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CURRICULUM VITAE

Name	Jarosław Bosy
Date of birth	July 31, 1963
Place of birth	Jurkowo, Poland
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Position	Professor, Vice Rector
Home address	Partyzantów 6/5 51-672 Wrocław, Poland Phone +48 71 3480627
Education	Agricultural University of Wrocław Faculty of Environmental Engineering and Geodesy
Honours/Title	AGH University of Science and Technology Faculty of Mining Surveying and Environmental Engineering PhD in geodesy and cartography since March 1996 AGH University of Science and Technology Faculty of Mining Surveying and Environmental Engineering Postdoctoral lecturing qualification (habilitation) in Geodesy and Cartography since June 2006; Professorship in Technical Sciences, nomination by President of Poland, March 2014;
Fields of Scientific Research	Reference frames realization in global, regional and local scale using GNSS techniques. GNSS meteorology - utilization of the Global Navigation Satellite System's (GNSS) radio signals to derive information about the state of the troposphere. GNSS tomography method - to resolve the spatial structure and temporal behavior of the tropospheric water vapor. NRT atmosphere models based on the GNSS and meteorological data based on the GNSS Ground Based Augmentation Systems for real time GNSS (e.g. RTK, PPP) and meteorological applications
Positions/Distinctions	Member of the Section of Satellite Geodesy of the Committee of Space Research of Polish Academy of Science, since 2000 Member of European Geosciences Union, since 2000 Member of American Geophysical Union, since 2008 Member of International Association of Geodesy, since 2009 Chairman of working group WG4.3.3 Integration of GNSS atmosphere models with NWP models in Sub-Commission SC

4.3 – Remote sensing and modelling of the atmosphere in
Commission 4: Positioning and Applications of International
Association of Geodesy, since 2012

Member of Polish Council of Geodesy and Cartography, since
2010

Member of Committee on Geodesy of Polish Academy of
Science, since 2011

Vice-Chairman of Committee on Geodesy of Polish Academy
of Science, since 2016

International Experiences

Greece, Aristotle University of Thessaloniki, Department of
Geodesy and Surveying - 1994, 1996

Switzerland, University of Bern, Institute of Astronomy - 1997

Italy, C.N.R. - Center for the Study of the Geology of the
Apennines and the Perimediterranean Ranges, Florence -
2003, 2004, 2005 and 2006

Greece, National Observatory of Greece in Athens - 2004
2005, 2006

Australia, RMIT Melbourne - 2012

Awards, Grants

IMG-95-PL-2072 Tempus Individual mobility grant 1996,
Foundation for the Development of the Education System
6 000 USD.

Award grant from Stefan Batory Foundation, participation in
EGS XXIII General Assembly, Nice, France 1998.

Research grant: 9T12E00518: Improvement of methods for
GPS satellite data processing in precise local networks,
project manager, 2000-2003, Polish State Committee for
Scientific Research, ca. 65 000 USD.

Research grant: EC-COST Action 625 3D Monitoring of Active
Tectonic Structures, 1st participant, 2000-2006, ca.
250 000 USD.

Award grant from Foundation for Polish Science (FNP),
participation in EUREF Symposium, Toledo, Spain 2003.

Research grant: N52001431/2095: Local 4D troposphere
topography model based on the GPS and meteorological
data, project manager 2006-2009, Polish science funds for the
period of 2006-2008, ca. 75 000 USD.

WKP_1/1.5.0/1/2004/7/7/17/U: ASG-EUPOS a multifunctional
precise satellite positioning system in Poland, project
manager, 2005-2008, realized utilizing the resources of the
European Regional Development Fund within the Sectoral
Operational Programme „Improvement of the Competitiveness
of Enterprises”, ca. 10 000 000 USD.

N N526 197238: NRT atmosphere models based on the
GNSS and meteorological data from reference stations of
ASG-EUPOS system in Poland, project manager, 2010-2013,
Polish science funds for the period of 2009-2011, ca.
100 000 USD.

N R09 0010 10T: The supporting modules for ASG-EUPOS
system real-time services, WUELS project manager, ca.
1 200 000 USD. URL: http://www.cgs.wat.edu.pl/ASG_PLUS/

Participation in ca. 15 national research grants founded by Polish State Committee for Scientific Research and Ministry of Science and Higher Education, 1992-2011;

COST Action ES1206: Advanced Global Navigation Satellite Systems tropospheric products for monitoring severe weather events and climate (GNSS4SWEC), 21/11/2012 - 16/05/2017;

ESA Contract No. 4000109437/13/NL/Cbi: Precise Ionospheric Modelling for Improved GNSS Positioning in Poland, 24.10.2013 - 27.02.2015;

