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## Short curriculum vitae

### Educational experience

- 2004 Full Professor.
- 1979 Habilitation (Doctor of Sciences), Warsaw University of Technology, Poland.
- 1976 Doctor of Physical Sciences (eq. PhD.), Inst. of Geoph., Pol. Acad. of Sciences, Warsaw, Poland.
- 1968-1971 Study of Mathematics, University of Warsaw, Poland.
- 1967 MSc. Eng. Surveying and Geodesy, Warsaw University of Technology, Poland.

### Professional practice

**1998-present Professor, Institute of Geodesy and Cartography, Warsaw, Poland. Head of the Centre of Geodesy and Geodynamics.**

- 1998-2003 Associate Professor, University of Warmia and Mazury, Olsztyn, Poland.
- 1991-1998 Senior Lecturer, University of Natal, Durban, South Africa.
- 1988-1991 Research Associate at the University of Calgary, Calgary, Alberta, Canada.
- 1987-1988 Acting Assistant Professor, University of Washington, Seattle, WA USA.
- 1977-1987 Research Scientist and Adjoint Professor at the Space Research Centre, PAS, Warsaw, Poland.
- 1983-1984 Visiting Professor at the University of Calgary, Alberta, Canada.
- 1976-1978 Postdoctoral Fellow at the Institute of Physical Geodesy, Technical University at Graz, Austria.
- 1968-1977 Research Associate at the Institute of Geophysics, PAS, Warsaw, Poland.
- 1974 Visiting Scientist at the Geodetic Institute of Helsinki, Finland.
- 1971-1972 Visiting Scientist at the Astronomical Council of the Academy of Sciences of USSR in Moscow, at the State Astronomical Sternberg Institute in Moscow, and at the Institute of Theoretical Astronomy in Leningrad, USSR.

### Professional Service

Past service:

- 1969-1978 Secretary of the Ed. Board of "Artificial Satellites" of the Polish Academy of Sciences.
- 1973-1975 Scientific Secretary of the Space Research Committee of the Polish Academy of Sciences as well as Scientific Secretary of the Polish National Committee for COSPAR.
- 1979-1983 Member of the International Gravimetric Bureau.
- 1979-1995 Member of the Panel on Dynamics of Artificial Satellites and Space Probes at COSPAR.
- 1996-1998 External examiner for the School of Engineering, University of Zambia.
- 2003-2007 Member of the Space Research Committee of the Polish Academy of Sciences.
- 2003-2009 Secretary of the National Committee for Geodesy and Geophysics of the PAS.
- 2004-2010 Member of WG of Subcomm. EUREF "Def. and real. of the global vertical ref. system".
- 2004-2011 Editor-in-Chief of the quarterly journal "Geodesy and Cartography" of PAS.
- 2006-2008 Expert of the Techmex on geoid modelling, Kiev, Ukraine.
- 2007-2011 Vice-Pres. of the of the Comm. of Geodetic Control of the Committee on Geodesy of PAS.
- 2007-2011 Vice-Pres. of the Comm. of Earth's Dynamics of the Committee on Geodesy of PAS.
- 2007-2012 Vice-Pres. Scientific Council of the Institute of Geodesy and Cartography, Warsaw, Poland.
- 2007-2019 Member of the Finance Committee of the International Union of Geodesy and Geophysics
- 2008-2009 Expert of the Geokart on geodetic control and geoid modelling, Algier, Algeria.
- 2008-2009 Expert of European Comm. on geodetic networks and data processing, Dushanbe, Tajikistan.
- 2009-2020 Editor-in-Chief of the journal "Geoinformation Issues" of the Institute of Geodesy and Cartography, Warsaw, Poland.
- 2009-2016 Vice-Pres. - Committee on Geodesy of the Polish Academy of Sciences.

- 2011-2015 Member of the Joint Working Group JWG 2.2: „Absolute Gravimetry and Reference Systems for Absolute Gravimetry, International Association of Geodesy.
- 2011-2015 Corresponding member of the Joint Study Group JWG 2.1: “Techniques and metrology in Absolute Gravimetry”, International Association of Geodesy.
- 2012-2017 President - Scientific Council of the Institute of Geodesy and Cartography, Warsaw, Poland.
- 2015-2019 Member of the Joint Working Group JWG 2.2.1: „Establishment of a global absolute gravity reference system”, International Association of Geodesy.
- 2015-2019 Corresponding member of the Study Group SG 2.1.1: “Techniques and metrology in terrestrial (land, marine, airborne) gravimetry”, International Association of Geodesy.
- 2016-2019 President of the Finance Committee of the International Union of Geodesy and Geophysics
- 2018-2022 Scientific Secretary of the Institute of Geodesy and Cartography, Warsaw, Poland.

