

Grants, honors, awards

- Ernst Mach Grant (Austrian Exchange Service, www.oead.at), March – June, 2009
- Diploma Master of Applied Mathematics with distinction, Lviv Polytechnic National University, November 2006
- “Golden Medal for Excellent Achievements in Studying”, Lviv City Administration, Ukraine, June 2001
- *First Prize Award* on Regional Mathematics Olympiad for Secondary School Pupils, Lviv, Ukraine, 2000
- Award for an excellent result in a game-contest "Kangaroo – mathematics for all", Lviv, Ukraine, 1999

Recent Conference Presentations

- Third International Scientific and Technical Conference “Informational Technique and Electromechanics”, Lugansk, Ukraine, 2005
- International Scientific and Practical Conference “Computer Systems for Production Processes”, Khmelnyck, Ukraine, 2005
- 12th International Conference on Automatics, Kharkiv, Ukraine, 2005
- the First International Conference of Young Scientists “Computer Science & Engineering (CSE-2006)”, Lviv, Ukraine, 2006
- International Conference on Environmental Observations, Modeling and Information Systems “ENVIROMIS-2006”, Tomsk, Russia, July 2006
- International Conference on Ecological Modelling in Yamaguchi (ICEM-2006), Yamaguchi, Japan, September 2006
- Student Scientific Conference of Lviv National Polytechnic University, Lviv, Ukraine, October 2005
- Information Technologies on Environmental Engineering (ITEE'2007), Oldenburg, Germany, March 29-30, 2007 (submitted materials)
- International Conference and Young Scientists School on Computational Information Technologies for Environmental Sciences: “CITES-2007”, Tomsk, Russia, 14-25 July, 2007
- 2nd International Workshop on Uncertainty in Greenhouse Gas Inventories, Laxenburg, Austria, 27-28 September, 2007
- 15th International Conference on Automatics, Odessa, Ukraine, 23-26 September 2008
- 3rd International Conference on Computer Science and Information Technologies "CSIT'2008", Lviv, Ukraine, 25-27 September 2008

Relevant Computer Experience

There is considerable experience of work with OS Windows-98, XP, 7, with Microsoft Office, Visual Studio, Matlab, Maple, MapInfo, ArcGIS.
Programming languages: C/C++, Delphi, Python, Java.

Recent/Current Research

Approaches to quantitative and qualitative assessment of greenhouse gas inventory uncertainty in Ukraine. Basic factors that affect uncertainty of the national

inventory results. Analysis of ways of inventory uncertainties reduction and study of influence of uncertainty on processes of (Post-)Kyoto Protocol implementation. Approaches to considering uncertainty of greenhouse gas inventory results. Problems of linking long-term climate change mitigation targets and short-term greenhouse gas emissions commitments. Usage of modern mathematical instruments, georeferenced databases and geoinformation systems for development of information and analytical subsystems for decision makers.

Foreign Languages

English (Certificate “Translator of English Technical Literature”), Russian (Fluent), Polish, German

Other Experience

Translation of scientific papers to/from English, Ukrainian, Polish

Hobbies

Skiing, swimming, hiking, bike touring.

Recent Publications

Reviewed papers

- Bun A., Gusti M., Kujii L. Geoinformation technologies for forming the cadastres of greenhouse gas emissions in energy sector, *Journal of the East-Ukrainian National University*, 2005, N 10, pp. 88-95.
- Bun A., Gusti M., Kujii L. Models and algorithms for forming the cadastres of greenhouse gas emissions in energy sector taking into account the uncertainties, *Scientific Papers of the Institute of Problems of Modeling in Power Engineering*, 2005, Issue 28, pp. 89-96.
- Kujii L., Gusti M., Bun A. Automatized system for the spatially distributed inventory of greenhouse gases, *Journal of the Khmelnytsk National University*, 2005, Vol. 2, part 1, N 4, pp. 22-27. (in Ukrainian)
- Bun R., Kujii L., Bun A. Computer system for greenhouse gases inventory and analysis: interpretation of inventory results for energy sector, *Information and Telecommunication Systems.- Bielsko-Biała: Polish Information Processing Society, Beskidy Group, College of Computer Science and Management*, 2005.- N. 8.- P. 16-31.
- Bun R., Gusti M., Kujii L., Tokar O., Tsybrivskyy Ya., Bun A. Spatial GHG inventory: Analysis analysis of uncertainty sources. A case study for Ukraine // *Water, Air, & Soil Pollution: Focus / Springer Netherlands.- 2007.- V. 7, N. 4-5.- P. 483-494.*
- Bun A., Jonas M. Information technology for verification of GHG emissions' compliance with emission commitments: comparison of Poland and Ukraine, *Internet in the Information Society: Application of the Information Technologies.* – Dąbrowa Górnicza: WSB, 2007. – p. 164-170.
- Bun A. Mathematical models for greenhouse gas inventory with the consideration of uncertainty, *Scientific Papers of the Institute of Problems of Modeling in Power Engineering*, 2005, Issue 41, pp. 151-158. (in

Ukrainian)

