# CURRICULUM VITAE

NAME: Jankowski, Piotr

**DATE:** August 1, 2024

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# **EDUCATION BEYOND HIGH SCHOOL:**

Ph.D., 1989, University of Washington

M.S., 1979, Poznań University of Economics and Business

# **POSITIONS HELD**

- 2003 present, Professor, San Diego State University (SDSU)
- 2019 present, Director, Joint Doctoral Program in Geography, SDSU & Univ. of CA, Santa Barbara
- 2013 2020, Professor and Chair, Department of Geography, SDSU
- 2003 present, Professor and Co-director, Center for Earth Systems Analysis Research, SDSU
- 2003 present, Coordinator of GIS Certificate Program, SDSU
- 2001 2002, Professor, Institute for Geoinformatics, University of Muenster, Germany
- 2000 2001 Professor and Interim Chair, Department of Geography, University of Idaho
- 1995 2000, Associate Professor, Department of Geography, University of Idaho
- 1989 1995, Assistant Professor, Department of Geography, University of Idaho
- 1985 89, Consultant, Center for Social Studies, Computation and Research, University of Washington
- 1979 84, Teaching Associate, Institute for Economics and Management of Tourism, Poznan, Poland

## VISITING APPOINTMENTS

- 2019 Fulbright Scholar, Adam Mickiewicz University, Poznan, Poland
- 2015 Visiting Professor, Carinthia University of Applied Sciences, Austria
- 2013 Visiting Professor, Federal University of Minas Gerais, Brazil
- 2012 Visiting Professor, University of Cagliari, Italy
- 2011 Visiting Professor, University of Otago, New Zealand
- 2009 Visiting Professor, University College Dublin, Ireland
- 2008 Visiting Professor, Adam Mickiewicz University, Poznan, Poland
- 2000 Visiting Scholar, Fraunhofer Institute, Sankt Augustin, Germany
- 1999 Visiting Scholar, Fraunhofer Institute, Sankt Augustin, Germany

# **PUBLICATIONS:** (H-index = 48, based on Google Scholar)

#### **Refereed Publications:**

- Mortaheb, R., Jankowski, P.; Murray, A.; Bastian. 2024. M. Form-Based Code Revisited: Leveraging Geographic Information Systems (GIS) and Spatial Optimization to Chart Commuting Efficiency Landscapes under Alternative City Planning Frameworks. *Land*, 13, 1190. https://doi.org/10.3390/land13081190
- Jankowski, P.; Şalap-Ayça, S.; Najwer, A.; Ligmann-Zielińska, A.; Zwoliński, Z. 2024. Effectiveness of Adjacent and Bivariate Maps in Communicating Global Sensitivity Analysis for Geodiversity Assessment. *ISPRS Int. J. Geo-Inf, 13*, 199. <u>https://doi.org/10.3390/ijgi13060199</u>
- Młodkowski, M and Jankowski, P. 2024. Usability of PPGIS tools exemplified by geodiscussion a tool for public participation in shaping public space" *Open Geosciences*, vol. 16, no. 1, 2024, pp. 20220668. <u>https://doi.org/10.1515/geo-2022-0668</u>
- Ligmann-Zielinska, A., Jankowski, P., Najwer, A., & Zwoliński, Z. 2024. A streamlined approach to uncertainty and sensitivity analysis for models with spatial outputs with an example from geodiversity assessment. *International Journal of Geographical Information Science*, 1–24. https://doi.org/10.1080/13658816.2024.2348065

- Du, J., Ye, X., Jankowski, P., Sanchez, T., & Mai, G. 2023. Artificial intelligence enabled participatory planning: a review, *International Journal of Urban Sciences*, 28:2, 183-210, <u>https://doi.org/10.1080/12265934.2023.2262427</u>
- Jankowski, P. Ligmann-Zielinska, A., Najwer, A. Zwolinski, Z. 2023. An Integrated Uncertainty and Sensitivity Analysis in Spatial Multicriteria Models. *Proceedings of the 12<sup>th</sup> International Conference* on Geographic Information Science. Roger Beecham and Jed A. Long and Dianna Smith and Qunshan Zhao and Sarah Wise (Eds.), LIPCS Vol. 277, <u>https://doi.org/10.4230/LIPIcs.GIScience.2023.42</u>
- Mortaheb, R., Jankowski P. 2022. Smart city re-imagined: City planning and GeoAI in the age of big data. Journal of Urban Management. <u>https://doi.org/10.1016/j.jum.2022.08.001</u>
- Najwer, A., Jankowski, P., Niesterowicz, J. Zwolinski, Z. 2022. Geodiversity assessment with global and local spatial multicriteria analysis. International Journal of Applied Earth Observation and Geoinformation. 107(2022) <u>https://doi.org/10.1016/j.jag.2021.102665</u>
- An, L.; Bohnett, E.; Battle, C.; Dai, J.; Lewison, R.; Jankowski, P.; Carter, N.; Ghimire, D.; Dhakal, M.; Karki, J.; and Zvoleff, A.Sex-Specific Habitat Suitability Modeling for Panthera tigris in Chitwan National Park, Nepal: Broader Conservation Implications. Sustainability 2021, 13, 13885. <u>https://doi.org/10.3390/su132413885</u>
- Gordon, S.N., Murphy, P.J., Galo, J.A., Huber, P., Hollander, A., Edwards, A., Jankowski, P. 2021. People, Projects, Organizations, and Products: Designing a Knowledge-Graph to Support Multi-Stakeholder Environmental Planning and Design. ISPRS International Journal of Geo-Information., 10(12), 823; <u>https://doi.org/10.3390/ijgi10120823</u>
- Şalap, S-A., Jankowski, P., Clarke, & Nara., A. 2021. Is less more? Experimenting with visual stacking of coincident maps for spatial global sensitivity analysis in urban land-use change modeling. Environmental Modelling and Software 145 (2021) 105181; https://doi.org/10.1016/j.envsoft.2021.105181
- Erlacher, C.; Anders, K.-H.; Jankowski, P.; Paulus, G.; Blaschke, T. 2021. A Framework for Cloud-Based Spatially-Explicit Uncertainty and Sensitivity Analysis in Spatial Multi-Criteria Models. ISPRS Int. J. Geo-Inf. 10(4), 244; <u>https://doi.org/10.3390/ijgi10040244</u>
- Jankowski, P., Forss, K., Czepkiewicz, M., Saarikoski, H., Kahila, M. 2021. Assessing impacts of PPGIS on urban land use planning: evidence from Finland and Poland. European Planning Studies. <u>https://doi.org/10.1080/09654313.2021.1882393</u>
- Stoler, J., Ter-Ghazaryan, D., Sheskin, I., Pearson, A.L., Schnakenberg, G., Cagalanan, D., Swanson, K., Jankowski, P. 2021. What's in a Name? Undergraduate Student Perceptions of Geography, Environment, and Sustainability Key Words and Program Names, Annals of the American Association of Geographers, 111:2, 317-342, DOI: 10.1080/24694452.2020.1766412
- Przewoźna, P., Jankowski, P., Stach. A. 2020. Solid waste management in urban space: the volumeweight relationship[J]. AIMS Environmental Science, 7(6): 575-588. doi: 10.3934/environsci.2020036
- Jankowski, P., Najwer, A., Zwolinski, Z., Niesterowicz, J. 2020. Geodiversity assessment with crowdsourced data and spatial multicriteria analysis. *ISPRS Int. J. Geo-Inf.*, 9(12), 716; <u>https://doi.org/10.3390/ijgi9120716</u>
- Malczewski, J., & Jankowski, P. 2020. Emerging trends and research frontiers in spatial multicriteria analysis. *International Journal of Geographical Information Science*, 34(7): 1257-1282 <u>https://doi.org/10.1080/13658816.2020.1712403</u>, DOI: 10.1080/13658816.2020.1712403, IF: 3.545