ESA Contract No. 4000112665/14/NL/Cbi: Higher Order Ionospheric modelling campaigns for precise GNSS applications – HORION, 28.11.2014 - 27.11.2016;

UMO-2014/15/B/ST10/00084: Multi-GNSS real-time Precise Point Positioning, 14.07.2015 - 13.07.2018

Principal Publications

- Wilgan K., Hurter F., Geiger A., Rohm W., Bosy J. Tropospheric refractivity and zenith path delays from least-squares collocation of meteorological and GNSS data. *Journal of Geodesy*, online, Berlin Heidelberg 2016, pp. 1-18, DOI: 10.1007/s00190-016-0942-5;
- Kaźmierski K., Santos M., Bosy J. Tropospheric delay modelling for the EGNOS augmentation system. *Survey Review*, online, London, United Kingdom 2016, pp. 1-9, DOI: 10.1080/00396265.2016.1180798;
- Bosy J., Kryński J. Reference frames and reference networks. *Geodesy and Cartography*. Volume 64, Issue 2, Pages 147–176, DOI: 10.1515/geocart-2015-0011, December 2015;
- Hadaś T., Bosy J. IGS RTS precise orbits and clocks verification and quality degradation over time. *GPS Solutions*, Vol. 19 No. 1, Berlin Heidelberg 2015, pp. 93-105, DOI: 10.1007/s10291-014-0369-5;
- Hordyniec P., Bosy J., Rohm W. Assessment of errors in precipitable water data derived from global navigation satellite system observations. *Journal of Atmospheric and Solar-Terrestrial Physics*, Vol. 129, Amsterdam, the Netherlands 2015, pp. 69-77, DOI: 10.1016/j.jastp.2015.04.012;
- Wilgan K., Rohm W., Bosy J. Multi-observation meteorological and GNSS data comparison with Numerical Weather Prediction model. *Atmospheric Research*, Vol. 156, Amsterdam, the Netherlands 2015, pp. 29-42, DOI: 10.1016/j.atmosres.2014.12.011;
- Rohm W., Zhang K., Bosy J. Limited constraint, robust Kalman filtering for GNSS troposphere tomography *Atmospheric Measurement Techniques*, Vol. 7 No. 5, 2014, pp. 1475-1486, DOI: 10.5194/amt-7-1475-2014;
- Bosy J. (2014) Global, Regional and National Geodetic Reference Frames for Geodesy and Geodynamics. *Pure and Applied Geophysics*, Vol. 171 No. 6, Basel, Switzerland 2014, pp. 783-808, DOI: 10.1007/s00024-013-0676-8;
- Wielgosz P., Krukowska M., Paziewski J., Krypiak-Gregorczyk A., Stępnia K., Kapłon J., Sierny J., Hadaś T., Bosy J. Performance of ZTD models derived in near real-time from GBAS and meteorological data in GPS fast-static positioning. *Measurement Science and Technology*, Vol. 24 No. 12, 2013. DOI: 10.1088/0957-0233/24/12/125802;
- Hadaś T., Kapłon J., Bosy J., Sierny J., K Wilgan. (2013) Near-real-time regional troposphere models for the GNSS precise point positioning technique. *Measurement Science and Technology*, Vol. 24 No. 5, 2013, DOI: 10.1088/0957-0233/24/5/055003;
- Bosy J., Kapłon J., Rohm W., Sierny J., Hadaś T. (2012) Near real-time estimation of water vapour in the troposphere using ground GNSS and the meteorological data. *Annales Geophysicae*, Vol. 30, Göttingen, Germany 2012, pp. 1379-1391, DOI: 10.5194/angeo-30-1379-2012;
- Rohm W., Bosy J. (2011) The verification of GNSS tropospheric tomography model in a mountainous area. *Advances in Space Research*, Vol. 47, 2011, pp. 1721-1730, DOI: 10.1016/j.asr.2010.04.017;
- Bosy J., Rohm W., Sierny J., Kapłon J. (2011) GNSS Meteorology. [in:] *Navigational Systems and Simulators. Marine Navigation and Safety of Sea Transportation*. Ed. A. Weintrit, CRC Press/Balkema. Taylor & Francis Group, Gdynia, Leiden, The Netherlands 2011, pp. 19-23;