Recent service:

- 2000-present Chief Editor – Astronomic Yearbook, Inst. of Geodesy and Cartography, Warsaw, Poland.
- 2002-present Member of Working Group on Gravimetry of the BIPM in Paris
- 2002-present Member of the Editorial Board of "Geodesy and Cartography", Vilnius, Lithuania.
- 2009-present President – National Committee for IUGG of the Polish Academy of Sciences.
- 2016-present President – Committee on Geodesy of the Polish Academy of Sciences.
- 2017-present Vice-Pres. – Scientific Council of the Institute of Geodesy and Cartography, Warsaw, Poland.
- 2019-present Vice-Pres. – Scientific Council of the Institute of Geophysics, Polish Academy of Sciences, Warsaw, Poland.

Membership and fellowship

- 1988-2014 Member of the American Geophysical Union.
- 1991 Fellow of the International Association of Geodesy.
- 2002-present Member of the International Association of Geodesy.
- 2019 Fellow of the International Union of Geodesy and Geophysics.

Honors

- 1979 Special Prize of the Scientific Secretary of the Polish Academy of Sciences for scientific achievement in research on satellite gradiometry.
- 1994 Award "Excellence in Teaching" of the University of Natal, Durban, South Africa.
- 2003 Honorary Medal „For Merit to Geodesy and Cartography”.
- 2004 Award of the Minister of Infrastructure for completing the project on application of new definitions of ref. systems for determ. of Earth rotation param. and determ. of global geodetic ref. systems.
- 2005 Gold Cross of Merit.
- 2007 Distinction of the Minister of Construction for research supervision of the PhD thesis “The effect of the choice of star catalogue on the calculated apparent positions” made by Dr. M. Sękowski.
- 2007 Distinction of the Minister of Construction for research supervision of the PhD thesis “The determination of geoid in Southern Baltic Sea with the use of seaborne and airborne gravity data as well as altimetry data” made by Dr. W. Jarmołowski.
- 2017 Award of the Director of the Institute of Geodesy and Cartography, Warsaw, for distinctive scientific achievements in 2012-2015.
- 2021 Award of the Director of the Institute of Geodesy and Cartography, Warsaw, for high level publications in 2017-2021.

Publications

Over 600 papers, technical reports and lecture notes on reference systems and frames, celestial mechanics, satellite geodesy, satellite positioning, physical geodesy, geodynamics, gravimetry, gravity field modelling, geoid determination, data processing, mathematical methods in geodesy, navigation, and hydrography.

