

CURRICULUM VITAE

Ovidiu VADUVESCU Astronomer

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Citizenship: Canadian & Romanian



WORK EXPERIENCE:

- **2009 Jan – Present – Observing Support Scientist**, Isaac Newton Group of Telescopes, La Palma, Canary Islands, Spain (website [here](#)).
- **2007 Mar – 2008 Dec – Postdoctoral Fellow & Professor**, Institute for Astronomy, Universidad Catolica del Norte, Antofagasta, Chile (Comité Mixto ESO - Gobierno de Chile, website [here](#)).
- **2006 (Mar – Sep) – Postdoctoral Fellow**, Astrophysics and Cosmology Research Unit, University of Kwazulu-Natal, and South African Astronomical Observatory, Durban, South Africa (website [here](#)).
- **2000 – 2005 – Research Assistant**, Department of Physics and Astronomy, York University, Toronto, Canada (website [here](#)).
- **1991 – 1997 – Research Assistant**, The Astronomical Institute of the Romanian Academy, Bucharest, Romania (website [here](#)).

EDUCATION:

- **2000 – 2005 – PhD (Physics and Astronomy)**, York University, Toronto, Canada.
Thesis: Infrared Properties of Star Forming Dwarf Galaxies. Advisor: Prof. Dr. Marshall McCall.
The following [link](#) points to my former website at York. The thesis is available [here](#) (pdf, 7 MB).
- **1993 – 1997 – PhD (Mathematics and Astronomy)**, Babes-Bolyai Univ, Cluj-Napoca, Romania.
The curriculum contained three exams, three written dissertations and the final public thesis defense.
Thesis: Study of Some Dynamical Phenomena in the Solar System. Advisor: Prof. Dr. Arpad Pal.
The following [link](#) points to my scanned thesis (in Romanian).
- **1986 - 1991 – MSc (Mathematics and Computer Sciences)**, University of Craiova, Romania.
The curriculum contained about 50 exams, oral presentations, written colloquia and a diploma thesis.
Thesis: Calculus of the Orbits and Ephemerides in the Solar System. Applications on the Computer.
Advisor: Prof. Dr. Ion Cojocaru. The following [link](#) points to my scanned thesis (in Romanian).

OBSERVING EXPERIENCE/RUNS:

- **ESO/VLT 8.2m**, Paranal, Chile – NIR imaging of dwarf galaxies in Fornax and Hydra clusters (2008 – 2009, 6hr service);
- **Gemini North 8.1m**, Mauna Kea, Hawaii – Spectroscopy of BCDs in Virgo (12h 2003, service);
- **Gemini South 8.1m**, Cerro Pachon, Chile – Spectroscopy of BCDs in Fornax (15h 2007) & Hydra (20h 2008), service;
- **ING/WHT 4.2m**, La Palma, Canary – Observing Support and Service (15n 2009);
- **CTIO/Blanco 4.1m**, Cerro Tololo, Chile – NIR imaging of dwarf galaxies (10n 2006 – 2009);
- **CFHT 3.6m**, Mauna Kea, Hawaii – NIR imaging of dwarf galaxies (6n 2002, 2004);
- **CFHT 3.6m**, Mauna Kea, Hawaii – CFHT Legacy Survey data mining of NEAs (2008 - 2009);
- **ESO/NTT 3.5m**, La Silla, Chile – NIR imaging of dwarf galaxies in the Local Volume (5n 2006, 2008);
- **ING/INT 2.5m**, La Palma, Canary – Follow-up and discovery of NEAs and MBAs (6hr 2009);
- **ESO/MPG 2.2m**, La Silla, Chile – Follow-up and discovery of NEAs and MBAs (3n 2008);
- **OAN-SPM 2.1m**, Baja California, Mexico – NIR imaging of BCDs in Virgo and dIs in the Local Volume (21n 2001 – 2004);
- **David Dunlap 1.9m**, University of Toronto, Canada – Spectroscopy of AGNs (5n, 2002 & 2003);
- **Haute Provence 1.2m**, France – Follow up of NEAs & PHAs (6n 2007);
- **Pic du Midi 1m**, France – Follow up of NEAs & PHAs (9n 2006);
- **ESO 1m, La Silla**, Chile – Inspection of the ESO1m telescope and observations of NEAs (3n 2007);
- **CTIO 1m**, Cerro Tololo, Chile – Follow-up and photometry of binary NEAs and MBAs (10n 2008);
- **OCIW Swope 1m**, Las Campanas, Chile – Follow-up and photometry of NEAs (15n 2008, 2009);
- **Cerro Armazones 0.84m**, Chile – Inspection of the telescope, observations of NEAs (3n 2007);
- **York University 0.6m**, Toronto, Canada – Astrometry & Photometry of Near Earth Asteroids (10n 2002, 2003 & 2004); Observing projects: H α photometry of the planetary nebula NGC 2392, and Photometry of the open cluster NGC 663 (Prof. M. McCall class, 2000-2001);
- **Cerro Armazones 0.4m**, Chile – Cataclismic variables (7n 2007);
- **Astronomical Institute 2x0.4m**, Bucharest, Romania – Astrometry & Photometry of planetary satellites, asteroids, and comets (about 50n 1993 – 1997);
- **Astronomical Institute 0.2m** Meridian Refractor, Bucharest, Romania – Astrometry Star Catalogs;

