

Curriculum Vitae

Personal information

First name / LAST NAME Vlad Spiridon / TURCU
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Work experience

Dates 01.10. 1988 – 14.05.1990
Occupation or position held Electrical / electrical engineer (probationer)
Main activities and responsibilities Electronic measurement and control devices for power stations
Name and address of employer HidroConstructia S.A., Ardeal Subsidiary, Oașului Str.8-10, 400268, Cluj-Napoca, Romania (former T.A.G.C.H. București, A.C.H. Criș-Someș com .Gilău, jud. Cluj)
Type of bussines or sector Hidro-Construction

Dates 14.05.1990 – 01.04.1991
Occupation or position held Electrical engineer
Main activities and responsibilities Astronomical instrumentation maintenance
Name and address of employer Romanian Academy, Astronomical Institute, Astronomical Observatory Cluj-Napoca
Type of bussines or sector Research

Dates 01.04.1991 – 01.11.1992
Occupation or position held Researcher Assistant
Main activities and responsibilities Observational astronomy and astrophysics
Name and address of employer Romanian Academy, Astronomical Institute, Astronomical Observatory Cluj-Napoca
Type of bussines or sector Research

Dates 01.11.1992 – 01.10.1997
Occupation or position held Scientific Researcher
Main activities and responsibilities Observational astronomy and astrophysics (optical domain, CCD), Variable Stars
Name and address of employer Romanian Academy, Astronomical Institute, Astronomical Observatory Cluj-Napoca
Type of bussines or sector Research

Dates 01.10.1997 – 01.03.2015
Occupation or position held Senior Researcher III
Main activities and responsibilities Observational astronomy and astrophysics (optical domain, CCD, photometry, astrometry, satellites), Variable Stars;
25,10.2013 – 01.03.2015, chief of research collective
Name and address of employer Romanian Academy, Cluj-Napoca Branch, Astronomical Observatory Cluj-Napoca
Type of bussines or sector Research

Dates 01.03.2015 - Present
Occupation or position held Senior Researcher I
Main activities and responsibilities Observational astronomy and astrophysics (optical domain, CCD, photometry, astrometry, satellites), Reference frames, Variable Stars, Space Surveillance and Tracking, Near Earth Objects;
01.03.2015 – Present , chief of research collective
Name and address of employer Romanian Academy, Cluj-Napoca Branch, Astronomical Observatory Cluj-Napoca
Type of bussines or sector Research

Education and training

Dates	1978-1982
Title of qualification awarded	Baccalaureat diploma / profile mathematics and physics / qualification: mechanic machine and equipments
Principal subjects- occupational skills covered	Profile mathematics and physics, technical qualification in mechanics
Name and type of organisation providing education and training	Colegiul Național "Andrei Mureșanu" Dej, Cluj county, Romania
Dates	1983-1988
Title of qualification awarded	Engineer Diploma in the field: Electric, speciality: Electronics and Telecommunications
Principal subjects- occupational skills covered	Applied electronics, medical electronics
Name and type of organisation providing education and training	Technical University of Cluj-Napoca, Faculty of Electronics, Telecommunications and Information Technology, Cluj-Napoca, Romania
Dates	2004 -2010
Title of qualification awarded	Academic title of DOCTOR in the field of Electrical engineering with "SUMMA CUM LAUDE" distinction
Principal subjects- occupational skills covered	"Improvements on signal acquisition and processing methods in astronomy"/ (Contribuții asupra metodelor de achiziție și prelucrare ale semnalelor în astronomie)
Name and type of organisation providing education and training	Technical University of Cluj-Napoca, Doctoral School, Faculty of Electrical Engineering, Department of Electrical Machines and Drives, Cluj-Napoca, Romania

Personal skills and competences

Mother tongue (s) Romanian

Other language (s) **english, french**

Self-assessment

European level (*)

English

French

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
Upper intermediate	Upper intermediate	Intermediate	Intermediate	Upper intermediate
Upper intermediate	Upper intermediate	Intermediate	Intermediate	Upper intermediate