- Figurski M., Bogusz J., Bosy J., Kontny B., Krankowski A., Wielgosz P. (2011) "ASG+": project for improving Polish multifunctional precise satellite positioning system. *Reports on Geodesy*, Vol. 2 No. 91, Warszawa 2011, pp. 51-58;
- Bosy J., Rohm W., Borkowski A., Figurski M., Kroszczynski K. (2010) Integration and verification of meteorological observations and NWP model data for the local GNSS tomography. *Atmospheric Research*, Vol. 96, 2010, pp. 522-530, DOI: 10.1016/j.atmosres.2009.12.012;
- Bosy J., Rohm W., Sierny J. The concept of Near Real Time atmosphere model based of GNSS and meteorological data from ASG-EUPOS reference stations. *Acta Geodynamica et Geomaterialia*, Vol. 7 No. 3 (159), Prague 2010, pp. 253-261;
- Bosy J., Rohm W., Sierny J. The near real time atmosphere model based on the GNSS and the meteorological data from the Ground Base Augmentation System ASG-EUPOS. *International Archives of the Photogrammetry, Remote Sensing and Spatial Information Science*, Vol. XXXVIII No. 8, Kyoto, Japan 2010, pp. 366-371;
- Rohm W., Bosy J. (2009) Local tomography troposphere model over mountains area. *Atmospheric Research* 93 (4), 777 -783, DOI: 10.1016/j.atmosres.2009.03.013,
- Bosy J. Kontny B., Borkowski A. (2009) IGS/EPN reference frame realization in local GPS networks, H. Drewes (ed.), *Geodetic Reference Frames*, International Association of Geodesy Symposia 134, DOI 10.1007/978-3-642-00860-3_31, Springer-Verlag Berlin Heidelberg 2009, pp. 197-204,
- Bosy J., Graszka W., Leonczyk M. (2008) ASG-EUPOS Multifunctional System of Precise Satellite Positioning, *Mitteilungen des Bundesamtes für Kartographie und Geodäsie*, London, England - June 6-9, 2007, EUREF Publication No. 17, *Mitteilungen des Bundesamtes für Kartographie und Geodäsie Band* (in print);
- Bosy J., Rohm W. (2008) Verification of the meteorological observations on the EPN stations, *Mitteilungen des Bundesamtes für Kartographie und Geodäsie*, London, England - June 6-9, 2007, EUREF Publication No. 17, *Mitteilungen des Bundesamtes für Kartographie und Geodäsie Band* (in print);
- Bosy J., Oruba A., Graszka W., Leończyk M., Ryczywolski M. (2008) ASG-EUPOS densification of EUREF permanent Network on the territory of Poland, *Reports on Geodesy*, No. 2 (85), 2008, pp. 105-112;
- Bosy J., Graszka W., Leończyk M. (2007) ASG-EUPOS - A Multifunctional Precise Satellite Positioning System in Poland. *European Journal of Navigation*. Vol.5 No. 4 September 2007 pp. 30-34;
- Rohm W., Bosy J. (2007) The quality of meteorological observations and tropospheric delay from EPN/IGS permanent stations located in the Sudety Mountains and in the adjacent areas. *Acta Geodynamica et Geomaterialia* (formerly *Acta Montana*), Vol 4, No. 4 (148), pp. 145-152;
- Bosy J., Borkowski A. (2006) Troposphere modelling in local GPS network, EUREF Publication No. 15, *Mitteilungen des Bundesamtes für Kartographie und Geodäsie*, Vienna, Austria, June 1-4 2005, EUREF Publication No. 15, *Mitteilungen des Bundesamtes für Kartographie und Geodäsie Band* 38, pp. 356-362;
- Bosy J. (2005) Data processing of local GPS networks located in a mountain area, *Acta Geodynamica et Geomaterialia* (formerly *Acta Montana*), Vol. 2, No. 3 (139), pp. 49-56;
- Kontny B., Bosy J., Borkowski A. (2004), Correlation between EPN station velocities and the tectonic of Europe, *Artificial Satellites, Journal of Planetary Geodesy*, Vol. 39, No. 2, pp. 155-164;
- Bosy J., Figurski M., Wielgosz P. (2003) A strategy for GPS data processing in a precise local network during high solar activity. *GPS Solutions*, Vol. 7 No. 2, Berlin - Heidelberg - New York 2003, pp. 120-129, DOI:10.1007/s10291-003-0052-8,
- Borkowski A., Bosy J., Kontny B. (2002), Meteorological data and determination of heights in local GPS networks - preliminary results *Electronic Journal of Polish Agricultural Universities, Geodesy and Cartography*, Volume 5, Issue 2. Available Online <http://www.ejpau.media.pl>;
- Kenyeres, A., Bosy, J., Brockmann, E., Bruyninx, C., Caporali, A., Hefty, J., Jivall, L., Kosters, A., Poutanen, M., Fernandes, R., Stangl, G. (2002), EPN Special Project on "Time series analysis..." *Preliminary Results and Future Prospects* EUREF Publication No. 10, *Mitteilungen des Bundesamtes für Kartographie und Geodäsie*, Vol. 23, pp. 72-75, Frankfurt am Main 2002;