COMPUTING EXPERIENCE:

- Coding about 60 astronomy software (more than 50,000 coding lines) in Pascal/Delphi, C/C++, FORTRAN, PHP under MSDOS, Windows, UNIX & Linux. A list with brief description and downloads is available [online](#);
- Celestial Maps software – 10 versions: v.1-5 developed in Romania in Turbo Pascal, versions 7-10 in Canada in Delphi. Descriptions and some downloads available [online](#); The package (560 MB on a CD-ROM) maps celestial sources under five types of projections using 15 off-line catalogues (SAO, PPM, Tycho-2, GSC 1.1, NGC 2000, etc) plus other four online (GSC 2, USNO-A2, USNO-B1, 2MASS, via Vizier), also overlying the DSS atlas (via CADC or STScI);
- Computer aided graphics and publishing The Astronomical Yearbook, The Astronomical Institute, The Romanian Academy of Sciences Publishing House. Computer aided graphics sample available [online](#);
- Contributions in setting and system administration of a few servers:
 - Apple XServ Raid, 4 GB RAM, 1 TB HD, running OS X (2004-2005, Canada);
 - DEL PowerEdge 460 Server, 2 GB RAM, 450 GB HD running Linux (2001-2005, Canada);
 - Pentium IV and III (3 PCs), running Windows and Linux (2000-2005, Canada);
 - Silicon Graphics Challenge & INDY Graphic Workstation SGI UNIX (1995-1997, Romania).

ASSOCIATE (NON-PAID) POSITIONS:

- **2005 – Present – Research Associate, IMCCE** (formerly BdL), Observatoire de Paris, France, with the project [EURONEAR](#) (European Near Earth Asteroids Research)
- **2000 – Present – Research Associate, [The Astronomical Institute of the Romanian Academy](#).**

TEACHING EXPERIENCE:

- 2008 (Mar-Dec) – Professor Associate, Scientific Advisor and Practical Astronomy class, [Institute of Astronomy](#), Universidad Catolica del Norte, Antofagasta, Chile;
- 2003 (May-June), 2003-2004 (May-June), 2004/2005 (Sep-Apr), 2005 (Sep-Dec) – Professor Associate, Astronomy SCIE 013 class, [Humber College](#), Toronto, Canada;
- 2000 – 2005 – TA (Astronomy NATS 1740 & AK/NATS 1720), [York University](#), Toronto, Canada;
- 1997 – Professor Associate (Computer Science), Ion Barbu High School, Bucharest, Romania;
- 1995 – 1997 – Professor Associate (Astronomy & Computer Science), Miron Nicolescu College, Bucharest, Romania.

