CURRICULUM VITAE

PERSONAL DETAILS

Name:	Yaroshchuk, Andriy
Born:	March 7, 1959, in Kiev, Ukraine
Nationality:	Ukraine
Professional address:	Departament d'Enginyeria Química (EQ), Universitat Politècnica de Catalunya, av. Diagonal, 647. Edifici G, planta 0, 08028 Barcelona, Spain, tel: +34934054443, andriy.yaroshchuk@upc.edu
Languages:	Russian, Ukrainian, English, French, German, Polish, Spanish, Catalan

QUALIFICATIONS

- Diploma in Theoretical Physics (Cum Laude), Kiev State University, Ukraine, 1981

- Candidate of Sciences (equivalent to PhD) in Chemistry (Colloid Chemistry), A.V. Dumanskiy Institute of Colloid and Water Chemistry, National Academy of Sciences of Ukraine, 1983

- Doctor of Sciences in Physics and Mathematics (Physical Chemistry), Institute of Physical Chemistry, Russian Academy of Sciences, Moscow, 1992

ACADEMIC CARRIER

PERMANENT POSITIONS

1983 – 1985	A.V. Dumanskiy Institute of Colloid and Water Chemistry, National Academy of Sciences of Ukraine, junior scientist
1985 – 1987	idem. scientist
1987 - 1991	idem. senior scientist
1991 - 2006	Institute of Bio-Colloid Chemistry, National Academy of Sciences of Ukraine, leading scientist
2007 - now	Polytechnic University of Catalonia (Barcelona, Spain), Research Professor of ICREA (Catalan Institution for Research and Advanced Studies)

VISITING POSITIONS

1991, 1993	Universität Essen (Germany), post-doctoral fellow
1994	Université C.Bernard Lyon I (France), chargé de recherche (CNRS)
1994	Ecole Nationale Supérieure de Chimie Montpellier (France), directeur de recherche (CNRS)
1996	Ecole Nationale Supérieure de Chimie et de Physique de Bordeaux (ENSCPB) (France), chercheur
1997	ENSCPB, Bordeaux (France), professeur invité 1ère classe
1998 – 1999	Karl-Franzens-Universität Graz (Austria), Gastwissenschaftler
2000	ENSCPB, Bordeaux (France), professeur invité 1ère classe
2000 - 2002	Karl-Franzens-Universität Graz (Austria), Gastwissenschaftler
2002 - 2003	Ecole Supérieure Chimie Physique Electronique de Lyon (ESCPE), directeur de recherche (CNRS)
2003 –2004	Universität Duisburg – Essen (Germany), Mercator Gastprofessor
10/2004 - 2006	Paul-Scherrer-Institute (Switzerland), scientist

PROFESSIONAL ACTIVITIES

- Member, *Editorial Board*, Desalination and Water Treatment (Taylor & Francis)
- Member, *Editorial Board*, Desalination (Elsevier), 2008-2010
- Member, *Editorial Advisory Board*, Membrane Technology (Elsevier Advanced Technology, Oxford, UK)
- Member, *International Advisory Board* on Electrokinetic Phenomena (1998 – 2002)
- Co-chairman, International Symposium on Synthetic Membrane Fundamentals, Kiev, Ukraine, September 1993
- Co-chair, ICREA Symposium “Nanofluidics, Colloids & Membranes”, Barcelona, Spain, July 2012
- Founding member of International Electrokinetics Society (2022)
- Co-chair of CECAM Flagship Workshop "Fluids in porous materials: from fundamental physics to engineering applications", June 2023, Lausanne, Switzerland

MEMBER OF INTERNATIONAL SCIENTIFIC COMMITTEES:

- Euromembrane’2000 (Jerusalem, Israel, September 2000)
- Electrokinetic Phenomena’2000 (Dresden, Germany, October 2000)
- International Congress on Membranes and Membrane Processes (ICOM‘2002) (Toulouse, France, July 2002)
- Electrokinetic Phenomena’2002 (Krakow, Poland, August 2002)
- Electrokinetic Phenomena’2006 (Nancy, France, June 2006)
- 2009 Annual Meeting of North American Membrane Society (Charleston, SC, USA, June 2009)
- 6th IWA Specialist Conference on Membrane Technology for Water & Wastewater Treatment (Aachen, Germany, October 2011)
- Desalination for the Environment, Clean Water and Energy (Barcelona, Spain, April 2012)
- ICREA Symposium “Nanofluidics, Colloids & Membranes” (Barcelona, Spain, July 2012)
- Desalination for the Environment, Clean Water and Energy (Limassol, Cyprus, May 2014)
- 2018 Annual Meeting of North American Membrane Society (Lexington, KY, USA, June 2018)
- 13th International Congress on Membranes and Membrane Processes (ICOM‘2023) (Chiba, Japan, July 2023)

REVIEWER FOR:

