Europass Curriculum Vitae

Personal information

First name(s) / Surname(s)	**Victor FRUTH-OPRISAN**
E-mail(s)	vfruth@icf.ro
Nationality	Romanian
Gender	Male

Desired employment / Occupational field	**Senior Scientific Researcher** **CP1**

Work experience

Dates	1987 → present
Occupation or position held	Senior Scientific Researcher / Department 6 (Oxide compounds and material science) – Deputy Director - Institute of Physical Chemistry "Ilie Murgulescu" of the Romanian Academy
Main activities and responsibilities	- Research in the field of physical chemistry of the oxide materials (single and poly-component), particularly concerning the phase equilibrium, reaction mechanisms and correlations structure-properties in oxides (crystalline and glassy) - Advanced ceramic materials with special properties (magnetic, electric, optic, mechanic, ex. superconductors, ionic conductors); - Non conventional route of preparation. Nanopowders, bulk, thin and thick films, 1D nanostructures. - Biomaterials; Cocrystals; Nutraceutics
Name and address of employer	Institute of Physical Chemistry "Ilie Murgulescu" 202, Splaiul Independentei, 060021 Bucharest (Romania)
Type of business or sector	Academic

Dates	1979 - 1987
Occupation or position held	researcher
Main activities and responsibilities	Technological Research in Portland Cement Industry
Name and address of employer	PROCEMA 6, Bulevardul Preciziei , Bucharest (Romania)
Type of business or sector	Researcher

Education and training

Dates	1974 - 1979
Title of qualification awarded	"Politechnica" University of Bucharest, BSc graduation Diploma Chemical Engineering in 1979
Principal subjects / occupational skills covered	Physical chemistry of the oxide materials
Name and type of organisation providing education and training	University Politehnica Bucharest, Bucharest, Romania
Dates	1998
Title of qualification awarded	PhD in Material Science "Politechnica" University of Bucharest,

Principal subjects / occupational skills covered	Phase *Equilibria and properties in superconductor oxides from the system M^{II} – M^{III} – Cu - O"* – coordination: Prof. Dr. Doc. I. Teoreanu.
Name and type of organisation providing education and training	"Politechnica" University of Bucharest, Chemical Engineering Faculty
Level in national or international classification	ISCED 5

Personal skills and competences

Mother tongue(s) **Romanian**

Other language(s)

Self-assessment	Understanding				Speaking				Writing	
European level (*)	Listening		Reading		Spoken interaction		Spoken production			
French	B1	Independent user	B1	Independent user	B2	Independent user	B2	Independent user	B2	Independent user
English	C1	Proficient user	C1	Proficient user	B1	Independent user	B1	Independent user	B1	Independent user

(*) Common European Framework of Reference (CEF) level

Social skills and competences	Team work: I have worked in various types of team projects
Organisational skills and competences	Good experience in project or team management
Awards	- Romanian Academy Award "Gh. Spacu" -2006 for the group of papers "Bismuth based advanced ceramics" - Romanian Chemical Society Award -2011 *-Silver medal at Inventika 2009 and gold medal at Eureka-Brussels 2009, for patent PROCEDURE FOR OBTAINING SILICON NITRIDE WITH DIRECTED STRUCTURE ", OSIM file A 00229 / 27.03.2008*

Other competences

Member in the board committee of ISRN Ceramics (http://www.isrn.com/journals/ceramics/editors/) 2011-2017
Member in the board committee of Romanian Journal of Materials (http://solacolu.chim.upb.ro/ColegiuEditorialeng.htm)

Education competence

Doctoral courses; Tutorials activities for students and masters; Conferences, workshops and summer school organiser.

Member of professional associations:

- Romanian Chemistry Society – member of the national comity 2016-2019
- Romanian Ceramic Society (CEROM) -vice-president
- European Ceramics Society (ECERS)- member
- Romanian Electron Microscopy Society (SMER) – member of the director comity 2016-2021

Additional information

Experience in other national/international programs

- COST Action: CA22107 - Bringing Experiment and Simulation Together in Crystal Structure Prediction -national coordinator.
- Proiectul nr. 98PTE/2022 cod proiect: PN-III-P2-2.1-PTE-2021-0393, Transfer de tehnologii innovative de co-cristalizare pentru dezvoltarea de produse functionale nutraceutice 2022-2024, Responsible of the project
- Proiectul 634 PED, cod proiect: PN-III-P2-2.1-PED-2021-4171, Transformarea intr-un singur proces a celulozei in molecule platform: Acidul Lactic- Acronim CelMolLac 2022-2024, Responsible of the project
- Interacademic research project - Piezoelectric and Multiferroic Molecular Perovskites for Flexible and Wearable Devices 2020-2023 – Director of the project
- Interacademic research project "Porous materials based on MgO and metallic nanoparticles for

catalytic applications"(AR-FRBCF-2018-2019) Belarus-Romania , Director of the project

