

Professional vitae

Name, born

- András TÓTH, Hungary, Bűdszentmihály, 1950.

Education

- 1965 – 1969: Budapest, Chemical Technical School “Lajos Petrik”: Chemical technician.
- 1969 – 1975: Moscow State University of Fine Chemical Technologies: Chemical engineering technology. Diploma with honors.
  Equivalent by homologation to a diploma obtained in the organic and biological chemistry department of the Faculty of Chemical Engineering of the Budapest University of Technology.
- 1980 – 1982: Scuola Normale Superiore and University of Pisa: "Perfezionamento" studies.

Workplace, experience

- 1975 – 1980: Research Laboratory for Inorganic Chemistry of the Hungarian Academy of Sciences.
  Investigation of aluminum oxide chlorination reactions.
- 1980 – 1982: Scuola Normale Superiore and University of Pisa. Synthesis of copper(I) complexes, Schlenk techniques, crystallography, ORTEP drawing. Isocyanides, benzimidazoles and azo-compounds.
- 1982 – 1997: Research Laboratory for Inorganic Chemistry of the Hungarian Academy of Sciences.
- 1998 – 2014: Institute of Materials and Environmental Chemistry, Chemical Research Center, Hungarian Academy of Sciences.
  Research field: surface chemistry. Material sciences, surface treatment of biomaterials, technologies, surface engineering, multidisciplinary science.

Degrees

- 1975: Moscow State University of Fine Chemical Technologies.
  The Soviet Academy of Sciences Institute for Elemento-organic Compounds.
  Thesis: Synthesis and Characterization of Organopolychlorosiloxanes.
  MSc in Chemical Engineering Technology.
- 1980: Budapest, Eötvös Loránd University.
  Thesis: Thermogravimetric Studies on the Chlorination Reactions of Alumina.
  Doctor rerum naturalium. Ph.D. 1981.
  Hungarian Doctoral Council.
  Doctoral school: György Hevesy Doctoral School of Chemistry.
  Doctoral training: Degrees of students acquired: 3
- 1995: Budapest, Hungarian Academy of Sciences Doctoral Council.
  Thesis: Surface Modification and XPS Characterization of Polymers.
  Hungarian Academy of Sciences. C.Sc. 1996.

Position

- 1975 – 1978: Research assistant
- 1979 – 1995: Research fellow
- 1996 – Senior research fellow
- 2007 – 2014: Head of laboratory

Scientific interest (Keywords)

- Surface chemistry. XPS, ESCA. XAES, Auger parameter plot. Plasmon loss energy.
- Polymers. Siloxane, organosilicon, poly(dimethyl-siloxane), poly(vinyl-trimethyl-silane), polyimide, polyether ether ketone, polysulfone, ethylene vinyl acetate, polyethylene oxide (PEO), polypropylene, polyvinyl-chloride, polyethylene, ultrahigh molecular weight polyethylene UHMWPE, polyamide,

poly(ethylene-terephthalate), poly(tetrafluoroethylene), polycarbonate, polyvinylpyrrolidone, bisphenol A carbonate PC.
- Silicone rubber, high voltage electrical insulators, industrial applications. Hungarian and Japanese engineering partnerships.
- Textile, cellulose, cotton, linen, flax, paper, wood, pulps.
- Biomaterials. Tannin. Polyvinylpyrrolidone. Chitosan immobilization. Thin organic films. Coatings.
- Membrane separation. Microfiltration, ultrafiltration, nanofiltration, reverse osmosis, dialysis, electrodialysis, pervaporation, gas separation, liquid membrane separation.
- Particulate mineral fillers. Stearic acid layer, substrate-overlayer, monolayer-coverage.
- Surface modification ion beams. Low-energy ion implantation. Stopping and Range of Ions in Matter SRIM/TRIM programs.
- Plasma chemistry. RF plasma, corona discharge, plasma immersion ion implantation PIII, dielectric barrier discharge DBD, cold atmospheric air-plasma, plasma jet.
- Fast atom beam 1 keV FAB.
- Chemical vapor deposition CVD, physical vapor deposition PVD, DC magnetron sputtering.
- Surface energy, contact angle, wettability, hydrophilicity, hydrophobicity, superhydrophobicity, lotus effect.
- FTIR spectroscopy. Attenuated total reflectance ATR spectroscopy.
- Raman spectroscopy. Raman microspectroscopy.
- Optical microscopy, digital camera.
- Colorimetry CIELAB.
- Surface. Electrical conductivity. Engineering polymers. Orders of magnitude. Home-made digital picoamper-meter, DC.
- Design of experiments DOE.
- Nanomechanical and nanotribological analysis, nanoindentation, hardness and Young modulus, surface topography, abrasive wear, nanoscratch, friction. Roughness, smoothing, finishing.
- Nanodiamond.
- Orthopaedic materials. ISBN 963-9536-02-4
- Dental materials. ISBN 963-9536-02-4
- Biomaterial surface modifications.

Membership
- Committee on Inorganic Chemistry and Materials Science (MTA).
- Hungarian Chemical Society.
- Membrane Technique (MKE).
- Committee for Surface Chemistry and Nanostructure of Materials (MTA).
- 5th Central European Symposium on Plasma Chemistry. Balatonalmádi, Hungary, 2013. Final scientific programme & Book of abstracts. Diamond Congress Kft. ISBN 978-615-5270-04-8

Awards
- Researcher Prize. Chemical Research Center of the Hungarian Academy of Sciences, 2007.
- Certificate. ValDeal Innovation Zrt. and The University of Texas at Austin IC^2 Institute, 2007.

Patents
- 174 343 1976, 211 184 1993, Russian 2072890, P 0700129 2007, International WO 2008/096186 A1, P 0700445 2007, P 0900416 2009.

Knowledge of languages
- Hungarian - mother tongue.
- English (C), Italian (C), Russian (C).

Publications (MTMT2: 10008066)

Books, editors:	3
Chapters:	33
Publications:	204
All citations:	3300
Independent citations:	2636
Hirsch-index:	30

Website: www.andrastoth.net