

Dr. Miklós Mohos MSc, Dipl.-Ing., PhD

Chief Operations Officer | Engineer | Energy expert

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PROFILE

A **natural leader** with engineering background and entrepreneur mindset, with 15+ years of technology development experience and **9+ years of managing multiple projects and team members in multi-disciplinary settings**. 5+ years of experience as a **director and COO** of a tech start-up company (spin-off of University of Oxford, UK).

- Manages and coordinates personnel and resources for optimal impact
- Team leader with an innate ability to quickly analyse problems and identify appropriate solutions
- Exceptional organisational and planning skills to always meet even the tightest deadlines

KEY SKILLS

Team management | Engineering | Energy analysis | Project coordination | Company management | Laboratory management | Teaching | Training | Mentoring | Time management | Team leading | Research and Development | Electrochemistry | Data analysis | Experiment planning | Troubleshooting | Method development | Instrument development | Method validation | Process optimisation | Sustainability | Surface characterization | Problem solving | Staff training | Materials Science | Literature review | Report writing | Communication | Safety | Paper reviews | Resource management | Advanced statistical methods | Project management | Project delivery | Continuous Process Improvement | IT | Web development | Software development | Delphi | Pascal | Lazarus | Office

PERSONAL ATTRIBUTES

- Forward-thinking and creative Director focused on continuous process improvement
- **Building energy efficiency expert** and Researcher with a passion for teaching
- **Personable and approachable** with the ability to build excellent working relationships with colleagues and industrial partners
- Innovative and independent thinking in multi-disciplinary settings
- Extensive analytical problem-solving and documentation skills
- Excellent communication and presentation skills with confidence

PROFESSIONAL EXPERIENCE

2018-2023 EcoSync Ltd.

Chief Operations Officer, board member, director

- **Energy and data analyst.** Carbon emission and energy profile calculations for commercial buildings.
- **Sales enablement.** Financial planning and modelling the ROI of energy related investments
- **Business Operations** (operations, payrolls, accountants, hr, grant writing)

2017-2018 Cytosurge AG

Laboratory manager/Material Scientist/R&D Engineer

- Responsible person for the chemical laboratory and laboratory safety. Building up a new wet-chemistry laboratory
- SEM expert. Analysing micro- and nano-structures for research and industrial purposes
- Designing new electrolyte compositions for micro 3D metal printing

2014-2017 BASF-University of Bern

Laboratory manager/Material Scientist/Electrochemist and project leader

- **Project leader** in electrochemical deposition research for semiconductor industry (industrial project in collaboration between BASF and University of Bern). Active

participation in the experimental planning, guidance of the lab-technicians, writing and presenting weekly reports for the collaborator partners. Software development for BASF

- Responsible for the SEM/EDX laboratory. Giving over satisfying service for external and internal partners/customers. Teaching of electron microscopy related subjects.
- Leader of the physical chemistry practicum, guiding teaching assistants.
- Webpage development

2012-2013 University of Bern

Research and Teaching Assistant

- **Instrument development** (in collaboration with Nanosensors) and research (**Atomic Force Microscope**), electrochemical conductive probe AFM development for molecular electronics studies, tip modification
- Teaching in the undergraduate Physical Chemistry practicum (chemistry, biochemistry and pharmacy students)

2010-2012 Hungarian Academy of Sciences

Research Assistant

Surface modification of silicon surfaces for intra and extracellular nano and micro electrodes for monitoring in vitro stem cell differentiation. Characterization of the samples with SEM/TEM/EDX/AFM and different tribology methods. **FP7 EU project** (EXCELL, NMP4-SL-2008-214706)

Instrument development (in-house developed sessile droplet contact angle measurement device)

2005-2007 EGIS Pharmaceuticals PLC

Environmental research fellow

Controlling and forecasting the chemical pollutant emission of the different active substance processes

2004-2010 Budapest University of Technology and Economics

Student Researcher

- Instrument and software development (multifunctional device for complex analysis of water)
- Pharmaceutical research for iron deficiency anaemia. Preparation of various silicone compounds, optimizing the release of targeted active substance into the human body by modifying the hydrophilicity of polymer matrix
- Solar cell manufacturing in clean semiconductor laboratory

EDUCATION

2014 University of Bern, Switzerland

Ph.D. in Chemistry and Molecular Sciences

Thesis title: "Surface modification and characterization methods for micro- and nano-electrochemical applications", final grade: 5.5/6 (Insigni cum laude)

2010-13 Hungarian Academy of Sciences / University of Bern

Ph.D. Candidate

2003-10 Budapest University of Technology and Economics

Master of Science in Chemical Engineering (specialization in polymer chemistry and rubber technology)

COMPUTER-SOFTWARE SKILLS

Expert skill and knowledge of complex computer driven measuring devices and data analysis software, programming. Professional user of Microsoft Windows, Microsoft Office, audio-video studio software, Inkscape (vector graphic editor), etc.