- Interacademic research project "Study and Development of Single-Phase Multiferroic Perovskite Ceramic and Thin Films for Multifunctional Devices" CNR Italy- Romanian Academy 2014-2016, Director of the project
- European Regional Development Fund – ERDF, Intervention Domain: 2.2. Research and Development Infrastructure Investments and Administrative Capabilities Development, 2nd priority axis: Research, technological development and innovation for competitiveness, Project: INFRANANOCHEM "*Modernizing the research and development infrastructure within the „Ilie Murgulescu" Institute of Physical Chemistry of the Romanian Academy, with extension of the interdisciplinary research in the field of nanomaterials and nanotechnologies*", (2008-2011), Project Manager
- *COST MP0902* Composites of Inorganic Nanotubes and Polymers (COINAPO) (20010-2013) – MC for Romania
- PNII (national complex project), *Ceramic materials, component of SOFC for IT (intermediate temperature)* (2007-2010), Director of the project
- PNII (national complex project), *Superior composite armor plates for protection against multiple threatening* (2008-2011), Responsible of the project
- PNII (national complex project), *Polymer-ceramic nanocomposites foams, for de-pollution of gas flow from thermal power plant* (2008-2011), Responsible of the project
- CEEX (center of excellence) project: "*Optical and electrical processes in hybrid nanostructured materials obtained by intercalation of bi-dimensional crystalline structures*" (2006-2008), Responsible of the project.
- CEEX (centre of excellence) project "*Serpentinite and vinyl polymers based inorganic-organic hydride nanostructures for advanced composites*" (NAHANOSCA)-(2005-2008), Responsible of the project.
- CEEX (centre of excellence) project "*Analysis of the cement structures obtained with alternative combustible*" (IARIS) (2005-2008), Responsable of the project
- CEEX (centre of excellence) project "*Photoconduction and Photoluminescence processes in para-phenilen vinylen/carbon nanotubs and poly- Para phenilen vinylen/ oxide nanoparticles* (COMPPPVNTCNPO)" (2005-2008), Responsable of the project
- Grant AR *Ceramic films and nanopowder oxides with ionic conduction properties* (2005-2006), Director of the project
- Scientific Cooperation *Modifications determined by twin-ions in zirconia composites* with Institute of Nuclear Science *Vinca* Belgrad (2005-2007), Coordinator of the Romanian group
- *Polar Electroceramics* POLECER, thematic network in the frame of *Competitive and Sustainable Growth*, contract No G5RT-CT-2001-2005-05024 on 14/03/01 (2002-2006), Participant
- Project COST 539, *Electroceramics from Nanopowders Produced by Innovative Methods* - ELENA (2005-2008), National responsible
- Project COST 525 *Grain Boundary Engineering* (2003-2005), Participant
- Interdisciplinary program for the prevention of high-risk phenomena at national scale, Academica XIII (155) 62 (2003): *Oxide films with mixed conduction as sensors in environment monitoring* (2003-2005), Responsible of the sub-project
- Project MATNANTECH, *Research Centre in Nanotechnolgy for new Materials and Processing* (NANOMATFAB), Sub-program S10, Nr. Project 3100258, Contract 152 (310), 2003-2005, Participant
- *Oxide materials with special electrical and magnetic properties* - Grant ANSTI/MEC 5206/1999 and 6029GR/2000 (1999-2001), Responsible of the project

List of publications

- Cosmin Iulian Codrea and Victor Fruth, *Three-Dimensionally Printed Scaffolds and Drug Delivery Systems in Treatment of Osteoporosis, Biomimetics* 2025, 10, 429, https://doi.org/10.3390/biomimetics10070429
- Ungur, Doriana; Iordache, Coca; Brăilă, Claudia; Pop, Delia; David, Monica; Pandele-Cușu, Jeanina; Fruth, Victor; Pongratz, Ingemar; Iacob, Bogdan-Cezar; Bodoki, Ede; Pop, Mihaela, *Structural insights into the resveratrol-piperazine co-crystal forms enabling the co-crystallization process development from solution*, Crystal Growth & Design, 2025, DOI: 10.1021/acs.cgd.4c01113
- Doriana T. Ungur, Arianna Lanza, Danny Stam, Carmen Guguta, Coca Iordache, Victor Fruth, Gustavo Santiso-Quinones and Mihaela M. Pop, *Crystal structure of*

febuxostat marketedpolymorph determined by electron diffraction and reinforced by X-ray crystallography, CrystEngComm Issue 32, 2024 , https://doi.org/10.1039/D4CE00518J