- Journal of Membrane Science
- Journal of Colloid and Interface Science
- Advances in Colloid and Interface Science
- Colloids and Surfaces A: Physicochemical and Engineering Aspects
- Journal of Physical Chemistry B

- Journal of Physical Chemistry C
- Electrochemistry Communications
- Separation and Purification Technology
- Chemical Engineering Communications
- Separation Science and Technology
- Langmuir
- Analytical Chemistry
- Desalination
- Industrial and Engineering Chemistry Research
- Desalination and Water Treatment
- Physics of Fluids
- Current Opinions in Colloid and Interface Science
- Progress in Polymer Science
- Nanoscale
- International Journal of Heat and Mass Transfer
- ACS Sustainable Chemistry & Engineering
- Analyst
- Lab on a Chip
-ACS Nano
- ACS Applied Bio Materials
- Environmental Science & Technology
- ACS Omega
- Water Research
- ACS Applied Materials & Interfaces

SCHOLARSHIP - AWARD OF PRIZES, FELLOWSHIPS

1989	Young Scientist Award of D.I.Mendeleev Chemical Society (USSR)
1991	Heinrich-Hertz Research Stipendium of Land Nordrhein-Westfalen (Germany)
1996	Research Grant of Elf-Aquitaine (France)
1997	National Research Council (USA) grant for visiting Clemson University (Clemson, SC, USA)
1998-1999	Lisa-Meitner Research Stipendium of FWF (Austria)
2003-2004	Mercator guest professorship of Deutsche Forschungsgemeindschaft (Germany)
2017	Diploma for supervising a doctoral thesis defended in the 2014-2015 academic year and awarded a Special Doctoral Award (Polytechnic University of Catalonia, Spain)

DETAILS OF GRANTS AWARDED

Deutsche Forschungsgemeindschaft, Germany, 1992–1993, „Charged membranes“, in cooperation with Prof.E.Staude, University of Essen, Germany.

European Commission, 1997-1999, INCO-Copernicus project N° IC15-CT96-0826, “Development of standardized integrated sets of measurements of transport properties of synthetic membranes in aqueous electrolyte solutions”, in cooperation with Prof.M.Mietton-Peuchot, Université de Bordeaux 2, France, Dr.J.Benavente, University of Malaga, Spain, Dr.S.Koter, N.Copernicus University, Poland, Dr.A.Nechaev, Institute of Crystallography, Russian Academy of Sciences.

University of Twente (Enschede, The Netherlands), 2000, project 31121 "Electrochemical and electrokinetic measurements of γ-alumina supported α-alumina membranes".

Fonds zur Förderung der wissenschaftlichen Forschung, Austria, 2000-2002, “Non-steady-state membrane characterisation techniques for the study of electrochemical and electrokinetic properties of active layers of nanofiltration membranes”, in cooperation with Prof.Dr.V.Ribitsch, Karl-Franzens-Universität Graz (Austria).

Volkswagen Foundation, Germany, 2001-2004, “Advanced modelling of nanofiltration via improved input due to novel experimental techniques of membrane characterisation”, in cooperation with Dr.G.Hagmeyer, Fachbereich Maschinenbau, Gerhard-Mercator-Universität-GH Duisburg, (Germany)

Sociedad General de Aguas de Barcelona, 2007-2010, “Desarrollos tecnológicos hacia un ciclo del agua urbano auto-sostenible (SOSTAQUA)”, in cooperation with CTM Centre Tecnològic, Manresa, Spain.

Ministry of Science and Innovation (Spain), 2009-2011 “Integración de procesos de extracción reactiva y procesos de membranas en la eliminación de compuestos indeseados en etapas de potabilización de aguas superficiales y de regeneración de aguas tratadas (PERMEAR)”

Department of Energy (USA), 2010-2013, “Separations of Stable Isotopic Ions in Homogeneous, Highly Charged Nanopores”, international co-PI, in cooperation with Prof.M.L.Bruening, Michigan State University, USA

European Commission, 2011-2015, International Research Staff Exchange Scheme “Coupled Ion- and Volume-Transfer Phenomena in Heterogeneous Systems: Modelling, Experiment and Applications in Clean Energy, Micro-Analysis and Water Treatment”, coordinator

Ministry of Science and Innovation (Spain), 2012-2014 “Integration of membrane, ion-exchange and chemical precipitation processes for the valorisation of concentrates from water desalination treatments (ZERO-DISCHARGE)”

European Commission, 2012-2015, Regenerable active polyelectrolyte nanofiltration membranes for water reuse and metal/acid recovery (LbLBRANE), PI

Department of Energy (USA), 2013-2016, “Electrically Driven Ion Separations in Porous Membranes”, international co-PI, in cooperation with Prof.M.L.Bruening, Michigan State University, USA

European Commission, 2015-2019, Conversion of Low Grade Heat to Power through closed-loop Reverse Electro-Dialysis (RED-Heat-to-Power), PI