- Ligmann-Zielinska, A., Siebers P-O., Maglioccia, N., Parker, D., Grimm, V., Du, E, J., Cenek, M., Radchuk, V., Arbab, N., Li, S., Berger, U., Paudel, R., Robinson, D.T., Jankowski, P., An, L., & Ye, X. 2020. "One size does not fit all": a roadmap of purpose driven mixed-method pathways for sensitivity analysis of agent-based models. *Journal of Artificial Societies and Social Simulation*. 23(1), 6. <u>http://jasss.soc.surrey.ac.uk/23/1/6.html</u> DOI: 10.18564/jasss.4201, IF: 2.194
- Seidl, D., Jankowski, P., Clarke, K.C., & Nara A. 2019. Please enter your home location: Geoprivacy attitudes and personal location Masking strategies of internet users. *Annals of the American Association of Geographers*. <u>https://doi.org/10.1080/24694452.2019.1654843</u>
- Cocco, C., Jankowski, P., & Campagna, M. 2019. An analytic approach to understanding process dynamics in gedesign studies. *Sustainability*. 11(4999). doi:10.3390/su11184999
- Erlacher, C., Desch, A., Anders, K.-H., Jankowski, P., & Paulus, G. 2019. Parallel and distributed computing for large raster-based spatial multicriteria decision analysis problems: a computational performance comparison. *GI\_Forum 2019*. 7(1): 69-8. doi: 10.1553/giscience2019\_01\_s69
- 22. Yang, J-U., Tsou, M-H., Janowicz, K., Clarke, K.C., & Jankowski, P. 2019. Reshaping the urban hierarchy: patterns of information diffusion on social media. *Geo-Spatial Information Science*, <u>https://doi.org/10.1080/10095020.2019.1641970</u>
- He, J., Christakos, G., & Jankowski, P. 2019. Comparative performance of the LUR, ANN, and BME techniques in the multiscale spatiotemporal mapping of PM2.5 concentrations in north China. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*. 12(6): 1734-1747, doi: 10.1109/JSTARS.2019.2913380, IF: 3.392
- He, J., Christakos, G., Wu, J., Jankowski, P., Langousis, A., Wang, Y., Yin, W., & Zhang, W. 2019. Probabilistic logic analysis of the highly heterogeneous spatiotemporal HFRS incidence distribution in Heilongjiang Province (China) during 2005-2013. *PLoS Neglected Tropical Diseases*. <u>https://doi.org/10.1371/journal.pntd.0007091</u>, IF: 4.367
- Seidl, D.E., Jankowski, P., & Nara, A. 2018. An empirical test of household identification risk in geomasked maps. *Cartography and Geographic Information Science*. <u>https://doi.org/10.1080/15230406.2018.1544932</u>, IF: 2.224
- Keenan, B.P., & Jankowski, P. 2019. Spatial decision support systems: three decades on. *Decision Support Systems*. Vol. 116: 64-76. <u>https://doi.org/10.1016/j.dss.2018.10.010</u>, IF: 4.574
- Haklay, M., Jankowski, P., & Zwolinski, Z. 2018. Selected modern methods and tools for public participation in urban planning – a review. *Quaestiones Geographicae*. 37(3): 127-149. <u>https://content.sciendo.com/view/journals/quageo/37/3/article-p127.xml</u>
- Czepkiewicz, M., Jankowski, P., & Zwolinski, Z. 2018. Geo-questionnaire: a spatially-explicit method for eliciting public preferences, behavioral patterns, and local knowledge – an overview. *Quaestiones Geographicae*. 37(3): 177-190. <u>https://content.sciendo.com/view/journals/quageo/37/3/article-</u> p177.xml
- Bakowska, E., Brodka, C., & Jankowski, P. 2018. Legal and organizational framework for the use of Geoweb methods for public participation in spatial planning in Poland: experiences, opinions, and challenges. *Quaestiones Geographicae*. 37(3): 164-175. https://content.sciendo.com/view/journals/quageo/37/3/article-p163.xml
- Şalap, S-A., Jankowski, P., & Nara., A. 2018. Analysis of the Influence of Parameter and Scale Uncertainties on a Local Multi-Criteria Land Use Evaluation Model. *Stochastic Environmental Research and Risk Assessment*, 32(9): 2699-2719 DOI: 10.1007/s00477-018-1535-z, IF: 2.668

