


Name and surname	Mirek Sopek	
Date of birth	June 7th, 1959	
EDUCATION		
X/1987-X/1992	Postgraduate studies finished with obtaining of the title of PhD in chemical sciences of the Chemistry Department of the Technical University of Łódź in 1992	
X/1978-V/1983	Technical University of Łódź – Department of Technical Physics and Applied Mathematics.	
IX/1974-VI/1978	I Liceum Ogólnokształcące (High School) in Gorzów Wielkopolski	
PROFESSIONAL EXPERIENCE		
4/2016 – today	President of MakoLab USA Inc.	
3/2014 – 12/2016	President of Chemical Semantics Inc. (Gainesville, Florida, USA)	
01/2017 – today	CTO (Chief Technology Officer) of MakoLab S.A.	
3/2008 – 12/2016	Vice-president of board of MakoLab S.A. Co-management of the company, management of foreign development of the company	
2/2000 – 2010	Assistant professor, since 2002 – Head of the “e-commerce” specialization Academy of Humanities and Economics in Łódź	
10/2007 – 2/2008	President of board of MakoLab S.A. Management of the company, transformation into a public company	
3/1997- 9/2007	Managing director – co-owner. MakoLab Civil Partnership/General Partnership. Management of the enterprise.	
5/1997-12/2000 (with intervals – periods of work in Poland)	Manager of IT projects/Systems designer. HyperCube USA, Inc., Gainesville – Florida	
1/1996-2/1997	Manager of IT projects. HyperCube, Inc., Waterloo - Canada	
3/1992-12/1995	Co-owner, MakoLab Civil Partnership	
6/1989-3/1992	Owner, MakoTypeSetting	
11/1992-12/1995	Assistant professor, Technical University of Łódź – Institute of Radiation Technology.	
6/1983 – 10/1992	Assistant, Technical University of Łódź – Institute of Radiation Technology	
FINSIHED COURSES, TRAININGS AND OBTAINED CERTIFIATES		
2004	Polish Virtual University – Financial accounting	
2005	Polish Virtual University – Managerial accounting	
PERSONAL SKILLS AND TALENTS		
<ul style="list-style-type: none">• Ability to manage multiple projects simultaneously, communication with		

international clients		
LINGUISTIC COMPETENCES		
English	Skill level (see: attachment)	
	Writing	Spoken
	C1	
		C2
Certificates	--	
Second language	Russian – A1/A2	
PUBLICATIONS, OTHER ACHIEVEMENTS		
<p>Hilczer, W.M.Bartczak, M.Sopek: „Trapped Electron in Frozen Aqueous Solutions.II.Asymmetry and Relaxation of Electron Traps” Rad.Phys.Chem. 26, (1985);</p> <p>M. Sopek, W.M. Bartczak, J.Kroh: „Molecular Structure of Organic Matrices. Computer Simulation of 3-Methylpentane at 293 K and 77 K” Bull.Pol.Acad.Scienc. Chem. 34, (1986)</p> <p>M. Hilczer, W.M. Bartczak, M.Sopek: „Preexistng Traps for Electrons in Polar Liquids” Proc. of 6-th Tihany Symposium on Radiation Chemistry,Budapest, Akademiai Kiado, 1986,</p> <p>M. Hilczer, W.M. Bartczak, M.Sopek: „Model of Preexistng Traps for Electrons in Polar Liquids”, J.Chem.Phys., 85, page 6813 (1986)</p> <p>W.M. Bartczak, A.Hummel, M.Sopek: ”Computer Simulation of Ion Recombination in Nonpolar Liquids”, Proc. of 6-th Tihany Symposium on Radiation Chemistry, Budapest, Akademiai Kiado, 1986, page 53</p> <p>W.M.Bartczak, M.Sopek, J.Kroh: „Statistical Methods of Analysis of the preexisting traps for electrons in disordered media” Radiat.Phys.Chem. 34 page 93 (1989).</p> <p>M.Hilczer, W.M.Bartczak, M.Sopek: „Electron Localization in Liquid Alcohols.A Statistical Model” Rad.Phys.Chem., 36, page 199 (1990)</p> <p>M.Sopek, W.M.Bartczak, S.Sawamura i J.Kroh: „Electron Localization in Molten Alkali Halides Mixtures.Molecular Dynamics study of the Structure of LiBr-KBr Mixture” Radiat.Phys.Chem. 36, page137 (1990).</p> <p>M.Sopek, W.M.Bartczak: „Electron Localization in Mixtures of Molten Alkali Halides. Computer Simulation of the Localized Electron in Li-KBr Mixture” Proceeding of 5-th Working Meeting on Radiation Interaction, Leipzig, 1991, page 168.</p> <p>M.Sopek, W.M.Bartczak, J.Kroh: „Electron Localization</p>		

in Molten Alkali Halides Mixtures. Quantum Path Integral Simulation”
Radiat.Phys.Chem. 39, page 91 (1992).