MINECO (Spain), 2015-2017, Valorization of by-product from industrial effluents: integration of membrane technologies in the separation, concentration and purification steps, co-PI with Prof. J-L.Cortina

AEI (Spain), 2018-2020, Recuperación de recursos mediante integración de procesos por membranas, co-PI with Prof. J-L.Cortina

Department of Energy (USA), 2017-2020, Electrically Driven Ion Separations in Permeable Membranes, international co-PI, in cooperation with Prof.M.L.Bruening, University of Notre Dame, USA

European Commission, 2021-2025, Energy harvesting via wetting/drying cycles with nanoporous electrodes (EHAWEDRY), coordinator

AEI (Spain), 2021-2024, Reciclaje de recursos de residuos urbanos e industriales mediante la integración de procesos de separación híbridos, co-PI

Department of Energy (USA), 2022-2025, Highly Selective Ion Separations Based on Counter-flow Diffusion and Electrically Driven Facilitated Transport, international co-PI, in cooperation with Prof.M.L.Bruening, University of Notre Dame, USA

PUBLICATIONS

MONOGRAPH

DUKHIN S. S., SIDOROVA M. P., YAROSHCHUK A. E. Electrochemistry of Membranes and Reverse Osmosis, published in Russian by Khimiya, Publ., Leningrad, USSR, 1991, 180 pp.

PUBLICATIONS IN JOURNALS WITH PEER REVIEW

[R-1] DUKHIN S.S., YAROSHCHUK A.E. Problem of boundary layers and the electric double layer, Colloid J. USSR, 1982, 44 (5), p. 781-790

[R-2] YAROSHCHUK A. E. Dielectrically non-uniform boundary layer and the standard chemical potential of an ion, Colloid J. USSR, 1983, 45(1), p.140-147

[R-3] YAROSHCHUK A. E. Structure of an electric double layer at an uncharged surface. Model of a dielectric step, Colloid J. of USSR, 1983, 45(2), p.281-286

[R-4] YAROSHCHUK A. E., DUKHIN S. S. Effect of a partially undissolving volume on the structure of an equilibrium electric double layer, Colloid J. USSR, 1983, 45(3), p.527-534

[R-5] YAROSHCHUK A.E., DUKHIN S.S., EREMOVA Yu.Ya Electrokinetic methods for studying the non-dissolving volume within the boundaries of an adsorbed layer of non-ionic surfactant, Colloid J. of USSR, 1983, 45(5), p. 868-875

[R-6] MORARU V. N., OVCHARENKO F. D., YAROSHCHUK A. E. Dissolving ability of water in adsorbed layers of non-ionic surfactants, Dokl. Akad. Nauk USSR, 1983, 272(3), p.644-648

[R-7] YAROSHCHUK A. E. Relationship between high-frequency dielectric properties and the dissolving power of bound water, Colloid J. USSR, 1984, 46(1), p.103-108

[R-8] DUKHIN S.S., YAROSHCHUK A.E., DERYAGIN B.V. Role of electrostatic factor in stabilization of dispersions protected by adsorbed layers of polymers, Colloid J. of USSR, 1984, 46 (2), p.191-196

[R-9] YAROSHCHUK A. E. Structure of an equilibrium double layer at a hydrophilic surface, Colloid J. USSR, 1984, 46(2), p.314-319

[R-10] YAROSHCHUK A. E., EREMOVA Yu.Ya. Structure of a double layer at a hydrophilic surface. 2. Continuous extraneous potentials, Colloid J. USSR, 1984, 46(2), p.320-326

[R-11] RUSANOV A. I., DUKHIN S. S., YAROSHCHUK A. E. Surface layer in liquid mixtures and a double electric layer, Colloid J. USSR, 1984, 46(3), p.490-494

[R-12] DUKHIN S. S., CHURAEV N. V., YAROSHCHUK A. E. Reverse osmosis and dielectric properties of membranes, Soviet Water Chem. and Technol., 1984, 6(4), p.291-303

[R-13] YAROSHCHUK A.E. Consideration of the contribution of the hydrodynamic permeability of adsorption layers of nonionogenic surfactants to electroosmotic slip, Colloid J. USSR, 1985, 47 (2): 309-314

[R-14] YAROSHCHUK A. E. Calculation of the limiting selectivity of an uncharged flat capillary at low electrolyte concentrations, Colloid J. USSR, 1985, 47(5), p.1006-1010

[R-15] YAROSHCHUK A.E. Approximation of non-deformed ionic atmospheres for calculation of the energy of screened image forces, Russian J.Phys.Chem., 1985, 59(11), p.2889-2990

[R-16] YAROSHCHUK A.E. The scope of the applicability of the homogeneous ionite model in the ion-exchange equilibria theory, Russian J.Phys.Chem., 1986, 60(4), p.941-944

[R-17] YAROSHCHUK A.E. Change in water dissociation constant in fine-porous reverse osmosis membranes, Colloid J. USSR, 1986, 48(2), p.395

[R-18] YAROSHCHUK A.E., DZYUB V.I. Screening of "image forces" and the dependence of the selectivity of non-charged membranes on electrolyte concentration, Soviet Water Chem. and Technol., 1986, 8(2), p.28-35.