- Şalap, S-A., Jankowski, P., Clarke, K., Kyriakidis, P., & Nara., A. 2018. A meta-modeling approach for spatio-temporal uncertainty and sensitivity analysis: an application for a cellular automata-based Urban growth and land-use change model. *International Journal of Geographical Information Science*, 32(4):637-662. <u>https://doi.org/10.1080/13658816.2017.1406944</u>, IF: 2.065
- Seidl, D., Jankowski, P., & Clarke, K. 2018. Privacy and false identification risks in geomasking techniques. *Geographical Analysis*, 50(3): 280-297. <u>https://doi.org/10.1111/gean.12144</u>, IF: 1.905
- Erlacher, C., Jankowski, P., Blaschke, T., Paulus, G., & Anders, K-H. 2017. A GPU-based parallelization approach to conduct spatially-explicit uncertainty and sensitivity analysis in the application domain of landscape assessment. In: A., Car, J., Strobl, T., Jekel, G., Griesebner (Eds.). *GI\_Forum Journal 2017* (1): 44-58. DOI: 10.1553/giscience2017\_01\_s44
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- Czepkiewicz, M., Jankowski, P., & Mlodkowski, M. 2017. Geo-questionnaires in urban planning: recruitment methods, participant engagement, and data quality. *Cartography and Geographic Information Science*, 44(6): 551-567, <u>http://dx.doi.org/10.1080/15230406.2016.1230520</u> IF: 2.224
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- Bakowska, E., Kaczmarek, T., Jankowski, P., Zwolinski, Z., Mikula, L., Czepkiewicz, M., & Brodka, C. 2016. Geo-questionnaire in urban planning – preliminary results of experimental application in Poland. *Rozwoj Regionalny i Polityka Regionalna*, 35: 37-54.
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- Iwaniak, A., Kaczmarek, I., Strzelecki, M., Lukowicz, M., & Jankowski, P. 2016. Enriching and improving the quality of linked data with GIS. *Open Geosciences*, 8(1): 323-336. <u>https://doi.org/10.1515/geo-2016-0020</u>, IF: 0.898
- Andrienko, G., Andrienko, N., Fuchs.G, & Jankowski, P. 2016. Scalable and privacy-respectful interactive discovery of place semantics from human mobility traces. *Information Visualization*, 15(2): 117-153. <u>http://dx.doi.org/10.1177/1473871615581216</u>, IF: 0.639
- Salap-Ayca, S., & Jankowski, P. 2016. Integrating local multi-criteria evaluation with spatially explicit uncertainty-sensitivity analysis. *Spatial Cognition & Computation*, 16(2): 106-132. <u>http://dx.doi.org/10.1080/13875868.2015.1137578</u>, IF: 0.760
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- Jankowski, P., Czepkiewicz, M., Mlodkowski, M., & Zwolinski, Z. 2016. Geo-questionnaire: a method and tool for public preference elicitation in land use planning. *Transactions in GIS*, 20(6): 903-924. <u>http://dx.doi.org/10.1111/tgis.12191</u>, IF: 2.252
- Swobodzinski, M., & Jankowski, P. 2015. The role of location and cost in individual choices of transportation improvement projects. *Professional Geographer*, 67(4): 527-540. <u>http://dx.doi.org/10.1080/00330124.2015.1069123</u>, IF: 1.624
- Swobodzinski, M., & Jankowski, P. 2015. Evaluating user interaction with a web-based group decision support system: A comparison between two clustering methods. *Decision Support Systems*, 77: 148-157. <u>http://dx.doi.org/10.1016/j.dss.2015.07.001</u>, IF: 3.271
- Seidl, D.E, Paulus, G., Jankowski, P., & Regenfelder, M. 2015. Spatial obfuscation methods for privacy protection of household-level data. *Applied Geography*, 63: 253-263. <u>http://doi.org/10.1016/j.apgeog.2015.07.001</u>, IF: 3.162
- Czepkiewicz, M., & Jankowski, P. 2015. Spatial analyses in research on quality of life in cities (in Polish). *Ruch Prawniczy, Ekonomiczny i Socjologiczny*, 77(1): 101-117. <u>http://dx.doi.org/10.14746/rpeis.2015.77.1.6</u>
- Feizizadeh, B., Roodposhti, M., Jankowski, P., & Blaschke, T. 2014. A GIS-based extended fuzzy multicriteria evaluation for landslide susceptibility mapping. *Computers & Geosciences*, 73(2014): 208-221. <u>http://doi.org/10.1016/j.cageo.2014.08.001</u>, IF: 2.540
- 50. Jankowski, P., & Brown, B. 2014. Health care accessibility modeling: Effects of change in spatial representation of demand for primary health care services. *Quaestiones Geographicae*, 33(3): 39-53. https://doi.org/10.2478/quageo-2013-0028, IF: 0.780
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- Ligmann-Zielinska, A., & Jankowski, P. 2014. Spatially-explicit integrated uncertainty and sensitivity analysis of criteria weights in multicriteria land suitability evaluation. *Environmental Modelling & Software*, 57: 235-247. <u>http://doi.org/10.1016/j.envsoft.2014.03.007</u>, IF: 4.528
- Jankowski, P., Fraley, G., & Pebesma, E. 2014. An exploratory approach to spatial decision support. *Computers Environment and Urban Systems*, 45 (2014): 101-113. <u>http://doi.org/10.1016/j.compenvurbsys.2014.02.008</u>, IF: 2.847
- Feizizadeh, B., Jankowski, P., & Blaschke, T. 2014. A GIS based spatially-explicit sensitivity and uncertainty analysis approach for multi-criteria decision analysis. *Computers & Geosciences*, 64(3): 81-95. <u>http://doi.org/10.1016/j.cageo.2013.11.009</u>, IF: 2.540
- 55. Andrienko, G., Andrienko, N., Bosch., H., Ertl, T., Fuchs, G., Jankowski, P., & Thom, D. 2013. Discovering thematic patterns in geo-referenced tweets through space-time visual analytics. *Computing in Science & Engineering*, 15(3): 72-82. <u>http://doi.ieeecomputersociety.org/10.1109/MCSE.2013.70</u>, IF: 1.361
- 56. Hisakawa, N., Jankowski, P., & Paulus, G. 2013. Mapping the porosity of international border to pedestrian traffic: a comparative data classification approach to a study of the border region in Austria, Italy, and Slovenia. *Cartography and Geographic Information Science*, 40(1): 18-27. http://dx.doi.org/10.1080/15230406.2013.762141, IF: 2.224

