

Andrzej KOMOSA

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Born in Lublin on March 20, 1951. Secondary school completed with certificate in 1969. Graduated from Maria Curie Sklodowska University in 1974 (Chemistry at Math.-Phys.-Chem. Faculty). Master's thesis was concerned electrochemistry (polarography) of organic compounds.

Starting from 1974 he was employed in the Department of Radiochemistry and Application of Radioisotopes (at present Department of Radiochemistry and Colloid Chemistry). In 1983 obtained a doctor degree on the basis of PhD thesis concerned physicochemical properties of marcasite in connection with its flotation behaviour. After his 1.5-year postdoctoral staying in Reactor Centre of J. Stefan Institute in Ljubljana (Slovenia) working on development of radioanalytical methods for thorium, plutonium and americium separation and radioisotope determination using alpha and gamma spectrometry, he initiated his research on radioecology with particular consideration of plutonium isotopes, including beta-radiated Pu-241.

In 2004 he habilitated in the field of radioecology presenting thesis entitled: Physicochemical problems of plutonium determination and its behavior in the environment, including beta radiating Pu-241. Starting from 2004 he was employed as assistant professor in Department of Radiochemistry and Colloid Chemistry, and from 2012 as the associate professor.

Scientific interests:

His scientific interests are concerned analytical chemistry, radiochemistry, radioecology (especially concerning birds and small mammals), radioisotope and trace element migration in the environment (including heavy metals, natural radioisotopes, radon and artificial radioisotopes resulting from fallout), research and improvement and implementation of radioanalytical methods for determination of radionuclides in environmental samples, especially plutonium, radiocarbon, strontium-90, polonium-210 cesium-137 and others. A few important achievements:

Development of methods of determination of beta emitting Pu-241 in environmental samples, Determination of a vertical migration rate of plutonium isotopes in soil profiles and its availability for plants, Determination of the level of contamination of bird of prey bodies with heavy metals and radionuclides.

Up till now he published 84 scientific papers and present 90 posters, lectures or communications on scientific conferences. He is also a member of editorial boards of several journals.

Educational activity:

Teaching activities include the lectures from area of radiochemistry, nuclear chemistry, environmental monitoring and radioanalytical methods for students of chemistry, supplementary master's degree and extramural students. He promoted three Ph. D.