[R-19] YAROSHCHUK A.E., BONDARENKO N.P. Reasons for the anomalous behaviour of the activity coefficient of an electrolyte in an ion exchange phase, Soviet Water Chem. and Technol., 1986, 8(5), p.24-29.

[R-20] YAROSHCHUK A.E.Equivalence of different methods of description of the surface charge formation mechanism, Colloid J. USSR, 1986, 48(5), p.1044-1045

[R-21] YAROSHCHUK A.E., MESHCHERYAKOVA E.V. On the possibility of consistently taking into account the non-ideality of electrolyte solution in an ionite phase when analyzing Donnan equilibria, Colloid J. USSR, 1987, 49(3), p.611-614

[R-22] DZYUB V.I., YAROSHCHUK A.E. Calculation of the electrostatic polarization energy of ions in pores of dielectric membranes of model geometry, Ukrainian Phys.J., 1987, 32(2), p.179-186

[R-23] KUL'SKII L.A., ZHARKIKH N.I., KNYAZ'KOVA T.V., YAROSHCHUK A.E. Relation of the selectivity of cellulose acetate membranes to their hydrodynamic permeability, Dokl. Akad. Nauk USSR, 1987, 296(1), p.175-178
[R-24] YAROSHCHUK A.E., DUKHIN S.S. Role of ionic associates in membrane equilibria and reverse osmosis. Colloid J. of USSR, 1987, 49(6), p.1171-1174
[R-25] DUKHIN S.S., YAROSHCHUK A.E. Electrochemical regularities of selective ionic permeability of reverse osmosis membranes, Zh.Vses.Khim. O-va im. D.I. Mendeleeva, 1987, 32(6), p.679-684
[R-26] DERJAGUIN B.V., DUKHIN S.S., YAROSHCHUK A.E. On the role of the electrostatic factor in stabilization of dispersions protected by adsorption layers of polymers, J. Coll.& Interface Sci., 1987, 115(1), p.234-239
[R-27] YAROSHCHUK A.E., BARAN A.A. Electrokinetic manifestations of the adsorption (dipole) potential jump, Colloid J. of USSR, 1987, 49(5), p.849-856
[R-28] YAROSHCHUK A.E., DZYUB V.I. Calculation of the optimal porosity of a model dielectric membrane, Soviet Water Chem. and Technol., 1988, 10(3), p.203-205
[R-29] YAROSHCHUK A.E. New method of describing the structure of strongly overlapping electric double layers. Colloid J. USSR, 1988, 50(5), p.973-978
[R-30] YAROSHCHUK A.E. Non-linear effects in the theory of the 'dielectric exclusion' of ions from the pores of uncharged membranes, Russian J.Phys.Chem., 1988, 62(11), p.2994-2999
[R-31] YAROSHCHUK A.E. Distribution of the Donnan potential between the membrane and solution phases and the mechanisms of fixed charge formation in ion-exchange membranes, Soviet Electrochemistry, 1988, 24(6), p.736-743
[R-32] YAROSHCHUK A.E. Influence of the formation mechanism of fixed charge on the transport of electrolyte solutions across charged reverse osmosis membranes, Colloid J. USSR, 1989, 51(2), p.339-343
[R-33] KORNYSHEV A.A., TSITSUASHVILI G.I., YAROSHCHUK A.E. Polar solvent structure effect in the theory of dielectric exclusion of ions from polymer membrane pores. Statement of the problem. Calculation of the potential, Soviet Electrochemistry, 1989, 25(8), p.1027-1036
[R-34] KORNYSHEV A.A., TSITSUASHVILI G.I., YAROSHCHUK A.E. Polar solvent structure effect in the theory of dielectric exclusion of ions from polymer membrane pores. Calculation of the free energy of charge transfer from bulk solvent into pore, Soviet Electrochemistry, 1989, 25(8), p.1037-1044
[R-35] YAROSHCHUK A.E., MESHCHERYAKOVA E.V. Effect of pore size distribution in a membrane on reverse osmosis, Soviet Water Chem. and Technol., 1989, 11(9), p.776-782
[R-36] ZHARKIKH N.I., YAROSHCHUK A.E. Structural independence of electro-kinetic phenomena at strong overlap of boundary layers, Dokl. Akad. Nauk Ukr. SSR, Ser. B: Geol., Khim., Biol. Nauki, 1989, (11), p.28-31
[R-37] YAROSHCHUK A.E. Separation of counter-ions in charged reverse osmosis membranes, Soviet Water Chem. and Technol., 1989, 11(10), p.867-883
[R-38] YAROSHCHUK A.E., MESHCHERYAKOVA E.V. Expression of selectivity via the numerical characteristics of distribution of parameters of a laterally inhomogeneous membrane, Soviet Water Chem. and Technol., 1990, 12(10), p.870-874
[R-39] YAROSHCHUK A.E., KOVAL'CHUK V.I. Effect of the electrostatic factor on the degree of dissociation of weakly acidic groups in the phase of monopolar and bipolar ion-exchange membranes, Russian J.Phys.Chem., 1991, 65(1), p.175-180
[R-40] YAROSHCHUK A.E., BONDARENKO N.P. Structure of the dilute electrolyte solutions near an uncharged surface. Corrections to the Onsager-Samaras approximation, Colloid J. USSR, 1991, 53(2), p.326-335
[R-41] YAROSHCHUK A.E., DUBYAGA N.P. Materials and methods of fabrication of charged reverse osmosis membranes, Teor.Osn.Khim.Tekhnol., 1991, 25(2), p.204-218
[R-42] YAROSHCHUK A.E., DUBYAGA N.P. Properties and applications of charged membranes for reverse osmosis, Teor.Osn.Khim.Tekhnol., 1991, 25(2), p.219-232
[R-43] YAROSHCHUK A.E., BONDARENKO N.P. Approximate methods for description of the structure of dilute electrolyte solutions in thin slit-like pores, Colloid J. USSR, 1991, 53(5), p.962-971
[R-44] YAROSHCHUK A.E., STAUDE E. Charged membranes for low pressure reverse osmosis properties and application, Desalination, 1992, 86(1), p.115-134