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- Weeks, J., Stoler, J., & Jankowski, P. 2011. Who's crossing the border: new data on undocumented immigrants to the United States. *Population, Space and Place*, 17(1): 1-26. <u>http://dx.doi.org/10.1002/psp.563</u>, IF: 1.895
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- Ligmann-Zielinska, A., & Jankowski, P. 2010. Exploring normative scenarios of land use development decisions with an agent-based simulation laboratory. *Computers, Environment and Urban Systems*, 34(5): 409-423. <u>http://doi.org/10.1016/j.compenvurbsys.2010.05.005</u>, IF: 2.847
- Gorsevski P.V, & Jankowski, P. 2010. An optimized solution of multi-criteria evaluation analysis of landslide susceptibility using fuzzy sets and Kalman filter. *Computers and Geosciences*, 36: 1005-1020. <u>http://doi.org/10.1016/j.cageo.2010.03.001</u>, IF: 2.540
- 62. Shahumyan, H., & Jankowski, P. 2010. Integration of the MOLAND model with GeoChoicePerspectives spatial decision support software for scenario evaluation. *PROCEEDINGS OF AGILE 2010 The 13th AGILE International Conference on Geographic Information Science*, Editors: Marco Painho, Maribel Yasmina Santos and Hardy Pundt, ISBN: 978-989-20-1953-6
- 63. **Jankowski, P.** 2009. Towards participatory geographic information systems for community-based environmental decision making. *Journal of Environmental Management*, 90(6): 1966-1971. http://dx.doi.org/10.1016/j.jenvman.2007.08.028, IF: 4.049
- Andrienko, G., Andrienko, N., Jankowski, P., & Kraak, M-J. 2009. Special issue: geospatial visual analytics. *Cartography and Geographical Information Science*, 36(3): 223-224. <u>http://dx.doi.org/10.1559/152304009788988323</u>, IF: 2.224
- 65. Ligmann-Zielinska, A., & Jankowski, P. 2008. A framework for sensitivity analysis in spatial multiple criteria evaluation. *Lecture Notes in Computer Science* No. 5266, Eds. T.J., Cova, H.J. Miller, K. Beard, A.U. Frank, Proceedings of 5th International Conference, GIScience 2002, Park City, Utah, USA, September 2008, Springer Verlag, Berlin-Heidelberg, p.217-233. <u>http://dx.doi.org/10.1007/978-3-540-87473-7\_14</u>
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- 73. Andrienko, G., Andrienko, N., Jankowski, P., Keim, D., Kraak, M-J., MacEachren, A., & S. Wrobel. 2007. Geovisual analytics for spatial decision support: setting the research agenda. *International Journal of Geographical Information Systems*, 21(8): 839-857. <u>http://dx.doi.org/10.1080/13658810701349011</u>, IF: 2.065
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- Ligmann-Zielinska, A., Liu, W., Kramer, D. B., Cheruvelil, K., Soranno, P. A., Jankowski, P., & Salap, S. 2014. *Multiscale spatial sensitivity analysis for agent-based modelling of coupled landscape and aquatic systems*. Paper presented at the 7th International Congress on Environmental Modelling and Software (iEMSs), June 15-19, 2014, San Diego, California, USA.
- Fuchs, G., Adrienko, G., Adrienko, N., & Jankowski, P. 2013. Extracting Personal Behavioral Patterns from Geo-Referenced Tweets. Paper presented at the 16th AGILE Conference on Geographic Information Science, 14 – 17 May 2013, Leuven, Belgium.
- 17. Spatially-explicit uncertainty and sensitivity analysis of criteria weights in land suitability analysis. Association of American Geographers Annual Meeting, Los Angeles, April 13-18, 2013.
- 18. Spatial uncertainty and sensitivity analysis for GIS multicriteria-based landslide susceptibility mapping. Association of American Geographers Annual Meeting, Los Angeles, April 13-18, 2013
- 19. Spatial uncertainty and sensitivity analysis for multiple criteria land suitability evaluation. Paper presented at the 7<sup>th</sup> International GIScience Conference, Columbus, Ohio, September 18-21, 2012.
- 20. *Exploring city structure from georeferened photos using graph centrality measures*. Paper presented at the European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases, Athens September 5-9, 2011.
- Participatory modeling methodology: tightening the GeoDesign loop. paper presented at the 2<sup>nd</sup> ISPRS workshop on Pervasive Web Mapping, Geoprocessing and Services, Vancouver, BC, August 10-12, 2011.
- 22. *Geocollaboration with discourse maps.* Paper presented at the 2008 Annual Meeting of the Association of American Geographers, Boston, MA April 15-19, 2008.

- 23. A framework for sensitivity analysis in multiple criteria spatial decision making. Paper presented at the 2007 Annual Meeting of the Association of American Geographers, San Francisco, CA April 17-21, 2007.
- 24. A rough set theory-based approach to handling vagueness and uncertainty in spatial data classification. Paper presented at the NATO Advanced Workshop on Fuzziness and Uncertainty in GIS for Environmental Security and Protection, Kiev, Ukraine June 28 – July 1, 2006.
- 25. Towards participatory geographic information systems for community planning and environmental decision making. Paper presented at the 3<sup>rd</sup> International conference on "Economic Globalization and Environmental Policy" Warsaw School of Economics, May 25-26, 2006.
- Participatory planning and decision making using geographic information technology. Paper presented at the 10<sup>th</sup> European Community Geographic Information & GIS Workshop, Warsaw, Poland, June 23-25, 2004.
- 27. *Design considerations for participatory GIS*. Paper presented at the 2<sup>nd</sup> Annual PPGIS Conference, Portland, Oregon, July 20-22, 2003.
- Evaluation of models and software tools for mediated participation in local planning and decision making. Paper presented at the 2<sup>nd</sup> Annual PPGIS Conference, Portland, Oregon, July 20-22, 2003.
- An experimental study of geographic information technology use in collaborative water resource planning: preliminary results. Paper presented at the 2<sup>nd</sup> GIScience Conference, Boulder, Colorado, September 25-28. September 2002.
- 30. *Multi-criteria decision analysis in interoperable geoprocessing*. Presentation (by I.S. and A.W.) at OpenGIS Technical Committee meeting, London, UK, 2002.
- 31. Enhanced adaptive structuration theory: a theoretical framework for investigating the use of spatial information technologies in participatory decision making situations. Paper presented at the 5<sup>th</sup> AGILE Conference on Geographic Information Science, Mallorca, Spain, April, 2002.
- 32. Towards a framework for research on geographic information-supported participatory decision making. Paper presented at the ESF-NSF Workshop on Access to Geographic Information and Participatory Approaches Using Geographic Information, Spoleto, 6-8 December 2001.
- Dynamic maps as spatial decision support tools. Paper presented at the 97<sup>th</sup> Annual Meeting of the Association of American Geographers in New York City, March 2001.
- Data and technology: tools and access panelist at the workshop on Transportation Decision Making: Place, Community and the Quality of Life, organized by the National Research Council, January 28-29, 2001, Irvine.
- 35. *Research on participatory geographic information systems use: social-behavioral data analysis strategies.* Paper presented at the 1<sup>st</sup> International Conference GIScience 2000 in Savannah, Georgia, 2000.
- 36. *GIS and multicriteria decision making*. Paper presented at the 95<sup>th</sup> Annual Meeting of the Association of American Geographers in Honolulu, 1999.
- 37. A comparison of confirmatory and exploratory data analysis for studying group decision making with GIS. Paper presented at the 93<sup>rd</sup> Annual Meeting of the Association of American Geographers in Boston, 1997.
- 38. Use of multiple criteria decision tools in GIS-supported collaborative decision making. Paper presented at the Annual Meeting of the Regional Science Association International, Buffalo, 1997.