- Selected scientific publications:
- A.R. Byrne, **A. Komosa** Possibilities for determination of Am-241 in environmental samples by gamma counting, with and without radiochemistry. Sci. Total Environm. 130/131 (1993) 197-206.
- **A. Komosa** Study on Plutonium Isotopes Determination in Soils from the Region of Lublin (Poland). Sci. Total Environm. 188 (1996) 59-62.
- **A. Komosa** River Sediment Contamination with Plutonium Isotopes and Heavy Metals in Lublin Agglomeration (Poland). Polish J. Environmental Studies 8 (1999) 155-160.
- **A. Komosa** Migration of Plutonium Isotopes in Forest Soil Profiles in Lublin Region (Eastern Poland). J. Radioanal. Nuclear Chem. 240 (1999) 19-24.
- St. Chibowski, A. Komosa, M. Reszka, J. Solecki, J. Zygmunt Study on the horizontal transport of some radionuclides in the Wieprz river valley. J. Radioanal. Nuclear Chem. 246 (2000) 199-206.
- St. Chibowski, **A. Komosa** Radon concentration in basements of old town buildings in the Lublin region, Poland, J. Radioanal. Nuclear Chem. 247 (2001) 53-56.
- **A. Komosa**, St. Chibowski, J. Orzel Study on analytical procedure of plutonium separation from air aerosols collected on Petrianov filter. Nukleonika, 46 (2001) 151-155.
- St. Chibowski, **A. Komosa**, M. Reszka, J. Solecki, J. Zygmunt. Migration of radionuclides in soils and their accumulation in sediments of superficial waters. IAEA-TECDOC-1314. Radionuclide transport dynamics in freshwater resources, IAEA Vienna (2002) 105-126.
- **A. Komosa**, St. Chibowski. Determination of plutonium in ground-level air aerosols collected on Petrianov filters. J. Radioanal. Nuclear Chem. 251 (2002) 113-117.
- **A. Komosa** Study on geochemical association of plutonium in soil using sequential extraction procedure. J. Radioanal. Nuclear Chem. 252 (2002) 121-128.
- **A. Komosa** Study on the method of determining ²⁴¹Pu in environmental samples. LSC 2001, Advances in Liquid Scintillation Spectrometry. Siegurd Möbius, John Noakes, Franz Schönhofer (eds.) Radiocarbon, Tucson (2002) 363-371.
- **A. Komosa**, St. Chibowski, M. Klimek, St. Chałupnik Attempts on determination of radon exhalation rate from a waste-dump of Bogdanka coal mine with use of the Picorad detectors. Naturally occuring radioactive materials (NORM IV). Proceedings of an international conference held in Szczyrk, Poland, 17–21 May 2004, IAEA-TECDOC-1472, Vienna 2005, 548-554.
- **A. Komosa**, St. Chibowski, M. Reszka Natural radioisotope level differentiation in arable and noncultivated soils at Łęczna-Włodawa lake district. Naturally occuring radioactive materials (NORM IV). Proceedings of an international conference held in Szczyrk, Poland, 17–21 May 2004, IAEA-TECDOC-1472, Vienna 2005, 117-126
- **A. Komosa,** C. Gascó, A. Alvarez, N. Navarro, M. P. Anton, J. Orzeł, S. Michalik Intercomparison study on ²⁴¹Pu determination in sequentially extracted fractions of transuranics in samples arising from decommissioning activities. LSC 2005, Advances in Liquid Scintillation Spectrometry. S. Chałupnik, F. Schönhofer, J. Noakes (eds.) Radiocarbon, Tucson (2006) 285-296.
- **A. Komosa**, St. Chibowski, I. Kitowski, R. Krawczyk, J. Orzeł, M. Reszka Transfer of selected heavy metals and radionuclides from calcareous peat to saw sedge (*Cladium mariscus*) in eastern Poland. J. Radioanal. Nuclear Chem. 269 (2006) 195-201.
- **A. Komosa**, K. Ślepecka, I. Kitowski Research on radioisotope and heavy metal level in bones and eggshells of selected wetland birds from Lublin region. Ecological Chemistry and Engineering, vol. 8(14), 2007. Proceedings of 15th Central European Conference ECOpole '06, Duszniki Zdrój Hradec Kralove, 19-21 October 2006.