[R-45] YAROSHCHUK A.E., DUKHIN S.S. Phenomenological theory of reverse osmosis in macroscopically homogeneous membranes and its specification for the capillary space-charge model, J. Membr. Sci., 1993, 79(2), p.133-158
[R-46] YAROSHCHUK A.E., RÖTTGER H., WOERMANN D. Osmotic properties of a cation exchange membrane: reflection coefficients of a solute larger than 1 in a system with aqueous mixed electrolyte solutions. Ber. Bunsenges. Phys. Chem., 1993, 97(5), p.676-680
[R-47] YAROSHCHUK A.E. Non-equilibrium surface phenomena in fine-porous charged diaphragms in mixed electrolyte solutions. Progr. Coll. Polym. Sci. 1993, 93(2), p.135-136
[R-48] YAROSHCHUK A.E., VOVKOGON Yu.A. Phenomenological theory of pressure-driven transport of ternary electrolyte solutions with a common coion and its specification for capillary space-charge model, J. Membr. Sci., 1994, 86(1), p.1-18
[R-49] YAROSHCHUK A. E., VOVKOGON Yu. A. Pressure-driven transport of ternary electrolyte solutions with a common coion through charged membranes. Numerical analysis. J. Membr. Sci., 1994, 86(1), p.19-27
[R-50] YAROSHCHUK A.E., VOVKOGON Yu.A. Changes in pH value caused by pressure-driven transport of strong electrolytes across charged membranes, J. Colloid & Interface Sci. 1995, 172, p.324-330
[R-51] YAROSHCHUK A.E. Solution-diffusion-imperfection model revised, J. Membr. Sci., 1995, 101(1), p. 83-87
[R-52] BARDOT C., GAUBERT E., YAROSHCHUK A.E. Unusual mutual influence of electrolytes during pressure-driven transport of their mixtures across charged porous membranes, J. Membr. Sci., 1995, 103 (1-2), p.11-17
[R-53] SHENASE A., STAUDE E., YAROSHCHUK A.E. Separation of counter-ions during pressure-driven transport of electrolyte mixtures across charged porous membranes, Separ. Sci.& Technol., 1995, 30(14), p. 2865-2876
[R-54] YAROSHCHUK A.E. Osmosis and reverse osmosis in fine-porous charged diaphragms and membranes, Adv. Colloid & Interface Sci., 1995, 60(1/2), p.1-93
[R-55] YAROSHCHUK A.E. Electrokinetic phenomena in fine-porous diaphragms at open chemical circuits, Colloids and Surfaces A-Physicochemical and Engineering Aspects, 1998, 140(1-3), pp 169-175
[R-56] YAROSHCHUK A.E. Dielectric exclusion of ions from membranes, Adv. Colloid & Interface Sci., 2000, 85(2/3) p.193-230
[R-57] YAROSHCHUK A.E. Asymptotic behaviour in the pressure-driven separations of ions of different mobilities in charged porous membranes, J. Membr. Sci., 2000, 167(2), p.163-185
[R-58] YAROSHCHUK A.E. Optimal charged membranes for the pressure-driven separations of ions of different mobilities: theoretical analysis, J. Membr. Sci., 2000, 167(2), p.149-161
[R-59] YAROSHCHUK A.E., MAKOVETSKIY A.L., BOIKO Yu.P., GALINKER E.W. Non-steady-state membrane potential: theory and measurements by a novel technique to determine the ion transport numbers in active layers of nano-filtration membranes, J. Membr. Sci., 2000, 172(1-2), p.203-221
[R-60] YAROSHCHUK A.E., RIBITSCH V. The uses of non-steady-state membrane characterization techniques for the study of transport properties of active layers of nanofiltration membranes: theory with experimental examples, Chemical Engineering J., 2000, 80(1-3), p.203-214
[R-61] YAROSHCHUK A.E. Non-steric mechanisms of nanofiltration: superposition of Donnan and dielectric exclusion, Separ. & Purif. Technology, 2001, 22-23, p.143-158
[R-62] YAROSHCHUK A.E. A model for the shift of iso-electric points of oxides in concentrated and mixed-solvent electrolyte solutions, J. Colloid & Interface Sci., 2001, 238(2), 381-384
[R-63] YAROSHCHUK A.E. An analytical solution for the diffusion of electrolytes through a charge-mosaic membrane, Phys.Chem.Chem.Phys., 2001, **3**, 1883-1890
[R-64] YAROSHCHUK A.E. Non-steady-state streaming potential in multilayer partially-hydrophobic diaphragms and membranes, Colloids & Surfaces A: Physicochemical and Engineering Aspects, 2001, 195(1-3), p.17-24
[R-65] YAROSHCHUK A.E. Rejection of single salts vs. trans-membrane volume flow in RO/NF: thermodynamic properties, model of constant coefficients, and its modification, J.Membr.Sci., 2002, 198(2), p.285-297