- 39. Spatial Choice A spatial decision support tool for collaborative spatial decision making. Paper presented at the 92<sup>nd</sup> Annual Meeting of the Association of American Geographers in Charlotte, 1996.
- 40. Spatial decision support systems for groups. Paper presented at the 91st Annual Meeting of the Association of American Geographers in Chicago, 1995.
- Integrating GIS and multiple criteria decision making methods. Paper presented at the International Geographical Union Regional Conference "Environment and Quality of Life in Central Europe," IGU, Prague, Czech Republic, 1994.
- 42. *Integration of MCDM and GIS*. Paper presented at the 90th Annual Meeting of the Association of American Geographers, San Francisco, California, 1994.
- 43. Integrated geographic information system for modeling nonpoint source pollution events. Paper presented at the Fourth Annual Conference on AI, Simulation, and Planning in High Autonomy Systems, IEEE Computer Society Press, Tucson, Arizona, 1993.
- 44. *Modeling languages for spatial decision support systems*. Paper presented at the 88th Annual Meeting of the Association of American Geographers, San Diego, 1992.
- 45. *GIS modeling of agricultural pollution critical areas in lake watershed.* Paper presented at the International Symposium on Environmental Change and GIS, Asahikawa, Japan, 1991.
- 46. *Cartographic modeling of non-point source pollution critical areas for rivers and lakes.* Paper presented at the Eurocarto IX, Warsaw, Poland, 1991.
- 47. *Identification of nonpoint source pollution critical areas for the Coeur d'Alene lake.* Paper presented at the Nonpoint Source Conference, Tacoma, Washington, 1991.
- 48. A structured modeling approach to model management in spatial decision support systems. Paper presented at the annual convention of the AAG, Miami, 1991.
- 49. A model management approach to modeling and simulation of natural systems. Paper presented at the 4th International Symposium on Spatial Data Handling, Zurich, Switzerland, 1990.
- 50. A model management approach to analytical modeling in geoprocessing systems. Paper presented at the Specialist Meeting on Spatial Decision Support Systems, National Center for Geographic Information Analysis, Santa Barbara, March 1990.
- 51. Suitability of knowledge representation for GIS. Paper presented at the First International Geographic Information Systems Symposium, Washington, D.C., November 1987.
- 52. Design consideration for MaPKBS Map Projection Knowledge Based System. Paper presented in cooperation with Tim Nyerges at the AAG Annual Meeting, Portland, Oregon, April 1987.
- 53. *Multicriteria analysis of resource development projects*. Paper presented at the AAG Annual Meeting, Minneapolis, Minnesota, May 1986.
- 54. *Economic theory and environmental issues in Poland*. Paper presented at the Western Slavic Association Conference, Portland, Oregon, March 1986.
- 55. Methodological problems in environmental economics. Paper presented at the First International Seminar of Young Scholars on The Present State of Methodology in Economics in Blazejewko/Poland, September 1983.

- 56. *The development tendencies of services supply in suburban area*. Paper presented at the 4th European Congress on Leisure, Poznan/Poland, June 1980.
- 57. A *method of the optimal location of service outlets*. Paper presented at the conference on Development of Tourist-Oriented Services in Poland, Krakow, Poland, April 1980.

## INVITED KEYNOTE ADDRESSES, PRESENTATIONS, AND COLLOQUIA:

- Symposium on Data-Intensive Geospatial Understanding in the Era of AI and CyberGIS: Human-Centered Spatial Decision Support Systems Panel Session. AAG 2022 Conference (online). Invited panelist.
- "Geoprivacy Attitudes and Personal Location Masking Strategies of Internet Users in California", invited opening lecture in the 2019/20 Center for Spatial Business Speaker Series, University of Redlands, October 9, 2019.
- "Do PPGIS Data Matter in Planning Decisions", keynote presented at the 2<sup>nd</sup> conference of International Society for Participatory Mapping, Espoo, Finland, June 17-19, 2019.
- "Spatial Decision Support Systems: Past, Present, Future", keynote presented at the 8<sup>th</sup> Polish national conference "GIS in Science", Wroclaw, Poland, June 10-12, 2019.
- "A Framework for Spatiotemporal Uncertainty and Sensitivity Analysis of Biogeographical Models", keynote at 7<sup>th</sup> BioGIS 2019 conference, Adam Mickiewicz University, Poznan, Poland.
- "Lessons from multiple participatory mapping studies conducted in Poland", keynote at Participatory Mapping/GIS 2017 conference, San Luis Obispo, CA, August 1, 2017.
- "Modern Methods and Tools for Public Participation in Urban Planning 2017", conference opening keynote, Adam Mickiewicz University, Poznan-Obrzycko, June 22-24, 2017.
- "Spatial Decision Support Systems", invited lecture at the Institute of Geographic Sciences and Natural Resource Research, Chinese Academy of Sciences, Beijing, China, May 19, 2017.
- "Uncertainty and Sensitivity Analysis in Spatial Models", invited lecture at Zhejiang University, Hangzhou, China, May 17, 2017.
- "Sensitivity Analysis for Spatiotemporal Models", invited lecture at University of California Santa Barbara, February 23. 2017.
- "Spatial Decision Support Systems: 25 years on", an invited talk at the Carinthia University of Applied Sciences, Villach, Austria, June 8, 2016.
- "Geo-questionnaire: A Web-2 Method for Public Participation in Local Land Use Planning", invited talk at the Carinthia University of Applied Sciences, Villach, Austria, June 11, 2015.
- "Volunteered Geographic Information: Opportunities and Challenges for 21th Century Geospatial Data Infrastructures", invited presentation at the 7<sup>th</sup> Forum of Polish Geographers, Adam Mickiewicz University, Poznan, Poland, May 26-27, 2011.
- "Integrating a Multi-Objective Genetic Algorithm with Geographic Analysis and Online Visualization System: An Application to Hazard Management", invited presentation at the School of Information Science, University of Otago, April 1, 2011.
- "Participatory Modeling Methodology: Tightening the GeoWeb Design Loop, coauthored with Timothy Nyerges, invited presentation at the University of Otago, March 14, 2011.