Technical skills and competences

- photomultipliers and CCD, CMOS sensors and related measurements devices
- observational astronomy and astrophysics, observational techniques, astronomical data acquisition
- variable stars
- surveillance of space sensor development
- data acquisition and processing for SST and NEO
- research project management

Computer skills and competences

- DOS, Windows, Linux, operating system configuring
- assembler, FORTRAN, PASCAL, Visual FOX, C, JAVA programming
- MAPLE programming
- Various data acquisition and processing tools and software skills
- Image processing softwares skills
- office (MS, WP)

Research

Participation to
Research Projects /
Grants (national or
international
competitions)

- [1]. Contract CNCIS tema 81, cod CNCIS 1057/2001; CNCIS cod 66/2002; CNCIS cod 149/2003 "Analiza unor fenomene neliniare prin metode analitice experimentale și simulări numerice", participant, team of University "Babeș-Bolyai" Cluj-Napoca, Faculty of Physics.
- [2]. MEC, PNCDI, AEROSPATIAL/SP3/ Contract 129/2004 "SCANSAT", 2005-2006, participant partner Romanian Academy, Cluj-Napoca Branch, Astronomical Observatory Cluj-Napoca.
- [3]. MEC, ANCS, SECURITATE/SP3/ Contract 22/2005 "DOG", 2006, participant partner Romanian Academy, Cluj-Napoca Branch, Astronomical Observatory Cluj-Napoca.
- [4]. CNCIS, Grant Idei, Contract 31796/ 23.11.2007, 2007-2010, participant, team of University "Babeș-Bolyai" Cluj-Napoca, Faculty of Physics.
- [5]. ANCS, CNMP, PARTENERIATE IN DOMENII PRIORITARE, Proiect 81-004/2007 "URSA", 2007-2010, project manager for partner Romanian Academy, Cluj-Napoca Branch, Astronomical Observatory Cluj-Napoca.
- [6]. ANCS, CNMP, PARTENERIATE IN DOMENII PRIORITARE, Proiect 82-093/2008 "LEOSCOPI", 2008-2011, project manager for partner Romanian Academy, Cluj-Napoca Branch, Astronomical Observatory Cluj-Napoca.
- [7]. UEFISCDI, PNII-PCCA1, Parteneriate, Contract 214/2012 "Porolimes", 2012-2016, participant, team of Romanian Academy, Cluj-Napoca Branch, Institute of Archaeology and History of Arts Cluj-Napoca.
- [8]. UEFISCDI, PNII-PT-PCCA2, Parteneriate, Contract 210/2012 "AMHEOS", 2012-2016, project manager for partner Romanian Academy, Cluj-Napoca Branch, Astronomical Observatory Cluj-Napoca.
- [9]. European Space Agency, ESA Contract No.4000108671/13/D/MRP, "SSA for Romania", 2013-2014, Technical Officer, for the team of principal contractor RARTEL S.A. București.