[R-66] YAROSHCHUK A.E., RIBITSCH V. The use of trace ions for advanced characterization of transport properties of nano-filtration membranes in electrolyte solutions: theoretical analysis, J.Membr.Sci., 2002, 201(1-2), p.85-94
[R-67] YAROSHCHUK A.E., RIBITSCH V. The role of channel wall conductance in the determination of zeta-potential from electro-kinetic measurements, Langmuir, 2002, 18(6), 2036-2038
[R-68] YAROSHCHUK A.E., BOIKO Yu.P., MAKOVETSKIY A.L. Filtration potential across membranes containing selective layers, Langmuir, 2002, 18(13), 5154-5162
[R-69] YAROSHCHUK A.E. Recent progress in the transport characterization of nano-filtration membranes, Desalination, 2002, 149, 423–428
[R-70] YAROSHCHUK A.E. The role of imperfections in the solute transfer in nano-filtration, J.Membr.Sci., 2004, 239, 9-15
[R-71] YAROSHCHUK A.E., KARPENKO L., RIBITSCH V. Measurements of transient membrane potential after current switch-off as a tool to study the electrochemical properties of supported thin nano-porous layers, J.Phys.Chem.B, 2005, 109, 7834-7842
[R-72] YAROSHCHUK A.E., ZHUKOVA O.V., ULBRICHT M., RIBITSCH V. Electrochemical and other transport properties of nano-porous track-etched membranes studied by the current switch-off technique, Langmuir, 2005, 21, 6872-6882
[R-73] YAROSHCHUK A.E., BOIKO Yu.P., MAKOVETSKIY A.L. Some properties of electrolyte solutions in nano-confinement revealed by the measurements of transient filtration potential after pressure switch-off, Langmuir, 2005, 21, 7680-7690
[R-74] GEISSMANN Ch., YAROSHCHUK A.E., ULBRICHT M. Permeability and electro-kinetic characterization of poly(ethylene terephthalate) capillary pore membranes with grafted temperature-responsive polymers, Langmuir, 2007, 23, 76-83
[R-75] GLAUS M.A., BAYENS B., BRADBURY M.H., JAKOB A., VAN LOON L.R., YAROSHCHUK A.E. Diffusion of ^{22}Na and ^{85}Sr in montmorillonite: evidence of interlayer diffusion being the dominant pathway at high compaction, Environ. Sci. & Technol., 2007, 41, 478-485
[R-76] YAROSHCHUK A.E., GLAUS M.A., VAN LOON L.R. Studies of electrochemical properties of compacted clays by concentration potential method, J.Coll.& Interface Sci., 2007, 309, 262–271
[R-77] YAROSHCHUK A., VAN LOON L.R. Improved interpretation of in-diffusion measurements with confined swelling clays, J.Contam.Hydrology, 2008, 97, 67–74
[R-78] YAROSHCHUK A. Negative rejection of ions in pressure-driven membrane processes, Adv.Colloid & Interface Sci., 2008, 139, 150–173
[R-79] YAROSHCHUK A.E., GLAUS M.A., VAN LOON L.R. Diffusion through confined media at variable concentrations in reservoirs, J.Membr.Sci., 2008, 319, 133–140
[R-80] GLAUS M.A., VAN LOON L.R., ROSSÉ R., YAROSHCHUK A.E. Tracer diffusion in sintered stainless steel filters: Measurement of effective diffusion coefficients and implications for diffusion studies with compacted clays, Clays and Clay Minerals, 2008, 56, 677-685
[R-81] YAROSHCHUK A.E. Comment on “Osmotic Pressure beyond Concentration Restrictions”, J.Phys.Chem.B, 2008, 112, 15941-15942
[R-82] YAROSHCHUK A.E., BOIKO YU.P., MAKOVETSKIY A.L. Electrochemical perm-selectivity of active layers and diffusion permeability of supports of an asymmetric and a composite NF membrane studied by concentration-step method, Desalination, 2009, 245, 374-387
[R-83] YAROSHCHUK A.E., MARTÍNEZ-LLADÓ X., LLENAS L., ROVIRA M., DE PABLO J., FLORES J., RUBIO P. Mechanisms of transfer of ionic solutes through composite polymer nano-filtration membranes in view of their high sulfate/chloride selectivities, Desalination and Water Treatment, 2009, 6, 48-53
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INVITED PRESENTATIONS