- "Participatory Geospatial Information System Architectures", coauthored with Timothy Nyerges, invited presentation at the University of Otago, March 22, 2011.
- "Participatory Role-Play in Collaborative Decision Support, coauthored with Timothy Nyerges, invited presentation at the University of Otago, March 14, 2011.
- "Participatory Approaches to Social Learning and Decision Making", invited presentation at the symposium on Energy & Water Sustainability in Southern California, San Diego, Sep. 2010.
- "Discovering Landmark Preferences and Movement Patterns from Photo Postings", invited lecture at the Department of Geography, University of California Santa Barbara, April 2010.
- "Web-Based Participatory GIS for Public Involvement in Transportation Planning", invited lecture at the Urban Institute Ireland, University College Ireland, October 2009.
- "Participatory GIS and online support for analytic-deliberative decision making: Reflections on a field experiment", invited lecture at the National Centre for Geocomputation, Maynooth, Ireland, December 2009.
- "Spatial Patterns of Transboundary Migration: A view from the US-Mexico border", invited lecture presented at the Carinthian University of Applied Science, Villach, Austria, June 10, 2009.
- "Geographic Information Systems and Science: Challenges, Prospects and Applications", invitedlecture presented at the University of Economics, Poznan, Poland, June 23, 2009.
- "Transboundary Water Resource and Participatory Decision Making", a keynote address at the 1<sup>st</sup> Spokane River Forum. Spokane, WA, January 22-23, 2009.
- "Participatory GIS and On-line Decision Support: Reflections on a field experiment", invited presentation at the Department of Geography, Penn State University, January 20, 2009.
- "Designing Participatory Geographic Information Systems", World Universities Network Global GIS Academy, on-line lecture presented on 12/17/2007.
- "Spatial Patterns of Transboundary Migration: A view from the US Mexico Border. University of Idaho, 11/15/2007
- "Public Participation in Transportation Improvement Programming", San Diego Chapter of APA, San Diego 12/13/2007
- "Current Research Problems in GIScience", College of Geographical and Geological Sciences, University of Poznan, Poland, June 2007
- "Designing Collaborative Spatial Decision Support Systems", Urban Institute of Ireland, College University Dublin, Ireland, March 2007.
- "Spatial Decision Support Systems in Conjunctive Water Administration", University of Agricultural Sciences in Wroclaw, Poland, March 2005.
- "Participatory Planning and Decision Making Using Geographic Information Technology", lecture presented at the 7<sup>th</sup> GI & GIS Conference, Warsaw, June 2004.
- "How to Design an Effective Spatial Decision Support System for Collaborative Water Resource Planning", open lecture at San Diego State University, March 2003.
- "Landscapes of Poland", invited lecture to University of Idaho, October 1998.

"GIS for Every Day Problem Solving" presentation to Idaho tribal students, June 1998.

- "Challenges and Opportunities for Geographic Information Science", invited presentation at the College of Geography, the University of Poznan, Poland, April 1997.
- "Research Problems in Geographic Information Science", invited presentation at the Department of Geography, the Jagiellonian University, Cracow, Poland, May 1997.
- "Collaborative Spatial Decision Making" invited presentation to the faculty and students of the College of Natural Resources, June 1996.
- "Spatial Group Choice", invited presentation at the Idaho chapter of URISA meeting, Moscow, April 1996.
- "Multicriteria Decision Making Techniques for Environmental Risk Evaluation", invited presentation at the CRESP workshop, Seattle, February 1996.
- "GIS and Water Modeling Applications," three invited presentations at the Institute of Meteorology and Water Management, Poznan, Poland, June 1993.
- "Global Pollution Problems: The Case of Eastern Europe," invited presentation in the series of Borah sponsored seminars on the New World Order, University of Idaho, February 1991.
- "Environment and Economics in Eastern Europe," a public lecture in conjunction with National Geography Awareness Week at Lewis Clark State College, Lewiston, Idaho, November 1990.
- "GIS and Modeling," presentation to the College of Mines and Earth Resources Advisory Board, April 1990, Moscow.
- "Poland Yesterday, Today, and Tomorrow," guest speaker at the 1990 International Seminar Series, University of Idaho.

Speaker in the International Seminar Series, University of Idaho, 1989.

## **RESEARCH REPORTS:**

- Jankowski, P. 1998. Location-allocation modeling of demand for primary health care services in Idaho, Department of Geography, University of Idaho.
- Chang, K., Jankowski, P., Otawa, T. McGown, 1995. Ground Water Vulnerability Mapping. Idaho Water Resources Research Institute, University of Idaho.
- Jankowski, P. 1986. Report on the Map Projection Expert System Project, Department of Geography, University of Washington.
- Jankowski, P., and Block, Z. 1984. Multiple Criteria Evaluation Methods for Environmental Resources (in Polish), Institute of Economics and Management of Tourism, Poznan.
- Jankowski, P. 1982. Environmental Premises for the Development of Tourist Services in Suburban Areas (in Polish), Institute of Economics and Management of Tourism, Poznan.
- Jankowski, P., Goldyn, R., and Rozmiarek, G. 1980. Mathematical Modeling of Water Quality (in Polish), Institute for Environmental Protection, Poznan.