- **A. Komosa**, A. Dębczak, A. Kitowski Chernobyl Fallout in the Environment of South-Eastern Poland A Review. Global Journal of Environmental Research 1(2), (2007), 63-68.
- **A. Komosa**, I. Kitowski Elevated lead concentration in skeletons of diurnal birds of prey *Falconiformes* and owls *Strigiformes* from eastern Poland ecological approach and review. Ecological Chemistry and Engineering S, 15(3), 2008, 349-358.
- **A. Komosa**, K. Ślepecka Study on quenching effect for ¹⁴C and ³H measurement parameters using a Quantulus spectrometer. LSC 2008. Advances in Liquid Scintillation Spectrometry. Eikenberg J., Jäggi M., Beer H., Baehrle H. (eds.), Radiocarbon, Tucson, USA 2009, 161-172.
- **A. Komosa**, M. Piekarz Study on migration rate of beta-radiating 241Pu in soils using liquid scintillation spectrometry. LSC 2008. Advances in Liquid Scintillation Spectrometry. Eikenberg J., Jäggi M., Beer H., Baehrle H. (eds.), Radiocarbon, Tucson, USA 2009, 321-329.
- **A. Komosa**, I. Kitowski, R. Kowalski, G. Pitucha, Z. Komosa, J. Grochowicz Total mercury concentration in kidneys of birds of prey from different part of Poland some interspecies and geographical differences. Ecological Chemistry and Engineering S, 16, 2008, 19-28.
- **A. Komosa**, I. Kitowski, S. Chibowski, J. Solecki, J. Orzeł, P. Różański Selected radionuclides and heavy metals in skeletons of birds of prey from eastearn Poland. Journal of Radioanalytical and Nuclear Chemistry 281 (2009) 467-478.
- Z. Ziembik, A. Dołhańczuk-Śródka, **A. Komosa**, J. Orzeł, M. Wacławek Assessment of ¹³⁷Cs and ^{239,240}Pu distribution in forest soils of the Opole Anomaly. Water, Air and Soil Pollution 206(1-4), 2010, 307-320, -DOI 10.1007/s11270-009-0107-8.
- **A. Komosa**, K. Ślepecka Effect of liquid scintillating cocktail volume on ³H and ¹⁴C measurement parameters using a Quantulus spectrometer. Nukleonika 55 (2010).
- **A. Komosa**, M. Piekarz Optimization of plutonium extraction with methyltrioctylammonium chloride preceding its determination by liquid scintillation spectrometry. Nukleonika 55 (2010).
- Z. Ziembik, A. Dołhańczuk-Śródka, **A. Komosa**, J. Orzeł, M. Wacławek Assessment of ¹³⁷Cs and ^{239,240}Pu distribution in forest soils of the Opole Anomaly. Water, Air and Soil Pollution 206(1-4), 2010, 307-320, -DOI 10.1007/s11270-009-0107-8.
- **A. Komos**a, I. Kitowski, S. Chibowski, J. Solecki, J. Orzeł, P. Różański Selected radionuclides and heavy metals in skeletons of birds of prey from eastearn Poland. J. Radioanal. Nuclear Chem., 281 (2009) 467-478. DOI: 10.1007/s10967-009-0029-3.
- **A. Komosa**, K. Ślepecka Effect of liquid scintillating cocktail volume on ³H and ¹⁴C measurement parameters using a Quantulus spectrometer. Nukleonika 55 (2010) 155-161.
- **A. Komosa**, M. Piekarz Optimization of plutonium extraction with methyltrioctylammonium chloride preceding its determination by liquid scintillation spectrometry. Nukleonika 55 (2010) 137-141.
- **A. Komosa**, J. Orzeł. S. Michalik Study on plutonium distribution between sequentially extracted phases of arable soils. Proceedings of International Conference on Environmental Radioactivity: From Measurements and Assessments to Regulation, 23-27 April 2007, Vienna, 114P, pp.1-4, 2010. //curem.iaea.org/envrad2007.
- **A. Komosa**, M. Piekarz Some aspects of selective plutonium extraction and activity measurement using Quantulus. LSC2010. Advances in Liquid Scintillation Spectrometry, Paris 2010, Philippe Cassette (Ed.) Radiocarbon, Tucson 2011, 7-14.
- W. Rudziński, **A. Komosa** History and current research in the field of radiochemistry at Maria Curie-Sklodowska University. Analytical and Bioanalytical Chemistry. 400(6), 2011, 1593-1604.
- I. Kitowski, R. Kowalski, A. Komosa, J. Lechowski, G. Grzywaczewski, R. Ścibior, G. Pitucha, M.

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- P. Bartczak, S. Żółtowska, M. Norman, Ł. Klapiszewski, J. Zdarta, **A. Komosa**, I. Kitowski, F. Ciesielczyk, T. Jesionowski Saw sedge *Cladium mariscus* as a functional low-cost adsorbent for effective removal of 2,4-dichlorophenoxyacetic acid from aqueous systems. Adsorption. 22(4-6) (2016) 517-529. DOI 10.1007/s10450-015-9708-2. Publ. online 20.11.2015.
- I. Kitowski, A. Sujak, D. Wiącek, W. Strobel, **A. Komosa**, M. Stobiński Heavy metals in livers of raptors from Eastern Poland the importance of diet composition Belgian Journal of Zoology 146(1), (2016) 3-13.
- I. Kitowski, A. Sujak, D. Wiącek, **A. Komosa** Ecological factors helping avoid the toxic element accumulation in livers of Lesser Spotted Eagle (*Clanga pomarina* Brehm) from Eastern Poland. Journal of Elementology, 22(1), 2017, 305-314. DOI: 10.5601/jelem.2015.20.2.928.
- I. Kitowski, D. Wiącek, A. Sujak, **A. Komosa**, M. Świetlicki Factors affecting trace elements accumulation in livers of avian species from East Poland. Turkish Journal of Zoology. 41 (2017) 901-913. DOI: 10.3906/zoo-1606-43, Publ. online: 11.03.2017.