M. Sopek, W.M. Bartczak, J. Kroh: „*Electron Localization in Molten Alkali Halides Mixtures. II. Preliminary Results of Quantum Path Integral Simulations*” **Radiat.Phys. Chem.**

W.M. Bartczak, J. Kroh, M. Sopek: “*Solvated Electron in Liquid Methanol. An example of statistical species in Chemistry*”, **Radiat.Phys. Chem. Vol 45, No. 6, 1995**

M. Sopek, W.M. Bartczak, J. Kroh: „*Electron Localization in Molten Alkali Halides Mixtures. III. Calculation of the Absorption Spectrum of Electron Localized in [Li-K]Br Mixture*” **Radiat.Phys. Chem.**

M. Hilczer, W.M. Bartczak, M. Sopek: „*An Excess Electron - Methanol Pseudopotential*” **J.Phys.Chem.** 1992, 96, 2136-2142

PhD thesis:

Methods of computer simulation in application for electron localization in disordered systems Łódź, 1992

(An award from the Ministry of National Education)

Papers after publishing the doctoral thesis

BARTCZAK W. M. ; SOPEK M. ; “*Electron localization in liquid methanol. Quantum path-integral simulation*” *Polish Journal of Chemistry (Pol. J. Chem.)* **ISSN 0137-5083** 1998, vol. 72, n°7, pp. 1798-1825 [28 page(s) (article)]

Sopek, M. Talk at: *THE INTERNATIONAL CONFERENCE "COMPUTERS IN CHEMISTRY '99" POLISH-AMERICAN WORKSHOP "NEW TRENDS IN COMPUTATIONAL - METHODS FOR LARGE MOLECULAR SYSTEMS"* 1999, Szklarska Poręba

Sopek, M. *Chemist’s Developer Kit - An architecture for easy molecular computing – HyperNews* 1997

Sopek, M. *Conceptual and organizational aspects of e-business education at Academy of Humanities and Economics in Lodz and at Polish Virtual University. Building academic picture of today’s most important business area.*

Zeszyty Naukowe WSHE 2002

M. Sopek, „ASP Websites as Windows Applications. ASPexplore” **Software 2.0, March 2005**

M. Sopek, „*Management of cost collection and their distribution in ColDis system*” **conference: Legal and administrative aspects of shopping center management**, 21-22, 23 March 2007, Hotel Sofitel Victoria, Warsaw

Recent papers and talks on Semantic Web and its applications

Dr. Neil S. Ostlund and Dr. Mirosław Sopek, University of Waterloo Chemistry Seminar Series: *Applying the Semantic Web to Computational Chemistry*, August 7, 2013, <https://uwaterloo.ca/chemistry/events/chemistry-seminar-series-dr-neil-s-ostlund-and-dr-mirosław>

Neil S. Ostlund, Mirek Sopek, “*Applying the Semantic Web to Computational Chemistry*”, **International SWAT4LS Workshop. CEUR Proceedings, 2013.** http://ceur-ws.org/Vol-1114/Poster_Ostlund.pdf

Mirek Sopek, “*Publication and Retrieval of Computational Chemical-Physics Data via The Semantic Web*”, **European Conference of Computational Chemistry**, Sopron, Hungary, 2014.

Stuart Chalk, Neil S. Ostlund, Mirek Sopek, Bing Wang “*A standard data format for Computational Chemistry: CSX*”, **249th ACS Meeting**, Denver, Colorado, 2015

Bing Wang, Louis Nardozi, Stuart Chalk, Mirek Sopek and Neil Ostlund “*Enriching Computational Chemistry Data with the Semantic Web*” **249th ACS Meeting**, Denver, Colorado, 2015

Mirek Sopek , Stuart Chalk , Bing Wang , Louis Nardozi , Neil Ostlund, “*Development of an ontology specific to computational chemistry*”, **ACS Spring 2015. CINF Session**, Denver, Colorado, 2015

Mirek Sopek, “*Sharing Computed Quantum Chemistry Properties of Environmentally Important Molecules using the Chemical Semantics Portal.*”, **Research Data Alliance 6th Plenary Experimentation Day** Paris, September 24, 2015.