# **GRANTS AND CONTRACTS:**

#### **Research Grants:**

- CIVIC-PG Track B Walk to Healthy Foods: Modeling Community-Based Assets to Increase Healthy Food Access in Underserved Communities, 2022-23, Co-PI, funded by NSF 22-565 Civic Innovation Challenge, \$50,000.
  - Open Knowledge Network for Spatial Decision Support, 2019-20, senior research personnel, funded by the National Science Foundation Convergence Accelerator program, \$1,000,000
  - Conference: Agent-Based Modeling 2017: Agent-Based Models in Social, Human-Environment, and Life Sciences, Co-PI, funded by the NSF Division of Social Behavioral and Economic Research, \$94,996
  - Development of Advanced Computational and Geographic Visualization Methods for Geospatial and Temporal Strategic Risk Assessment of Crime, 2016-17, Co-PI, funded by the National Institute of Justice (NIJ) Graduate Research Fellowship in Science, Technology, Engineering and Mathematics \$50,000
  - An Experimental Study of Internet-Based Public Participation Geographic Information System in the Context of Spatial Planning, National Science Centre, Poland, 2013 – 2015, research collaborator, \$200,000
  - A Spatiotemporal Approach to Sensitivity Analysis in Human-Environment Systems Models, funded by NSF Geography and Spatial Sciences Program, 2013 2015, Co-PI, \$200,000
  - Border Migration Pattern Analysis from Remote Sensing Data, funded by the Department of Homeland Security through the National Center for Border Security and Immigration at the University of Arizona, 2009-2011, Co-PI, \$75,000
  - Target Mapping System for Spatial Data Mining and Visualization, Office of National Drug Control and Policy, 2007 – 2008, Senior Research Personnel, \$950,000
  - A Border Security Decision Support System Driven by Remotely Sensed Data Inputs, funded by NASA REASON program, 2003-2008, Co-PI, \$1.8 Million. National Aeronautics and Space Administration (NASA), Research, Education, and Application Solutions Network (REASON) NCC13-03007
  - An Internet Platform to Support Public Participation in Transportation Decision Making, funded by NSF Information Technology Research—Cross-foundation Program (medium size project), 2003-2007, PI, \$300,000.
  - CommonGrounds A Public Participation GIS Platform for Water Quality Data in San Diego Bay Watershed funded by the State of California, 2004 2006, Co-PI, \$400,000
  - Development of Cartographic Databases from Satellite Imagery Using Neural Networks, funded by the Polish Committee for Scientific Research, 2003-2005, Co-PI, \$76,000.
  - A study of Geographic Information Technology Use in Collaborative Water Resource Planning, funded by NSF joint programs in Geography and Regional Science and Risk and Management, 2001-2004, PI, \$150,000
  - Geographic and Numeric Digital Data Center. Funded by the National Institute of Libraries and Archives, 1999-2001, Co-PI, \$750,000
  - Decision Analysis Tools for Health Resource Allocation. Funded by the Idaho Department of Health and Welfare, 1998-99, PI, \$15,000

Idaho Virtual Geospatial Data Library and Training Center. Technology grant to develop a clearinghouse for

GIS data for Idaho. Funded by the Idaho State Board of Education, 1997-98, PI, \$89,000

- Collaborative Decision Making Under Distributed Space and Time Conditions. Research grant to design, implement and analyze a concept of participatory geographic decision support system on the Internet. Funded by the Idaho State Board of Education, 1996-97, PI, \$35,000
- Collaborative spatial decision making using geographic information technology and multicriteria models. Funded by NSF joint programs in Geography and Regional Science and Risk and Management, 1994-97, PI, \$65,000
- Collaborative spatial decision making using geographic information technology and multicriteria models. Analysis of experiment data. Funded by the NSF program Research Experience for Undergraduates. 1997, PI, \$5,000
- State-wide and sub-area transportation model feasibility study. Funded by the Idaho Department of Transportation, 1996, Co-PI, \$75,000
- Application of GIS for the assessment of ground water vulnerability. Funded by the National Research Council, 1995, PI, \$3,500
- Development and Verification of Ground Water Pollution Assessment Model. Funded by the Idaho Department of Water Resources, Division of Environmental Quality, 1993-94, Co-PI, \$70,000
- Workshop on applications of GIS technology for monitoring and management of environmental pollution. Funded by the Environmental Regional Center for Central and Eastern Europe, Budapest, Hungary, 1992. \$3,200
- Regional analysis of socioeconomic and cultural determinants of private sector development in Poland. Funded by UI Research Council, 1992-93, PI, \$2,500
- GIS-Modeling of Agricultural Pollution Critical Areas in Lake Watershed. Funded by the Idaho Mining and Mineral Resources Research Institute, 1991, PI, \$6,000
- Modeling the Economic Impacts of the Mining Industry on a Local Region. Funded by Idaho Mining and Mineral Resources Research Institute, 1990, PI, \$6,000
- Knowledge Representation Schemes for Knowledge-Based Graphic Information Systems. Funded by the Department of Geography, University of Washington, 1987, Co-PI, \$3,500
- Map Projection Expert System. Design and implementation of the Expert System prototype for the cartographic domain. Research founded from the Olympus Grant at the University of Washington, 1986, Co-PI, \$8,000
- The application of decision making techniques to regional planning. Funded the Institute of Economics and Management. Poland, 1983-84, PI.
- Economic and environmental conditions of the development of tourist-recreational infrastructure in suburban areas. Funded the Institute of Economics and Management, Poland, 1981-82, Co-PI.
- Design of economically optimal system of sewage purification plants on the Warta River. Funded the Institute of Environmental Protection, Poland, 1978-79, Co-PI.

## **Teaching Grants:**

Course Development: Design for watershed management using GIS and simulation models. Funded by the USDA Higher Education Challenge Grant, 2000-02, Co-PI, \$100,000

Interactive maps for learning through visual exploration and discovery. Funded by the Northwest Academic Computing Consortium, 2000-01, PI, \$5,000

Internet-based thematic mapping service. Funded by the University of Idaho, 1999-2000, PI, \$3,000

## **Equipment Grants:**

- An integrated spatial technology lab for GIS, Remote Sensing, and GPS. Funded by the Idaho State Board of Education, 2000-02, Co-PI, \$100,000
- Instrumentation and laboratory improvement in Geography at the University of Idaho. Funded by the NSF Instrumentation and Laboratory Improvement Program, 1992, PI, \$29,000

# **COURSES TAUGHT:**

At San Diego State University:

Introduction to GIS GIS Applications (graduate level course) Advanced GIS (graduate level course) Spatial Decision Support Methods (graduate level course) Geographic Information Systems for Business Decision Making (graduate level course) Seminar on Participatory GIS (graduate level course)

At the University of Muenster, Germany:

Introductory GIS Digital Cartography Advanced GIS (graduate level course) Spatial Decision Support Systems (graduate level course)

