, V. Turcu, A. Junge, S. Blaga, “*Magnetic field created by the thermoelectric effect*”, IEEE Transactions on Magnetics, published online 16 December 2020
- O. Vaduvescu, L. Curelaru, M. Popescu, B. Dănilă, D. Ciobanu, “*Dozens of virtual impactor orbits eliminated by the EURONEAR VIMP DECam data mining project*”, A&A, 42, A35, 2020
- B. J. Barros, B. Dănilă, T. Harko, F. S. N. Lobo, “*Black hole and naked singularity geometries supported by three-form fields*”, EPJC, 80, 617, 2020
- B. Dănilă, T. Harko, F.S.N. Lobo, M.K. Mak, “*Spherically symmetric static vacuum solutions in hybrid metric-Palatini gravity*”, Physical Review D, Vol 99, Issue 6, 2019
- B. Dănilă, T. Harko, F.S.N. Lobo, M.K.Mak, “*Hybrid metric-Palatini stars*”, Physical Review D, Vol. 95, Issue 4, 044031, 2017
- B. Dănilă, T. Harko, M. K. Mak, P. Pantaragphong, S. V. Sabau, “*Jacobi Stability Analysis of Scalar Field Models with Minimal Coupling to Gravity in a Cosmological Background*”, AHEP, Vol. 2016
- B. Dănilă, A. Marcu, G.Mocanu, “*New statistical results on the optical IDV data of BL Lac S5 0716+714*”, Research in Astron. and. Astrophys., (2015) vol 15, no. 3
- B. Dănilă, T. Harko, Z. Kovacs, “*Thin accretion disks around cold Bose-Einstein condensate stars*”, EPJC, (2015) vol 75 : 203
- B. Dănilă, T. Harko, G. Mocanu, “*Self-organized criticality in a two-dimensional cellular automaton model of a magnetic flux tube with background flow*”, MNRAS, (2015) vol 453 : 3, pag. 2982-2991
- Scholarships**
- Research Excellence Scholarship from Babes-Bolyai University, between Oct 2014 – Oct 2015 for the project: “*MHD Cellular Automata Simulations and applications to GRB Afterglows*”
- Presentations**
- “Radiation of a test particle in a circular equatorial orbit around a rotating black hole”, **B. Dănilă**, T. Harko, G. Mocanu, Cluj Academic Days, Cluj-Napoca, May 2017
- “Cellular Automata simulations of Self Organized Criticality. Applications to GRB X-ray afterglows”, **B. Dănilă**, T. Harko, G. Mocanu, Cluj Academic Days, Cluj-Napoca, May 2015
- “Statistical analysis on the optical intraday variability of BL Lac S5 0716+714”, **B. Dănilă**, A. Marcu, G. Mocanu, TIM14, Timisoara, November 2014
- “Statistical results on the optical IDV data of BL Lac S5 0716+714”, **B. Dănilă**, A. Marcu, G. Mocanu, Cluj Academic Days, Cluj-Napoca, May 2014

Posters "MHD Cellular Automata Simulations: Applications to GRB X-Ray afterglows", B. Dănilă, T. Harko, G. Mocanu, Marcel Grossman Meeting, Rome, July 2015

Spring/Summer Schools Jürgen Ehlers Spring School, Max Planck Institute for Gravitational Physics, Potsdam-Golm, Germany, 6-17 March 2017

PERSONAL SKILLS

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
Cambridge Proficiency in English (CPE) Certificate, with grade C					
French	A2	A2	A1	A1	A2

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Computer skills Advanced knowledge of several programming/scripting languages: Python, Matlab, C/C++, C#, JS, Assembly, Solidity, Mathematica. Very familiar with the Comsol physics software package.