Mirek Sopek “*The most important global vocabularies for the Web and their impact on Digital Marketing ecosystems*” **ENG Conference**, Rome 2015

Mirek Sopek, Neil Ostlund, Jacob W.G. Bloom, Stuart Chalk “*Representation of molecular structures and related computations on the Semantic Web. Universal Data Model and its Ontology*”, **ACS Spring 2016, CINF Session**, San Diego, California, 2016.

Mirek Sopek, Neil Ostlund, Jacob W.G. Bloom, Stuart Chalk “*Novel representation of the molecular structures on the Semantic Web. Universal Graph Data Model.*”

2016 Meeting of the Southeastern Theoretical Chemistry Association, Florida State University, Tallahassee, FL

Dr Mirek Sopek, Dr Robert Trypuz, Dominik Kuziński
“*Industry Ontologies: Case Studies in Creating and Extending Schema.org for Industry-specific Vocabularies*”, **Enterprise Data World 2017, Atlanta, Georgia, USA**

Dr Mirek Sopek, Dr Robert Trypuz, Dominik Kuziński
“*Markup for Banks and Financial Institutions*”, **Schema.org official document published by Google at: <http://schema.org/docs/financial.html>**

Dr Mirek Sopek, Dr Robert Trypuz, Dominik Kuziński
“*Markup for Autos*”, **Schema.org official document published by Google at: <http://schema.org/docs/automotive.html>**

Bing Wang, Paul A. Dobosh, Stuart Chalk, **Mirek Sopek**, and Neil S. Ostlund,
“*Computational Chemistry Data Management Platform Based on the Semantic Web*”, J. Phys. Chem. A, 2017, 121 (1), pp 298–307,
DOI: 10.1021/acs.jpca.6b10489, Publication Date (Web): December 12, 2016

Bing Wang, Paul A. Dobosh, Stuart Chalk, Keigo Ito, **Mirek Sopek** and Neil S. Ostlund, “*A Portal for Quantum Chemistry Data Based on the Semantic Web*”, A manuscript for QSCP-XXI Proceedings.

Mirek Sopek, “*Rank, Analyse, Lead, Search – An incredible power of data described by schema.org*”, Data Science Skills Development Symposium, Edinburgh, June 9th, 2017

Dr. Mirek Sopek, Dr. Robert Trypuz, “*Structured Data for the Financial Industry. The extensions to schema.org and their benefits for: Ranking | Analytics | Search | Reporting*”,
TODE2017 - Trusted Open Data Ecosystem, September 28, 2017, Madrid, Spain.

Mirek Sopek, Robert Trypuz, Dominik Kuziński, “*The future role of schema.org for business reporting. From existing financial extension toward reporting extension*”, Data Amplified 2017, November 6-9, 2017 - Paris.

Recent Papers and talks on Digital Identification and Blockchain

Robert Trypuz, Dominik Kuziński and Mirek Sopek. „*General Legal Entity Identifier Ontology*”, in: **Proceedings of the Joint Ontology Workshops co-located with FOIS 2016**, CEUR Workshop Proceedings, vol. 1660, Eds. Oliver Kutz, Sergio de Cesare, <http://ceur-ws.org/Vol-1660/>

Mirek Sopek, “*Using Blockchain for Digital Identifiers: Improving Data Security and Persistence for Digital Object Identifier (DOI) and Legal Entity Identifier (LEI)*”.
The E-Finance Lab and DZ BANK 2016 Fall Conference. Goethe University Frankfurt. September 1st, 2016.

http://www.efinancelab.de/fileadmin/documents/conferences/herbsttagung2016/presentations/17_Mirek_Sopek_Digital_Identifiers_v1.1_1815-1830.pdf

http://www.efinancelab.de/uploads/fc2016/11_mirek_sopek.mp4

Mirek Sopek, *"Blockchain for Digital Identifiers: Improving Data Openness, Security and Persistence in the modern world."*, **TODE 2016 conference, Poznań 2016**
(<http://10years.br-ag.eu/>, <http://www.slideshare.net/sopekmir/blockchain-for-digital-identifiers>)

Dr. Mirek Sopek, *"How Can Blockchain amplify Digital Identifiers? Improving Data Persistence, Openness, and Trust in the modern world."* DataAmplified 2016 – XBRL and the future of Business Reporting, Singapore, Nov. 8-10, 2016.
<https://www.dataamplified.org/sessions/blockchain-smart-contracts-and-efficiency/>