- Raul-Augustin Mitra, Simona Ionită, Daniel Lincu, Elena Mirabela Soare, Irina Atkinson, Adriana Rusu, Jeanina Pandele-Cusu, Coca Iordache, Ingemar Pongratz, Mihaela Maria Pop and Victor Fruth, *Mechanochemical Synthesis of Resveratrol–Piperazine Cocrystals*, Materials 2024, 17, 3145. https://doi.org/10.3390/ma17133145
- Simona Ioniță, Mariana Pătrașcu, Elena Mirabela Soare, Daniel Lincu, Irina Atkinson, Adriana Rusu,·Mihaela Maria Pop, Coca Iordache, Cătălina-Diana Uşurelu, Andreea Simona Baltac, Raul-Augustin Mitran, Jeanina Pandele-Cuşu and· Victor Fruth, *Rapid Synthesis and Evaluation of Resveratrol-Piperazine Cocrystalsby Ultrasound and Microwave Methods,* Pharmaceutical Research, Volume 41, pages 1843–1853, (2024), https://doi.org/10.1007/s11095-024-03758-3
- Cristina Elena Stavarache, Ali Khosravi, Maria Minodora Marin, Jeanina Pandele-Cusu, SoranaElena Lazar, Florica Papa, Victor Fruth, Dana Culita, NIonut Cristea, S. Karakoulia, K. Triantafyllidis, Marian Nicolae Verziu, *Catalytic synthesis of lactic acid from cellulose over easily-prepared niobium-doped titania by solution combustion synthesis*, Biomass and Bioenergy, Volume 194, March 2025, 107687, https://doi.org/10.1016/j.biombioe.2025.107687
- N. Terenti, N. Nedelko, E. Melnic, S. Preda, V. Fruth, J. Latuch, V. Ch Kravtsov, A. Slawska-Waniewska, A. Lazarescu, V. Lozan, *Heterometallic Co–Sr -2,3-pyridinedicarboxylate complex and its related perovskite oxide: Synthesis, structural characterization and magnetic properties,* Journal of Solid State Chemistry 331 (2024) 124538, https://doi.org/10.1016/j.jssc.2023.124538
- Francesco Cordero, Floriana Craciun, Francesco Trequattrini, Simona Ionita, Daniel Lincu, Raul-Augustin Mitran, Victor Fruth, Simona Brajnicov, Antoniu Moldovan and Maria Dinescu, *Phase Transition and Dynamics of Defects in the Molecular Piezoelectric TMCM-MnCl3 and the Effect of Partial Substitutions of Mn* , Crystals 2023, 13, 409. https://doi.org/10.3390/cryst13030409
- Andrada-Ioana Damian-Buda, Cristina-Daniela Ghițulică, Andreia Cucuruz, Georgeta Voicu,Daniela Culita, Victor Fruth-Oprișan and Lucian Toma Ciocan, *Mesoporous Bioactive Glass Nanoparticles in the SiO2-P2O5-CaO-MO (M=Mg, Zn) System: Synthesisand Properties*, *J. Funct. Biomater.* 2022, *13*, 180. https://doi.org/10.3390/jfb13040180
- Catalina Haidau, Ruxandra Nastase-Bucur, Paul Bulzu, Erika Levei, Oana Cadar, Ionut Cornel Mirea, Luchiana Faur, Victor Fruth, Irina Atkinson, Silviu Constantin and Oana Teodora Moldovan, A 16S rRNA Gene-Based Metabarcoding of Phosphate-Rich Deposits in Muierilor Cave, South-Western Carpathians. Frontiers in Microbiology, Vol 13-2022, DOI: 10.3389/fmicb.2022.877481
- Victor Fruth, Ligia Todan, Cosmin Iulian Codrea, Iuliana Poenaru, Simona Petrescu, Ludmila Aricov, Madalina Ciobanu, Luiza Jecu, Rodica Mariana Ion, Luminita Predoana, *Multifunctional Composite Coatings Based on Photoactive Metal-Oxide Nanopowders (MgO/TiO_2) in Hydrophobic Polymer Matrix for Stone Heritage Conservation*, *Nanomaterials 2021,* 11 (10), 2586, https://doi.org/10.3390/nano11102586
- Cosmin Iulian Codrea, Alexa-Maria Croitoru, Cosmin Constantin Baciu, Alina Melinescu *, Denisa Ficai, Victor Fruth, Anton Ficai, Advances in osteoporotic bone tissue engineering Journal of Clinical Medicine 10(2)253, January 2021, doi.org/10.3390/jcm10020253
- Marius-George Parvan, Georgeta Voicu, Alina-Ioana Badanoiu, Victor Oprisan Fruth, Self-sensing Piezoresistive Composites Based on Cement Incorporating Low Dosage of Carbon Black Used as Multifunctional Construction Materials, Revista de Chimie (Rev. Chim.), Year 2020, Volume 71, Issue 5, 30-44, *https://doi.org/10.37358/RC.20.5.8110*
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- Irina Matsukevich, Irina Atkinson, Siarhei Basarab, Gabriela Petcu, Simona Petrescu, V.Parvulescu and V.Fruth, *Composite materials based on MgO and metallic nanoparticle for catalytic application*, Romanian Journal of Materials 49(4)483-490.
- Anamaria Zaharia, Anita-Laura Radu, Stela Iancu, Ana-Mihaela Florea, Teodor Sandu, Iulian Minca, Victor Fruth-Oprisan, Mircea Teodorescu, Andrei Sarbu and Tanta-Verona Iordache, *Bacterial cellulose-poly(acrylic acid-co-N,N0-methylene-bis-acrylamide) interpenetrated networks for the controlled release of fertilizers*, RSC Adv., 2018, 8, 17635
- Floriana Craciun,Francesco Cordero,Bogdan S. Vasile,Victor Fruth, Maria Zaharescu, Irina Atkinson,