INTERNATIONAL CONFERENCES

- Osmosis and Reverse Osmosis in Fine-Porous Charged Diaphragms and Membranes, 11th Annual Summer School of the European Society of Membrane Science and Technology, September 1994, Glasgow, Scotland, invited lecture

- Electrokinetic Phenomena and Membrane Transport of Ions, Electrokinetic Phenomena'98, Salzburg, Austria, April 1998, plenary lecture

- Non-Steric Mechanisms of Nanofiltration: Superposition of Donnan and Dielectric Exclusion, Euromembrane’99, Leuven, Belgium, September 1999, key-note lecture

- Electrochemical characterization of membrane active layers through the measurements of transient membrane potential, Euromembrane’2000, Jerusalem, Israel, September 2000, invited lecture.

- Non-steady-state electrokinetic phenomena in diaphragms and membranes, Int. Symposium on Electrokinetic Phenomena, Dresden, Germany, October 2000, plenary lecture

- Electrochemical perm-selectivity and diffusion permeability of active layer of an asymmetric NF membrane studied by the concentration-step method, Engineering with Membranes 2008, Vale do Lobo, Portugal, May 2008, key-note lecture

- Why do we need to know the transport properties of RO/NF membranes with respect to single ions and how can we get to them? 2009 Annual Meeting of North American Membrane Society (NAMS), Charleston, SC, USA, June 2009, invited lecture

- Role of spontaneously arising electric fields in nanofiltration, 12st Ukrainian Seminar on Membranes and Sorption Processes and Technologies, Kiev, Ukraine, March 2011, invited lecture

- What makes a nano-channel? A limiting-current criterion, ICREA Symposium "Nanofluidics, Colloids & Membranes", July 2012, Barcelona, Spain, invited lecture

- Towards advanced engineering model of pressure-driven and osmotic membrane processes in multi-ion solutions, EMS Summer School, July 2013, Essen, Germany, invited lecture

- Asymmetric electroosmotic pumping across porous media sandwiched with perforated ion-exchange membranes, Faraday Discussions, April 2017, Cambridge, UK, invited lecture

- Energy harvesting by Reverse Electrodialysis: What membrane properties are important and how can we get to them? Imagine Membrane – P. Meares conference, September 2017, Horta, Portugal, invited lecture

- Dielectric exclusion of ions from nanopores - Dead Sea Water 2019 workshop, February 2019, Ein Gedi, Israel, invited lecture

- Recent progress in advanced engineering modelling of nanofiltration of multi-ion solutions, Engineering with Membranes 2019, April 2019, Båstad, Sweden, keynote lecture

- Multifaceted role of modelling in membrane science and technology, Nanofiltration 2022: Principles, Applications and New Materials, June 2022, Reutlingen, Germany, invited lecture

- Streaming potential with ideally-polarizable electron-conducting substrates, ELKIN 14, July 2022, Tel Aviv, Israel, invited lecture

SEMINARS

S.Petersburg State University, Russia, 1984
Frumkin Institute of Electrochemistry, Moscow, Russia, 1984, 1988
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Institute of General and Inorganic Chemistry, Moscow, Russia, 1989
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Fraunhofer Institute for Interfacial Engineering and Biotechnology, Stuttgart, Germany, 1993
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Centre de Recherche Paul Pascal, CNRS, Bordeaux, France, 1996
Clemson University, Clemson, SC, USA, 1997
DuPont Experimental Station, Wilmington, DE, USA, 1997
Karl-Franzens-Universität, Graz, Austria, 1999
Technische Universität Graz, Graz, Austria, 1999
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Institut Européen des Membranes, Montpellier, France, 2001
Technische Universität (Bergakademie) Freiberg, Germany, 2002
Laboratoire de Génie Chimique, Université Paul Sabatier, Toulouse, France, 2003
Département de Génie des Procédés Industriels, INSA Toulouse, France, 2003
GEPEA, Université de Nantes, France, 2003
Paul-Scherrer-Institut, Villigen, Switzerland, 2003
Universität Duisburg-Essen (Germany), 2004
University of Twente, Enschede (The Netherlands), 2004
Club Français des Membranes, Université de Franche-Comté, Besançon (France), 2006
University Rovira i Virgili, Tarragona (Spain), 2007, 2009, 2011
University of Ljubljana, Ljubljana (Slovenia), 2009
Australian National University, Canberra (Australia), 2010
Michigan State University, East Lansing, (MI, USA), 2011
Karlsruhe Institute of Technology (Germany), 2016