- Bun A., Jonas M. Information System for Verification of Compliance with Greenhouse Gas Emission Commitments: Ukraine and the European Union Member States, *Journal of East-Ukrainian National University*, Lugansk, 2007. – N.1. – P. 31-37. (in Ukrainian)
- Bun A. Methods for uncertainty evaluation and their application in information technologies of GHG inventory, *Journal of Lviv Polytechnic National University*, Lviv, Ukraine, 2008. – N.616. – P. 137-142. (in Ukrainian)
- Bun A., Lesiv M. Models and software for analysis of GHG emissions dynamics and verification of compliance with commitments, *Scientific Papers of the Institute of Problems of Modeling in Power Engineering*, 2008, Issue 45, pp. 172-180. (in Ukrainian)

Conference Proceedings

- Bun R., Gusti M., Kujii L., Bun A. Computer system for forming the cadastres of greenhouse emissions and estimation of inventory uncertainty in energy sector, *12th International Conference on Automatics*, Kharkiv, Ukraine, 2005, pp. 202-203.
- Bun A., Gusti M., Hamal K., Bun R. Analysis and minimization of uncertainty for results of multilevel greenhouse gases inventory, *International Conference on Environmental Observations, Modeling and Information Systems “ENVIROMIS-2006”*, Tomsk, Russia, 2006, p. 45.
- Bun R., Gusti M., Bun A., Hamal K. Multilevel model for greenhouse gas inventory and uncertainty analysis concerning the Kyoto Protocol implementation, *International Conference on Ecological Modelling (ICEM 2006)*, Yamaguchi, Japan, 2006, pp. 118-119.
- Bun A. Models of greenhouse gas inventory in Ukraine considering uncertainty / Computer Science & Engineering, Proceedings of the First International Conference of Young Scientists (CSE-2006). – Lviv: LPNU, 2006. – p. 85-87. (in Ukrainian)
- Bun R., Hamal Kh., Gusti M., Bun A., Savchyn O. Spatial inventory of greenhouse gases on regional level, In *J.M.Gómez, M.Sonnenschein, M.Müller, H.Welsch, C.Rautenstrauch (eds.) Information Technologies in Environmental Engineering “ITEE 2007”, Third International ICSC Symposium, Oldenburg, Germany, 2007*, Springer, 2007, pp. 271-280.
- Bun A., Jonas M. Russia and Ukraine as potential participants in greenhouse gas market: tendencies and prognosis, *Intern. Conf. and Young Scientists School on Computational Information Technologies for Environmental Sciences*, Tomsk, Russia, 2007, p. 50.
- Gusti M., Shpakivska I., Maryshevych O. Prognosis of a carbon budget and areals of forest ecosystems of the Ukrainian Carpathians under the climate change / Abstr. of the Intern. Confer. “Climate Changes and their Impact on Boreal and Temperature Forests”. – Ekaterinburg, Russia, 2006. – p.34.
- Bun A., Hamal Kh., Jonas M., Verification of compliance with GHG emission targets: Annex I countries, *2nd International Workshop on Uncertainty in Greenhouse Gas Inventories*, Laxenburg, Austria, 27-28

September 2007, pp. 21-26.

- Bun R., Hamal Kh., Gusti M., Bun A. Spatial GHG inventory on regional level: Accounting for uncertainty, *2nd International Workshop on Uncertainty in Greenhouse Gas Inventories*, Laxenburg, Austria, 27-28 September 2007, pp. 27-32.
- Bun A., Medykovskyy M., Mathematical models for greenhouse gas inventory considering uncertainty, *International Conference on Computer Science and Information Technologies (CSIT'2007)*, Lviv, Ukraine, 2007, pp. 109-111.
- Bun R., Hamal Kh., Gusti M., Bun A. Geoinformation technology and greenhouse gas spatial inventory: An analysis of structural changes in energy sector / *Zeszyty Naukowe : Wyższa Szkoła Informatyki i Zarządzania w Przemysłu.- Nr 1 : Materiały I Międzynarodowej Sesji Naukowej "Środowisko i Technologie Informatyczne a Zdrowie Człowieka".- 2007. – s. 14-34.*
- Bun A. Lesiv M. Information technologies for verification of compliance with GHG emissions commitments in consideration of uncertainty // *Automatics-2008: Proceedings of the 15th International Conference on Automatics. – Vol. 2. – Odessa, 2008. – p. 711-714. (in Ukrainian)*
- Bun A., Medykovskyy M. Multilevel modeling of greenhouse gas emissions: accounting for uncertainty // *Proc. of the III Intern. Conf. on Computer Science and Information Technologies "CSIT'2008".- Lviv, 2008.- P. 59-61.*

Interim Reports

- Bun A., Jonas M. Preparatory Signal Detection for the EU-15 Member States under EU Burden Sharing—Advanced Monitoring Including Uncertainty (1990–2003), Interim Report IR-06-053, International Institute for Applied Systems Analysis, Austria, 2006. – 36 p. – <http://www.iiasa.ac.at/Admin/PUB/Documents/IR-06-053.pdf>.
- Bun A., Jonas M. Preparatory Signal Detection for the EU-25 Member States under EU Burden Sharing—Advanced Monitoring Including Uncertainty (1990–2003), Interim Report IR-06-054, International Institute for Applied Systems Analysis, Austria, 2006. – 45 p. - <http://www.iiasa.ac.at/Admin/PUB/Documents/IR-06-054.pdf>.
- Bun A. The Kyoto Policy Process in Perspective: Long-term Concentration Targets versus Short-term Emission Commitments, Interim Report IR-08-034, International Institute for Applied Systems Analysis, Austria, 2008. – 20 p.

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