- [10]. FSE POSDRU 2007-2013, Contract POSDRU/159/1.5/S/137516, Project "Parteneriat interuniversitar pentru excelență în inginerie – PARTING", 2014-2015, postdoctoral bursary, Technical University of Cluj-Napoca.
- [11]. European Space Agency, ESA Contract No.4000115158/15/D/MB, "Cheia antenna retrofit project", 2015-2016, Technical Officer, for the team of prime contractor RARTEL S.A. București.
- [12]. European Space Agency, ESA Contract No.4000114740/NL/MM, "TELEGAL: Angular Position Measurement of Galileo Satellite with Telescopes", 2015-2017, Team leader for subcontractor Romanian Academy, Cluj-Napoca Branch, Astronomical Observatory Cluj-Napoca.
- [13]. European Space Agency, ESA Contract No. 4000116018/16/D/MRP, "Generic Data Reduction Framework for Space Surveillance", 2016-2018, key person for subcontractor BITNET CCSS Cluj-Napoca.
- [14]. Agenția Spațială Română, PN III-STAR, Contract 118/14.11.2016 "Centre of Competence for Planetary Sciences - ASTRES", 2016-2018, participant, team Romanian Academy, Astronomical Institute Bucharest.
- [15]. Ministerul Cercetării și Inovării, Plan Sectorial, Contract 11PS/20.11.2017 "Dezvoltarea capacității de monitorizare și coordonare a activității de supraveghere spațială, pentru prognoza riscurilor asociate căderii din atmosferă și din cosmos a corpurilor naturale și artificiale (ARGOSS)", 2017-2018, project manager for partner Romanian Academy, Cluj-Napoca Branch, Astronomical Observatory Cluj-Napoca.
- [16]. UEFISCDI, PN III-P1-1.2 – PCCDI-2017, Proiecte Complexe realizate în Consorții, Contract 16PCCDI/2018 "Capacități și Servicii Instituționale pentru Cercetarea, Monitorizarea și Prognoza Riscurilor din Spațiul Extraatmosferic (SAFESPACE)", 2018-2020, project manager for partner Romanian Academy, Cluj-Napoca Branch, Astronomical Observatory Cluj-Napoca.
- [17]. European Space Agency, ESA Contract No. 4000123269/18/D/MRP, "SSA P3 SST IV Tracking radar retrofit for Cheia - Phase I", 2018, key person for prime contractor RARTEL S.A. București.
- [18]. European Space Agency, ESA Contract No. 4000122501/17/NL/LvM/md, "Magnetic Field Perturbations by Thermo-Electric Effects", 2018-2019, key person for prime contractor Romanian Academy, Cluj-Napoca Branch, Astronomical Observatory Cluj-Napoca.
- [19]. European Space Agency, ESA Contract No. 4000125989/8/NL/IA, "SWARM IOP Support Contract – Simulations of Magnetic Perturbations On Board. Analysis around the VFM and potential improvements", 2020-2021, key person for prime contractor Romanian Academy, Cluj-Napoca Branch, Astronomical Observatory Cluj-Napoca.