OTHER WORK EXPERIENCE:

- **1998 – 2001 – Computer Programmer, [Financial Models Company](#)**, Mississauga, Canada;
- **1997 – 1998 – Computer Programmer, International Programmers Guild**, Mississauga, Canada;
- **1998 – 1999 – Project Leader, [EuRo Eclipse 99](#)**, Total Solar Eclipse 99 (small business), Canada.

EXPERIENCE IN COMPUTER SCIENCE:

- Operating Systems: Linux, UNIX, Windows, MSDOS, Alpha/Open VMS;
- Programming: Turbo Pascal, Delphi, C/C++, Turbo C++, FORTRAN;
- CCD, Image Acquisition and Processing: IRAF, IDL, SExtractor, Astrol, QMiPS, WinMips;
- Internet Applications and Development: Perl, PHP, CGI, HTML, Java Script;
- Relational Data Bases: Sybase, SQL, Access, D-Base.

OTHER VOCATIONAL ACTIVITIES:

- Scientific advisor (students Francisco Pozo Nuñez, Angie Barr Dominguez), Universidad Catolica del Norte, Chile, 2008;
- In charge of Observatorio Cerro Armazones, Institute of Astronomy, Universidad Catolica del Norte, Chile (Sep 2007 – Dec 2008);
- Public Outreach: lecturer at various astronomy meetings, participation in observational camps, co-organizer of youth astronomical competitions, mass-media talks, conferences & press releases, member of Romanian Society for Meteors and Astronomy (1993-Present), Bucharest Astroclub (1991-2002), RASC Toronto Centre (1997-2000), IA/UCN Chile (2007-2008);
- Co-organizer of [EuRo Eclipse 99](#). About 250 amateurs and professionals (170 from abroad) observed with this project the Total Solar Eclipse on 11 August 1999 in Romania (collaboration with SARM & Romantic Travel);
- MSC thesis co-advisor (student Paul Anca), University of Sibiu, Romania, 1996.

PUBLICATIONS (Refereed):

Dwarf Galaxies:

- Fingerhut, L. R., McCall, M. L., Argote, M., Cluver, M. E., Nishiyama, S., Rekola, R. T. F., Richer, M. R., Vaduvescu, O., Woudt, P. A., 2009 – *Deep Near-Infrared Surface Photometry of 80 Dwarf Irregular Galaxies in the Local Volume, sent to AJ* (Mar 2009);
- Vaduvescu, O. & McCall, M., 2008 – *The Fundamental Plane of Dwarf Irregular Galaxies*, A&A 487, 147 (link [ADS](#));
- Vaduvescu, O., McCall, M. L., & Richer, M., 2007, AJ, 134, p. 604 – *Chemical Properties of Star Forming Dwarf Galaxies* (link [ADS](#) or [here](#));
- Vaduvescu, O., McCall, M. L., & Richer, M., 2005, AJ, 131, p. 1318 – *Properties of Star Forming Dwarf Galaxies: II. Blue Compact Dwarf Galaxies in the Virgo Cluster* (link [ADS](#) or [here](#));
- Vaduvescu, O., McCall, M., Richer, M., & Fingerhut, R., 2004, AJ, 130, p. 1593 – *Properties of Star Forming Dwarf Galaxies: I. Dwarf Irregular Galaxies in the Local Volume* (link [ADS](#) or [here](#));
- Vaduvescu, O., & McCall, M., 2004, PASP, 116, 821, p. 640 – *Strategies for Imaging Faint Extended Sources in the Near-Infrared* (link at [ADS](#) or [here](#));

Near Earth Asteroids:

- Vaduvescu, O., Curelaru, L., Birlan, M., Bocsa, G., & Tudorica, A., Berthier, J., 2009 – *EURONEAR – Data Mining of Asteroids and Near Earth Asteroids*, accepted in the Astron. Nachr (Feb 2009);
- Vaduvescu, O., Birlan, M., Colas, F., Nedelcu, A., & Sonka, A., 2008, *EURONEAR – First Results*, P&SS 56, 1913 (link [ADS](#));
- M.P.C. XXXXX (2009) – 154 positions for 13 PHAs & NEAs, about 150 positions for 37 MBAs, and about 250 positions for 45 probably new MBAs observed at ING/INT 2.5m telescope in La Palma, collaboration with Tudorica, A., Badea, M., & Dumitru, D. ([NEODYs](#));