Roxana Trusca,Lucian Diamandescu, Liviu C. Tanase, Pietro Galizia, Marin Cernea and Carmen Galassi, *Combined use of Mössbauer spectroscopy, XPS, HRTEM, dielectric and anelastic spectroscopy for estimating incipient phase separation in lead titanate-based multiferroics*, Physical Chemistry Chemical Physics, Issue 21, 2018,

- F.Craciun, F.Cordero, M.Cernea, V.Fruth, I.Atkinson, N.Stanica, B.S.Vasile, R.Trusca,A.Iuga,P.Galizia,C.Galassi,*Multiferroic (Nd,Fe)-doped PbTiO3 ceramics with coexistent ferroelectricity and magnetism at room temperature*, Ceramic International 45(70)2018, https://doi.org/10.1016/j.ceramint.2018.08.147
- A.Zaharescu, A.L.Chiriac, S.Ion, A.M.Gavrila, T.Sandu, I.I. Minca, V.Fruth, M.Teodorescu, T.V. Niculescu, *Bacterial cellulose-poly(acrylic acid-: Co-N, N '-methylene-bis-acrylamide) interpenetrated networks for the controlled release of fertilizers, RSC Advances 8(32)17635-17644*
- F.Craciun, M.Cernea, V.Fruth, M.Zaharescu, I.Atkinson, N.Stanica, L.C.Tanase, L.Diamandescu, A.Iuga, C.Galassi, *Novel multiferroic (PbNd)(TiFeMn)O3 ceramics with coexisting ferroelectricity end ferromagnetism at ambient temperature*, Materials and Design, 110(2016) 693-704
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- D. Ion-Ebrasu, S.Enache, Arizoiu, M.Filip, S.Preda, M. Varlam, V.Fruth, I. Stefanescu, *Tailored DC/Sputtered Niobium Oxide Properties for PEM Electrolysis Application, ECS Transaction 69(17) 859-868,* DOI: 10.1149/06917.0859ecst
- A. Zaharia, A. Sarbu, A.L. Radu, K. Jankova, A. Daugaard, S. Hvilsted, F.X. Perrin, M. Teodorescu, C. Munteanu and V. Fruth , *Preparation and characterization of polyacrylamide-modified kaolinite containing poly [acrylic acid-co-methylene bisacrylamide] nanocomposite hydrogels*, Applied Clay Science, Volume 103, January 2015, Pages 46–54
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- R. Scurtu, G. Nichifor, C. Andronescu, V.Fruth, P.Osiceanu, *La0.8Sr0.2Ga0.83Mg0.17O 3-δ perovkites investigated by impedance spectroscopy and X-ray photoelectron spectroscopy*, June 2014, UPB Scientific Bulletin, Series B: Chemistry and Materials Science 76(2):67-76
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- V.Fruth, G.E. Dobrescu, V.Bratan, C. Hornoiu, S. Preda, C. Andronescu, M. Popa, *Structural and electrochemical features of Bi2O3-based fast oxide ion conductors*, June 2013, Journal of the European Ceramic Society 27(13-15):4421-4424, DOI: 10.1016/j.jeurceramsoc.2007.02.174
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