## At University of Idaho:

Spatial Graphics GIS Primer Understanding Systems Dynamics, Honors Program Course Decision Making Methods for Natural Resources Management (graduate level course) Geographic Information Systems Computer Mapping Modeling and Simulation with Geographic Information Systems (graduate level course)

## THESES & DISSERATIONS ADVISED:

Major Professor for 18 doctoral dissertations and 38 MS/MA theses, 1989 – 2023 External member on 4 dissertation committees abroad (Austria, Italy, Poland, Switzerland)

#### **SERVICE:**

- 2019 2021, 11th International GIScience Conference, General Chair
- 2020 University Graduate Fellowship Committee
- 2018 SDSU Enrollment Management Advisory Group

2017 - present, SDSU contact person for the Austrian Marshall Plan Foundation

2015 - present, Spatial Decision Support Consortium, member of the Board

2008 - present, member of Spatial Decision Support Consortium

2009 - 2010, Chair of Departmental Personnel Committee, Geography, SDSU

2006 – 2007, Chair of Departmental Policy Advisory Committee, Geography, SDSU

2006 - present, Member of California State University GIS Board

2003 - present, Coordinator of GIScience Certificate program at San Diego State University

2002-2005, Member of the sponsored projects committee for the University Consortium for Geographic Information Sciences (UCGIS)

1998, Founding Member of the University of Idaho Eco-Hydraulics research group

1997-2000, Evaluator of Phi Eta Sigma Honor Society UI candidates for the national scholarship

2001-2002, Member of Information Technology Resource Management Council, State of Idaho

1998-2001, Representative of Higher Education in Idaho at Idaho Geospatial Committee

#### **Editorial Board Member**

2022-present, Land, member of the editorial board

2016-present, Open Geosciences, Editor-in-Chief

2002-2021, Transactions in GIS, member of the editorial board

2003-2011, Journal of Geographical Systems, member of the editorial board

2007-2010, SAGE Encyclopedia of Geography, associate Editor for GIScience

1998-2003, Journal of Geographic Information and Decision Analysis, member of the editorial board

2002, UNESCO's Encyclopedia of Life Support Systems, editor of Spatial Decision Support Systems section

#### **Reviewer Responsibilities**

#### Journals:

- 2020. Professional Geographer
- 2017, Stochastic Environmental Modeling
- 2017, Cartographic Perspectives
- 2015- present, Questiones Geographicae
- 2010, Environmental Policy and Governance
- 2008, European Journal of Operations Research
- 2000- present, Computers, Environment and Urban Systems
- 2000- present, Computers & Geosciences
- 1996- present, Environment and Planning B:
- 1994- present, International Journal of Geographical Information Science
- 2000, Geographical and Environmental Modeling
- 1996- present, Transactions in GIS
- 1998-99, Journal of Environmental Management

1999, Geomatica and Cartographic Perspectives
1999- present, Journal of Geographical Systems
1997- 2003, Journal of Geographic Information and Decision Analysis
1992-93, Green Library Journal
1992-93, Photogrammetric Engineering and Remote Sensing
1995-99, Cartography and Geographic Information Systems

**Book Publishers:** 

2000, Oxford University Press 2001, Blackwell Publishers

Funding Agencies:

2012, Swiss National Science Agency 1994-present, NSF programs in Geography and Regional Science 1998-present, Social Sciences and Humanities Research Council of Canada 1998-01, NSF International Program for Western Europe 1993-97, NSF Instrumentation and Laboratory Improvement Program 1991, National Geographic Society

#### **OTHER PROFESSIONAL ACTIVITIES:**

## **Consulting:**

1996-99, Research Consultant, Idaho Department of Health and Welfare1988 (summer) The Georgette Group, Seattle, Washington1987 (summer) Seattle City Light, Seattle, Washington1979-80, Project Consultant, Institute for Environmental Protection, Poznan, Poland

## Membership in Professional and Scholarly Organizations:

1985-present, Association of American Geographers 1997-99, Regional Science Association International 1991-93, IEEE Computer Society

#### **Foreign Languages:**

Fluent in Polish and German Intermediate knowledge of Russian

#### **Professional Courses/Institutes Attended:**

- "Geoprocessing and Scripting with Python" course taught by ESRI, Redlands, CA, October 14-15, 2004
- "Programming MapObjects with Visual Basic" course taught by ESRI, Sun Valley, Idaho, October 8-10, 1998
- "Programming with Avenue" course taught by ESRI, Olympia, Washington, March 1-3 1995
- "Using GRID with ArcInfo" course taught by ESRI, Olympia, Washington, April 5-9, 1993
- "Knowledge-Based Modeling Design and Simulation" institute sponsored by the College of Engineering and Mines, University of Arizona, Tucson, May 23-27, 1988

"Design and Development of Expert Systems" institute sponsored by the Center for Educational Development and Research, University of Washington, Seattle, March-May 1986

## HONORS AND AWARDS:

Fulbright Scholar, Adam Mickiewicz University, Poznan, Poland, January - June 2019 San Diego State University Alumni Distinguished Faculty Award, 2018 https://www.youtube.com/watch?v=piEhDJ9LQnY&t=7s

William Evans Visiting Fellow, University of Otago, New Zealand, March-April, 2011 Science Foundation Ireland, Walton Visiting Professor, University College Dublin, 2009

Fulbright Senior Specialist, Adam Mickiewicz University, Poznan, Poland, December 2008 Fulbright Senior Specialist, Adam Mickiewicz University, Poznan, Poland, June 2006 Fulbright Senior Specialist, Westfaelische Wilhelms Universitaet, Muenster, Germany, April 2005

Fulbright Senior Specialist, Adam Mickiewicz University, Poznan, Poland, June 2004

Outstanding Faculty Award for Assisting Students with Disabilities, University of Idaho, 2000

Outstanding Faculty Award for Teaching Excellence in 1993-1994, University of Idaho

Edward L. Ullman Award for Distinguished Achievement as a Ph.D. student in Geography, Department of Geography, University of Washington, 1989

Dissertation Fellowship, University of Washington, 1988

Fulbright Scholarship, Polish-American Fulbright Commission, University of Washington, 1984-85

International Association of Students in Economics and Business Management (AIESEC) Scholarship, Preussag A.G., Hannover, West Germany, summer 1977

"Primus Inter Pares" - Award of Rector of the Poznan University of Economics for academic excellence, 1977