- M.P.E.C. 48P, 46S, 45S (2008) – 556 positions for 53 observations of NEAs at Las Campanas Observatory 1m telescope, collaboration with Pozo Nunez, F., & Barr Dominguez, A. ([NEODyS](#));
- M.P.C. 62262, 62573, 62871, 63129, 63369, 63591 (2008) – 150 positions for 15 VIs, PHAs & NEAs, about 3000 positions for about 300 known asteroids, and 4500 positions for about 450 new MBAs observed at ESO/MPG 2.2m telescope in La Silla, collaboration with Birlan, M., and others ([NEODyS](#));
- M.P.C. 62258, 63365 (2008) – 20 positions for 2 NEAs observed at Las Campanas Observatory Swope 1m telescope, collaboration with Tudorica, A., & Galad, A. ([NEODyS](#));
- M.P.C. 61434 (Nov 2007) – 74 positions for 6 NEAs & PHAs observed at Cerro Armazones Observatory 0.84m telescope, collaboration with Birlan, M., Nedelcu, A. & Sonka, A. ([NEODyS](#));
- M.P.C. 59865 & 60089 (June 2007) – 153 positions for 18 NEAs and PHAs observed at Haute Provence on the 1.2m telescope, collaboration with Nedelcu, A., Sonka, A, and Birlan, M. ([NEODyS](#));
- M.P.C. 57118 (May 2006) – 122 positions for 13 NEAs and PHAs observed at Pic du Midi on the T1m telescope, collaboration with Colas, F., Birlan, M., Nedelcu, A., and Sonka, A ([NEODyS](#));
- M.P.C. 52511 (Aug 2004), M.P.C. 52903 (Oct 2004) – 99 positions of 3 NEAs and PHAs observed at York University Observatory ([NEODyS](#) or [here](#));
- Vaduvescu, O., & Birlan, M., 2006, RoAJ 16/2, p. 201 – *Planning Near Earth Asteroid Observations on a 1m Class Telescope*, ([astro-ph/0702027](#));
- Vaduvescu, O., 2004 & 2005, RoAJ 14/2, 2004 and 15/1, 2005 – *Observing Near Earth Asteroids with a Small Telescope*, Romanian ([astro-ph/0504231](#));

Others:

- Gilbert, A. Wiegert, P., Unda-Sanzana, E., Vaduvescu, O., 2009 – *Spectroscopic Observations of New Oort Cloud Comet 2006 VZ13 and Four Other Comets, sent to MNRAS* (Mar 2009);
- Birlan, M., Nedelcu, D. A., Layiey, V., Arlot, J-E., Binzel, R. P., Bus, S. J., Rayner, J., Thuillot, W., Vaduvescu, O., Colas, F., 2008 – *Photometric and astrometric analysis of a mutual event between the uranian satellites Miranda and Oberon*, Astron. Nachr 329, 567 (link [ADS](#));
- Vaduvescu, O., Stefanescu, G., & Birlan, M., 1998, RoAJ, 8/1 – *CCD and Photographic Observations of The Comet C/1996 B2 (Hyakutake)* (link [here](#));
- Vaduvescu, O., 1996, RoAJ, 6/1- *Package for Preparing and Processing an Astronomical Observation*;
- Vass, G., Stefanescu, G., & Vaduvescu, O., 1996, RoAJ, 6/2 – *Measurement and Astrometric Reduction of CCD Images in Bucharest*;
- Vaduvescu, O., 1996, Occultation Newsletter (IOTA), 6/12 – *Appulses to PPM Stars of the Comet C/1996 O1 (Hale-Bopp)*;
- Vaduvescu, O. & Soulie, E., 1994, Observations et Travaux, 40, 23 – *Paques Orthodoxe et Calendrier Gregorien*;
- Vaduvescu, O., 1993, The Astronomical Yearbook, The Astronomical Institute and Romanian Academy, *Study on the Easter Date* (in Romanian);
- Popescu, P. et al., 1993 – *Bright Star Catalogue*, Romanian Academy Printing House, Bucharest.