OTHER INTERNATIONAL CONFERENCES

YAROSHCHUK A.E., STAUDE E. Charged reverse osmosis membranes: properties and applications, International Expert Symposium on Functionalized Dense Membranes, November 1991, Pont-à-Mousson, France

YAROSHCHUK A.E., SHENASE A., STAUDE E. Pressure-driven transport of ternary electrolyte solutions with a common co-ion through charged porous membranes. Theory and experiment, 5th Annual Meeting of the North-American Membrane Society, May 1992, Lexington, KY, U.S.A.

YAROSHCHUK A. E. Non-equilibrium surface phenomena in fine-porous charged diaphragms in mixed electrolyte-solutions, 6th Conference of the European Colloid and Interface Society, September 1992, Graz, Austria

YAROSHCHUK A.E. Anomalous osmosis in electrolyte mixtures and its uses for characterization of nanofiltration membranes, International Congress on Membranes and Membrane Processes, August-September 1993, Heidelberg, Germany

YAROSHCHUK A.E., BARDOT C., GAUBERT E., KULOV N.N., NECHAEV A.N. Modelling of the pressure-driven transport of single and mixed electrolyte solutions across fine-porous inorganic membranes. Criteria for efficient rejection and separation, 3rd International Conference on Inorganic Membranes, July 1994, Worcester, MA, USA

YAROSHCHUK A.E. Electro-kinetic phenomena in fine-porous diaphragms at open chemical circuits, Electrokinetic Phenomena'96, September-October 1996, Rome, Italy

YAROSHCHUK A.E. Dielectric exclusion as a mechanism of nanofiltration, 2nd French-Canadian Workshop on Nanofiltration and its Applications, May 1998, Bordeaux, France

YAROSHCHUK A.E., RIBITSCH V. The uses of non-steady-state membrane characterization techniques for the study of transport properties of active layers of nanofiltration membranes: theory with experimental examples, United Engineering Foundation Conference “Solid-Liquid Separation Systems”, April 1999, Oahu, Hawaii, USA

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YAROSHCHUK A.E., BOIKO Yu.P., MAKOVETSKIY O.L., DE LINT S., VERWEIJ H. Integrated measurements with composite ceramic NF membranes to reveal the transport and electrochemical properties of their active layers, 6th International Conference on Inorganic Membranes, June-July 2000, Montpellier, France

YAROSHCHUK A.E. A new possibility of environment-friendly separation of stable isotopes: aqueous ultra-filtration through charged meso-porous membranes, 4th International Conference on Isotopes, March 2002, Cape Town, South Africa.

YAROSHCHUK A.E. Recent progress in the transport characterization of nano-filtration membranes, International Congress on Membranes and Membrane Processes (ICOM’02), July 2002, Toulouse, France

YAROSHCHUK A.E., RIBITSCH V. New findings in the measurements and interpretation of streaming potential, Int. Symposium on Electro-kinetic Phenomena, August 2002, Krakow, Poland

YAROSHCHUK A.E. Concentration polarization phenomena in nano-fluidics, Int. Symposium on Electrokinetic Phenomena (ELKIN’06), June 2006, Nancy, France

GLAUS M., VAN LOON L., YAROSHCHUK A.E. Studies of mechanisms of ion transfer in compacted clay by complementary diffusion and electrochemical techniques, Int. Symposium on Electrokinetic Phenomena (ELKIN'06), June 2006, Nancy, France

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YAROSHCHUK A., PAGÈS N., CORTINA J.L. Rejection of minor ionic solutes in nanofiltration. Influence of solution chemistry, DESALINATION FOR THE ENVIRONMENT CLEAN WATER AND ENERGY, April 2012, Barcelona. Spain

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YAROSHCHUK A. Modelling of PRO/FO in electrolyte mixtures: the effect of spontaneously-arising electric fields, International Workshop on Salinity Gradient Energy, September 2012, Milan, Italy

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YAROSHCHUK A. Towards advanced engineering model of nanofiltration: mastering multi-ion interactions via equilibrium and non-equilibrium electric fields, Advances in Science and Engineering for Brackish Water and Seawater Desalination II, ECI Conference, Cetraro, Italy, September-October 2013

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