Key research publications

- Schwarz K.P., Kryński J., (1977): *Improvement of the geoid in local areas by satellite gradiometry*, Bulletin Géodésique, Vol. 51, No 3, pp. 163-176.
- Kryński J., (1979): *Improvement of geoid in local areas by satellite-to-satellite tracking*, Bulletin Géodésique, Vol. 53, No 1, pp. 19-36.
- Kryński J., (1982): *A method of global estimation of the gravity field from satellite-to-satellite data*, Bolletino di Geodesia e Scienze Affini, No 2, pp. 185-194.
- Kearsley A.H.W., Sideris M., Kryński J., Forsberg R., Schwarz K.P., (1985): *White Sands revisited - A comparison of techniques to predict deflections of the vertical*, UCSE Rep.No. 30007, University of Calgary, Canada (166 pp).
- Kryński J., (1994): *Selecting the Optimal Observing Session for Static GPS Survey*, South African Journal of Surveying and Mapping Vol. 22, Part 4, (No 134), pp. 225-234.
- Kryński J., (1997): *Digital Terrain Model in 5x5 Grid Using Real-Time GPS Surveying*, South African Journal of Surveying and Mapping, Vol. 24, Part 3, (No 145), pp. 121-128.
- Krynski J., Sas-Uhrynowski A., Siporski L., (2003): *Verification of the Absolute Gravity Measurements in Poland*, Luxembourg, Cahiers du Centre Européen de Géodynamique et de Séismologie, Vol. 22, pp. 129-136.
- Krynski J., Zanimonskiy Y., (2004): *Tide Gauge Records-Derived Variations of Baltic Sea Level in Terms of Geodynamics*, Geodesy and Cartography, Warsaw, Vol. 53, No 2, pp. 85-98.
- Krynski J., (2004): *Major Concepts of Recent Celestial and Terrestrial Reference Systems*, Annual of Navigation, Polish Academy of Sciences, No 8, Gdynia, 2004 ISSN 1640-8632, pp. 5-20.
- Krynski J., (2007): *Precise quasigeoid modelling in Poland – results and accuracy estimate* (in Polish), Monographic series of the Institute of Geodesy and Cartography, Nr 13, Warsaw 2007, (266 pp).
- Mäkinen J., Sękowski M., Kryński J., (2010): *The use of the A10-020 gravimeter for the modernization of the Finnish First Order Gravity Network*, Geoinformation Issues, Vol. 2, No 1, pp. 5-17.
- Godah W., Krynski J., (2013): *Accuracy assessment of the 3<sup>rd</sup> release of GOCE GGMs over the area of Sudan*, Int. J. of Applied Earth Observation and Geoinformation, JAG797, doi: 10.1016/j.jag.2013.11.003.
- Krynski J., Kloch-Glowka G., Szelachowska M., (2014): *Analysis of time variations of the gravity field over Europe obtained from GRACE data in terms of geoid height and mass variation*, IAG Symposia Vol. 139.
- Krynski J., Dykowski P., Sękowski M., Mäkinen J., (2014): *On the estimate of accuracy and reliability of the A10 absolute gravimeter*, IAG Symposia Vol. 139, pp. 297-302.
- Szelachowska M., Krynski J., (2014): *GDQM-PL13 – the new gravimetric quasigeoid model for Poland*, Geoinformation Issues, Vol. 6, No 1, Warsaw, pp. 5-19, doi.org/10.34867/gi.2014.1
- Godah W., Krynski J., (2015): *Comparison of GGMs based on one year GOCE observations with the EGM08 and terrestrial data over the area of Sudan*, International Journal of Applied Earth Observation and Geoinformation, Vol. 35, pp. 128-135. DOI:10.1016/j.jag.2013.11.003.
- Godah W., Krynski J., Szelachowska M., (2015): *On the accuracy assessment of the consecutive releases of GOCE-based GGMs over the area of Poland*, Assessment of GOCE Geopotential Models, Special Issue: Newton's Bulletin, No. 5, June 2015, pp. 49-62.
- Bosy J., Krynski J., (2015): *Reference frames and reference networks*, Geodesy and Cartography, Warsaw, Vol. 64, No 2, pp. 5-29 DOI:10.1515/geocart-2015-0011.
- Krynski J., (2015): *Gravity field modelling and gravimetry*, Geodesy and Cartography, Warsaw, Vol. 64, No 2, pp. 177-200, DOI:10.1515/geocart-2015-0012
- Godah W., Szelachowska M., Krynski J., (2015): *On the selection of GRACE-based GGMs and a filtering method for estimating mass variations in the Earth system over Poland*, Geoinformation Issues, Vol. 7, No 1, Warsaw, pp. 5-14, doi.org/10.34867/gi.2015.1
- Sękowski M., Dykowski P., Kryński J., (2016): *New iGrav superconducting gravimeter station in Central Europe at the Borowa Gora Geodetic-Geophysical Observatory*, Geoinformation Issues, Vol. 8, No 1, Warsaw, pp. 5-17, doi.org/10.34867/gi.2016.1
- Godah W., Szelachowska M., Krynski J., (2017): *On the analysis of temporal geoid height variations obtained from GRACE-based GGMs over the area of Poland*, 1<sup>st</sup> Joint Commission 2 and IGFS Meeting Symposium GGHS2016 “Gravity, Geoid and Height Systems 2016”, 19–23 September 2016, Thessaloniki, Greece; Acta Geophysica, Vol. 65(4), pp. 713-725, DOI: 10.1007/s11600-017-0064-3.
- Godah W., Szelachowska M., Krynski J., (2017): *Investigation of geoid height variations and vertical displacements of the Earth surface in the context of the realization of a modern vertical reference system - A case study for Poland*, In: G. Vergos, R. Pail, R. Barzaghi (eds) International Symposium on Gravity, Geoid and Height Systems 2016, International Association of Geodesy Symposia, Vol. 148, pp. 135–141, Springer, Cham. [https://doi.org/10.1007/1345\\_2017\\_15](https://doi.org/10.1007/1345_2017_15).
- Krynski J., Zak Ł., Ziolkowski D., Cisak J., Lagiewska M., (2017): *Estimation of height changes of GNSS stations from the solutions of short vectors and PSI measurements*, Geodesy and Cartography, Vol. 66, No 1, pp. 73-88, DOI: 10.1515/geocart-2017-0008.
- Godah W., Szelachowska M., Krynski J., (2018): *Application of the PCA/EOF method for the analysis and modelling of temporal variations of geoid heights over Poland*, Acta Geodaetica et Geophysica, Vol. 53, Issue 1, pp. 93-105, DOI 10.1007/s40328-017-0206-8. <https://link.springer.com/article/10.1007/s40328-017-0206-8>
- Godah W., Szelachowska M., Krynski J., (2017): *On the estimation of physical height changes using GRACE satellite mission data - A case study of Central Europe*, Geodesy and Cartography, Vol. 66, No 2, pp. 211-226, DOI: 10.1515/geocart-2017-0013.
- Godah W., Krynski J., Szelachowska M., (2018): *The use of absolute gravity data for the validation of Global Geopotential Models and for improving quasigeoid heights determined from satellite-only Global Geopotential Models*, Journal of Applied Geophysics, Vol. 152, May 2018, pp. 38–47, doi:10.1016/j.jappgeo.2018.03.002