Mirek Sopek, Przemyslaw Gradzki, Witold Kosowski, Dominik Kuziński, Rafał Trójczak, Robert Trypuz, *"GraphChain: A Distributed Database with Explicit Semantics and Chained RDF Graphs"*, ACM Digital Library, WWW '18 Companion Proceedings of the The Web Conference 2018, Pages 1171-1178, Lyon, France — April 23 - 27, 2018 ISBN: 978-1-4503-5640-4 , doi: 10.1145/3184558.3191554

Mirek Sopek, presentation of Graphchain, The Web Conference 2018, Lyon, France — April 24, <https://www.slideshare.net/sopekmir/graphchain>

Mirek Sopek, Przemysław Gradzki, Dominik Kuzinski, Rafał Trójczak and Robert Trypuz, *"Legal Entity Identifier blockchained by a Hyperledger Indy implementation of GraphChain"*, 12th International Conference on Metadata and Semantics Research, Limassol, Cyprus, MTSR Best Paper Award: <http://graphchain.io/MTSR2018.pdf>

Xin Sun, Quanlong Wang, Piotr Kulicki, Mirek Sopek *"A Simple Voting Protocol on Quantum Blockchain"* , International Journal of Theoretical Physics, January 2019, Volume 58, Issue 1, pp 275–281

Xin Sun, Mirek Sopek, Quanlong Wang, Piotr Kulicki, Robert Trypuz *"Quantum Blockchain, a Simplified Framework"*, paper submitted to Quantum Information and Measurement, QIM 2019.

Recent papers and talks on Artificial Intelligence

Dr. Mirek Sopek, *"From Web Full of Meaning to Artificial Intelligence"* Invited lecture.
International Day of Philosophy. JPII University, Lublin, November 15th, 2016

Dr. Mirek Sopek *"Artificial Intelligence and the issue of the structure of human being"* in *"Theological, Philosophical and Scientific visions of human being"* ed. P. Moskal – **Monography. JPII University Publishing House. Lublin 2018.**

Dr. Mirek Sopek, *"Four Słupsk lectures (AI, Blockchain, Semantic Web, Digital Solutions)"*
Invited Lectures at Pomerania Academy, Słupsk. Feb. 27th – March 1st

Dr Mirek Sopek, David Amerland, Robert Trypuz – *"Digital Trust. How companies can be identified and authenticated in the Digital World"* – A Book. in writing.

PROFESSIONAL ASSOCIATIONS
<i>Mirek is leading MakoLab membership in EDMC – Enterprise Data Management Council (New York)</i>
<i>Mirek is leading MakoLab USA membership in Data Coalition (Washington DC)</i>
ADDITIONAL ACHIEVEMENTS
<p><i>Practical activity pertaining to e-commerce</i></p> <p>Between 1989 and 2007 I was leading e-commerce activities of MakoLab, currently MakoLab S.A. (company listed on the NewConnect market of the Warsaw Stock Exchange).</p> <p>During this period, I have created the following e-commerce solutions:</p> <ol style="list-style-type: none"> 1) The concept for distributed ERP-class system Fractus – www.fractus.eu and its implementation described, among other places, in: http://wiadomoscihandlowe.pl/content/view/18581/2389/ and in: http://former.makolab.pl/root/content/pl/business/Fractus/forum_s241.pdf 2) Concept of an e-commerce solution for the portal www.opony.pl and www.opony.org.pl 3) Concept of an e-commerce solution for portals: www.artgeist.com and www.myartgeist.com <p><i>Organizational activities pertaining to the Semantic Web</i></p> <p>Since 2012 I have been organizing a series of conferences under the title of MakoLab Semantic Web:</p> <p>2012 – Paris, http://semanticday2012.makolab.fr/</p> <p>2013 – Paris, http://semanticday.makolab.fr/</p> <p>2014 – Paris, http://semanticday.makolab.pl/</p> <p>2015 – Leading the international team of people and creation of auto.schema.org</p> <p>2016 – Leading the international team of people and creation of financial extension to schema.org.</p> <p>2017 – Leading the team of people that introduces Semantic Web technologies to European Union Regulators (DG Fisma)</p> <p>2019 – Leading the team which won European Commission DG Fisma call for tender “Building supervisory reporting concept dictionary through machine learning methods”</p>
PRIVATE PASSIONS AND INTERESTS
<p><i>Publishing activity: Mirek Sopek is the owner of World Without End Publishing www.wwep.eu, www.cylkow.pl – a small publishing house devoted to the Biblical Translations.</i></p>

Public activity: Mirek is a member of the Board of the Monumentum Iudaicum Lodzense Foundation in Łódź.

Canoeing, biking, classical music, literature, blogging (<http://sopekmir.blogspot.com>), philosophy, religion, Judaism, Buddhism.