In work:

- Vaduvescu, O., Birlan, M., Nedelcu, A., Sonka, A., Tudorica, A., Toma, R., Vancea, C., Vidican, D., Opriseanu, C., 2009: *EURONEAR – First Results at ESO/MPG 2.2m*, to be sent to AN;
- Vaduvescu, O., Tudorica, A., Dumitru, D., Badea, M., Vidican, D., Opriseanu, C., Toma, R., Birlan, M., Nedelcu, A., 2009, *EURONEAR - Data Mining of Near Earth Asteroids in the CFHT Legacy Survey*, to be sent to AN;
- Birlan, M., Vaduvescu, O., Tudorica, A., Sonka, A., Nunez, F. P., Dominguez, A. B., Nedelcu, A., Galad, A., Colas, F., Toma, R., Vidican, D., Opriseanu, C., Vancea, C., Colque, J. P., Soto, C. P., Unda-Sanzana, E., 2009 - *More than 180 Near Earth Asteroids Observed in the EURONEAR Network*, to be sent to A&A;
- Vaduvescu, O., McCall, M. L., Fingerhut, R., Pozo Nunez, F., Barr Dominguez, A., Unda-Sanzana, E., 2009, *Mapping the Local Volume of Dwarf Irregular Galaxies*, to be sent to A&A;
- Vaduvescu, O., McCall, M. L., Vilchez, J. M., Kehrig, C., 2009, *Blue Compact Dwarfs in Fornax and Hydra Clusters*, to be sent to A&A;

PUBLICATIONS (Non-Refereed):

- Vaduvescu, O., 2004, [math/0404109](#) – *An Astronomical View-point on the Easter Date*;
- Vaduvescu, O., 2000, RASC Journal, 94-1, 32 – *EuRo Eclipse 99*;
- Vaduvescu, O., 1995, 1996, European Asteroidal Occultation Network Information Bulletins, 20 & 21.

MEETINGS, SEMINARS, OTHER REFERENCES:

- Birlan, M., Vaduvescu, O., & EURONEAR Team, 2009 – *EURONEAR – Discovery, recovery, and precovery of NEAs as network activities*, 1st IAA Planetary Defense Conference: Protecting Earth from Asteroids, Apr 27-30, Granada;
- Tudorica, A., Birlan, M., Vaduvescu, O., Toma, R., Sonka, A., Nedelcu, A., & the EURONEAR Team, 2008 – *EURONEAR – The First 100 Observed NEAs*, AAS DPS Meeting, Oct 10-15, Ithaca ([ADS](#) link);
- Sonka, B., Vaduvescu, O. et al 2007 – *New Astrometry for NEOs in the frame of EURONEAR*, AAS DPS Meeting 39, 51.07, Orlando, Oct 7 - 12, 2007 (abstract [ADS](#));
- Vaduvescu, O., Curelaru, L. 2007, *Mining NEAs and Asteroids in the CFHTLS*, CFHT Users' Meeting, Marseille, May 9 - 11, 2007 (abstract [CFHT](#), poster [here](#));
- Colas, F., Birlan, M., Vaduvescu, O., Nedelcu, A., Sonka, A., 2006d, *EURONEAR – First Results at Pic du Midi*, AAS DPS Meeting 38, 58.05, Pasadena, Oct 8 - 13, 2006 (abstract [ADS](#));
- Vaduvescu, O., et al, 2006c, *EURONEAR - An European Near Earth Asteroid Research Project*, XXVI-th GA IAU Prague, Aug 14 - 25, 2006, poster contribution (abstract [ADS](#));
- Vaduvescu, O., 2006, *Infrared Properties of Dwarf Galaxies*, ESO Santiago de Chile (Jul 17, 2006), and AURA (CTIO & Gemini South), La Serena, Chile (July 10, 2006);
- Vaduvescu, O. and McCall, L.M., IAU Colloquium 198, Near-field Cosmology with Dwarf Elliptical Galaxies, Les Diablerets, Switzerland, 14 - 18 March 2005 – *Dwarf Ellipticals on the Dwarf Irregular Fundamental Plane* (poster contribution, IAU 198 Proceedings, Cambridge Journals [Online](#));