- Wilde-Piorko M., Dykowski P., Polkowski M., Olszak T., Grad M., Krynski J., Sekowski M., Krankowski A., Rajner M., (2017): *Expanding seismic surface waves measurements towards low periods with gravity measurements*, *Geoinformation Issues*, Vol. 9, No 1(9), pp. 5-13, doi.org/10.34867/gi.2017.1
- Engfeldt A., Lidberg M., Sekowski M., Dykowski P., Krynski J., Ågren J., Olsson P.-A., Bryskhe H., Steffen H., Nielsen J.E., (2019): *RG 2000 – the new gravity reference frame of Sweden*, FIG Congress 2018, 6–11 May 2018, Istanbul, Turkey; *Geophysica*, 54(1), pp. 69-92
- Krynski J., Rogowski J.B., Liwosz T., (2019): *Research on reference frames and reference networks in Poland in 2015-2018*, *Geodesy and Cartography*, Vol. 68, No 1, 2019, pp. 5-19, DOI: 10.24425/gac.2019.126093
- Krynski J., Dykowski P., Olszak T., (2019): *Research on gravity field modelling and gravimetry in Poland in 2015-2018*, *Geodesy and Cartography*, Vol. 68, No 1, 2019, pp. 31-63, DOI: 10.24425/gac.2019.126096
- Godah W., Szelachowska M., Ray J.D., Krynski J., (2019): *On the recovery of temporal variations of geoid heights determined with the use of GGMs based on SST-hl data from non-dedicated gravity satellite missions*, *Bol. Ciênc. Geod.* Vol. 25, No 3, Curitiba, 2019 Epub Oct 14, doi: 10.1590/s1982-21702019000300017.
- Godah W., Szelachowska M., Ray J.D., Krynski J., (2020): *Comparison of vertical deformations of the Earth's surface obtained using GRACE-based GGMs and GNSS data – A case study of South-Eastern Poland*, *Acta Geodynamica et Geomaterialia*, Vol. 17, No 2(198), pp. 169-176, 10.13168/AGG.2020.0012
- Godah W., Szelachowska M., Krynski J., Ray J.D., (2020): *Assessment of temporal variations of orthometric/normal heights induced by hydrological mass variations over large river basins using GRACE mission data*, *Remote Sensing* 2020, 12(18), 3070; doi:10.3390/rs12183070
- Godah W., Ray J.D., Szelachowska M., Krynski J., (2020): *The use of national GNSS CORS networks for the determination of temporal mass variations within the Earth's system as well as for improving GRACE/GRACE-FO solutions – a case study of Poland*, *Remote Sensing* 2020, 12(20), 3359; <https://doi.org/10.3390/rs12203359>
- Szelachowska M., Godah W., Krynski J., (2022): *Contribution of GRACE satellite mission to the determination of orthometric/normal heights corrected for their dynamics – A case study of Poland*, *Remote Sensing*, 14(17), (19 pp), DOI 10.3390/rs14174271.

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