Relevant publications
(selection)

- [1]. Pop, A., Turcu, V.
The Study of Binary Systems with Pulsating Components Using the Frequency-Modulation Theory
1993, Astrophysics and Space Science 204: 233-241, Kluwer Academic Publishers.
- [2]. Turcu, V., Pop, A., Moldovan, D.
Discovery of Short-Periodic Pulsating Component in the Eclipsing Binary Y Leonis
2008, Commissions 42 and 27 of the IAU, Information Bulletin on Variable Stars, No.5826, Konkoly Observatory Budapest, 7 May 2008, HU ISSN 0374-0676

- [3]. Arlot, J.-E., Thuillot, W., Ruatti, C.,..., Turcu, V., ... et al.
The PHEMU03 catalogue of observations of the mutual phenomena of the Galilean satellites of Jupiter
 2009, *Astronomy and Astrophysics*, 439, 1171-1182.
- [4]. Pop, A., Vamoş, C., Turcu, V.
Deterministic Components in the Light Curve Amplitude of Y Ophiuchi
 2010, *The Astronomical Journal*, 139, No.2, 425-433, American Astronomical Society.
- [5]. Rodríguez, E., García, J.M., Costa, V., Lampens, P., van Cauteren, P., Mkrtichian, D.E., Olson, E.C., Amado, P.J., Daszyńska-Dasszkiewicz, J., Turcu, V., Kim, S.-L., Zhou, A.Y., López-González, M.J., Rolland, A., Díaz-Fraile, D., Wood, M.A., Hinz, E., Pop, A., Moldovan, D., Etzel, P.B., Casanova, V., Sota, A., Aceituno, F.J., Lee, D.-J.
 δ Sct-type pulsations in eclipsing binary systems: Y Cam
 2010, *Monthly Notices of the Royal Astronomical Society*, 408, 2149-2162, DOI: 10.1111/j.1365-2966.2010.17055.x.
- [6]. Turcu, V., Pop, A., Marcu, A., Moldovan, D.
Y Leonis: Light Curve Solution Revised and Search for Photometric Disturbances During Primary Minimum
 2011, *Astrophysics and Space Science*, 331, 105-113, DOI 10.1007/s10509-010-0432-9, Springer Science+Business Media B.V.
- [7]. Pribulla, T., Vaňko, M., ... , Turcu, V., ...et al.
The DWARF project: Eclipsing binaries - precise clocks to discover exoplanets
 2012, *Astronomische Nachrichten*, 333, Issue 8, 754-766, DOI: 10.1002/asna.201211722, WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim, ISSN: 1521-3994, arXiv:1206.6709P.
- [8]. Cristea, O., Dolea, P., Turcu, V., Dănescu, R.
Long Baseline Stereoscopic Imager for Close to Earth Object Range Measurements
 2013, *Acta Astronautica*, 90, Issue 1, 41-48, DOI 10.1016/j.actaastro.2012.10.007, Elsevier, ISSN: 0094-5765.
- [9]. Dănescu, R., Ciurte, A., Turcu, V.
A Low Cost Automatic Detection and Ranging System for Space Surveillance in the Medium Earth Orbit Region and Beyond
 2014, *Sensors*, 14, 2703 -2731, doi:10.3390/s140202703, ISSN: 1424-8220
- [10]. Bîrlan, M., Popescu, M., Nedelcu, D.A., Turcu, V., Pop, A., Dumitru, B., Stevance, F., Văduvescu, O., Moldovan, D., Rocher, P., Sonka, A., Mircea, L.
Characterization of (357439) 2004BL86 on its close approach to Earth in 2015
 2015, *Astronomy and Astrophysics*, 581, A3, 1-7, doi:10.1051/0004-6361/201526460.
- [11]. Cristea, O., Turcu, V., Cernat, M.
Steps Towards a European SST System for Object Beyond LEO Altitudes. Romanian Insights; 2016, NATO Science & Technology Organization, STO-MP-SCI-283, 13-1 - 13-9 DOI 10.14339/STO-MP-SCI-283.
- [12]. Cristea, O., Turcu, V., Ober, B., Flohrer, T., Prieto-Cerdeira, R.
Angular Position Measurement of Galileo Satellites with Telescopes
 2017, 6th International Colloquium "Scientific and Fundamental Aspects of GNSS / Galileo", European Space Agency ESA, Universitat Politècnica de Valencia, VAL Space Consortium, Valencia, Spain, 25-27.10.2017. (<https://atpi.eventsair.com/QuickEventWebsitePortal/6th-icsfag/info/ExtraContent/ContentSubPage?page=5&subPage=6>) P2.12.
- [13]. Ionescu, L., Scagnoli, R., Istrițeanu, D., Turcu, V.
Cheia Antennas Retrofit to a Space Tracking Radar
 2019, Proc. 1st NEO and Debris Conference, Darmstadt, Germany, 22-24 January 2019, published by the ESA Space Safety Programme Office, Ed. T Flohrer, R Jehn, F. Schmitz (<http://neo-sst-conference.sdo.esoc.esa.int>, January 2019), NEOSST1-paper415.
- [14]. Colas, F., Zanda, B., Bouley, S.,..., Turcu, V., ...et al.
FRIPON: A worldwide network to track incoming meteoroids
 2020, *Astronomy and Astrophysics*, 644, A53, 1-24, doi:10.1051/0004-6361/202038649.

Publications 3 books (first author)
 58 scientific papers

Additional informations

Member of professional organizations International Astronomical Union (UAI / IAU), Division B Facilities, Technologies and Data Science, Division C Education, Outreach and Heritage, Division G Stars and Stellar Physics, Division B Commission 25 Astronomical Photometry and Polarimetry, Division G Commission 27 Variable Stars

Romanian National Committee for Astronomy (R. N.C.A.)

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