- Vaduvescu, O., 2005 – Séminaires "Temps & Espace" (IMCCE - SYRTE), Observatoire de Paris, 7 Mar 2005 – *Celestial Maps v.10* (abstract [online](#));
- Vaduvescu, O., Colas, F., Birlan, M., Nedelcu, A., Sonka, B., 2006 – Journées Scientifique, IMCCE, Observatoire de Paris, 5-6 June 2006 – *Observing NEAs at Pic du Midi*;
- Vaduvescu, O., Oct 2004, Astrometry with Small Telescopes Meeting, Bucharest, Romania – *Observing NEAs at York University Observatory* (poster [here](#));
- McCall, M. L., et al., 2004, *YES York Extinction Solver* (online at CADC [here](#));
- Vaduvescu, O., 2004, 1st Virtual Meeting on Amateur Astronomy, Bellatrix Astronomical Observatory & UAI, Ceccano (FR) Italy – *Celestial Maps, a Charting Software for the Serious Astronomer* ([here](#));
- Blake, M., et al, The Doings on-line 2003, in The Doings of the Department of Astronomy & Astrophysics, University of Toronto and The David Dunlap Observatory – *The DDO AGN Monitoring Program* ([here](#));
- Blake, M., Fingerhut, R., & Vaduvescu, O., 2003, in Cassiopeia, a publication of CASCA, 116 – *A Canadian Modest Aperture Telescope* ([here](#));
- Vaduvescu, O., 27 mai 2003, Séminaires du LESIA, Observatoire de Paris, Meudon – *Infrared properties of star forming dwarf galaxies* ([here](#));
- Vaduvescu, O., & McCall, M. L., CASCA Meeting 2003, Univ. of Waterloo, ON Canada – *Strategies for Imaging Faint Extended Sources in the NIR* (poster);
- Vaduvescu, O., 1997, The V-th Workshop of Mutual Events and Astrometry of Planetary Satellites, Catania (oral contribution), abstract in Annales de Physiques – *Asteroid Appulses by Catalogue Stars. Predictions, Observations and Reductions*;
- Vaduvescu, O, 1996, COSPAR Colloquium 10, July 1996, p. 21-17, International Conference on Asteroids, Comets and Meteors (poster), *Asteroid Occultation Opportunities Observed in Bucharest*;
- Vaduvescu, O., & Birlan, M., 1994, The Second International School in Astronomy and Astrophysics, Rozhen National Observatory, Bulgaria, *The Astronomical Package Celestial Maps*;
- [Celestial Maps](#) (1992 – present) References and Patents:
(Vaduvescu, O., and collaborators Birlan, M., AIRA & IMCCE Paris, and Lucian Curelaru, Romania):
 - In April 1994, Celestial Maps v.3.1 was contracted by La Maison de l'Astronomie, Paris, Astro News 37, 1994 (a copy scan [here](#));
 - Between 1996-1999 Celestial Maps v.4.5 computer aided graphics The Astronomical Yearbook, The Astronomical Institute and Romanian Academy Printing House in Bucharest;
 - In March 1998 Celestial Maps v.5.0 was published with [ASDS](#) (Astronomical Software Documentation Service, NASA Astrophysics Data Program);
 - Vaduvescu, O, Curelaru, L., & Grigore, V., 2001 – Celestial Maps v.8.0 was employed to publish *The Map of the Northern Sky* by SARM, website [here](#).
 - Starting by 2004, Celestial Maps 10 has become the only software to access the catalogs USNO-A2, USNO-B1, GSC 2.2, 2MASS (via Vizier), the DSS atlas server (via CADC or STScI), and ASTORB asteroid orbit catalog (using a numerical integrator), thus being capable to assist in guiding large and very large telescopes in observations.

LANGUAGES: English, Spanish, French (fluently), Romanian (native).