PUBLICATIONS

- **M. Mohos** K. Renner, I. Sajó, J. Mihályi, L. Nyikos and Zs. Keresztes; Deposition of Gold on 2 and 3 Dimensional Silicon Microelectrodes by Electroless Deposition, Extend the Adhesion by Eutectic Bonding (2016) submitted to Materials Letters
- P. Moreno-Garcia, V. Grimaudo, A. Riedo, M. Tule, M. Neuland, **M. Mohos**, P. Wurz, P. Broekmann; Inclusion Quantification of a State-of-the-Art Bifunctional Additive for Damascene Applications. Submitted to The Journal of Physical Chemistry, 2016
- **M. Mohos**, Zs. Keresztes, L. Nyikos; Temperature Controlled Gold Patterning on Silicon by Combined Galvanic Displacement and Photolithography (2016) submitted to Microelectronic Engineering
- A. Dutta, M. Rahaman, N. C. Luedi, **M. Mohos**, and P. Broekmann; Morphology matters: Tuning the Product Distribution of CO₂ Electroreduction on Oxide-Derived (OD) Cu Foam Catalysts. Accepted for publication in ACS Catalysis, 2016
- V. Kolivoska, **M. Mohos**, I. V. Pobelov, S. Rohrbach, K. Yoshida, W. J. Hong, Y. C. Fu, P. Moreno-García, G. Mészáros, P. Broekmann, M. Hromadová, R. Sokolová, M. Valasek and Th. Wandlowski; Electrochemical Control of a Non-covalent Binding Between Ferrocene and Beta-Cyclodextrin. Chem. Commun., 2014, 50, 11757
- **M. Mohos**, I. V. Pobelov, V. Kolivoška, G. Mészáros, P. Broekmann and T. Wandlowski; Breaking Force and Conductance of Gold Nanojunctions: Effect of Humidity. J. Phys. Chem. Lett. 2014, 5, 3560–3564
- V. Kaliginedi, H.i Ozawa, A. Kuzume, S. Maharajan, I. V. Pobelov, N. H. Kwon, **M. Mohos**, P. Broekmann, K. M. Fromm, M. Haga and Th. Wandlowski; Layer-by-layer Grown Scalable Redox-active Ruthenium-based Molecular Multilayer Thin Films for Electrochemical Applications and Beyond. Nanoscale, 2015, 7, 17685–17692
- I. V. Pobelov, **M. Mohos**, K. Yoshida, V. Kolivoska, A. Avdic, A. Lugstein, E. Bertagnolli, K. Leonhardt, G. Denuault, B. Gollas and Th. Wandlowski; Electrochemical Current-Sensing Atomic Force Microscopy in Conductive Solutions. Nanotechnology 24 (2013) 115501
- I. V. Pobelov, **M. Mohos** and C. Richter; NANOSENSORS™ Insulated Conductive Probes for combined AFM and ElectroChemical studies (EC-Probes). Application Note, Nanoworld AG
- L. Románszki, M. Mohos, J. Telegdi, Zs. Keresztes, L. Nyikos; A Comparison of Contact Angle Measurement Results Obtained on Bare, Treated and Coated Alloy Samples by Both Dynamic Sessile Drop and Wilhelmy Method. Periodica Polytechnica Chemical Engineering, 58(Sup), pp. 53-59, 2014
- L. Románszki, **M. Mohos**, J. Telegdi, L. Nyikos; Contact Angle Measurement is an Efficient Tool for the Characterization of Corrosion Protection Nanolayers on Copper Alloys and Stainless Steel. PROC. NAP 2, 01PCSI04 (2013)

Patents

2020 **Temperature control system** (UK Patent No. 2579336)

AWARDS

2022 **Student Accommodation Award** - Climate Crisis Initiative
2010 **„Young Researcher” Academic award** (Hungarian Academy of Sciences)

LANGUAGES

English	Full Professional Proficiency
Hungarian	Bilingual proficiency
German	Limited working proficiency

OTHER SKILLS

Driving license (AM, B categories)
Pilot license (IPPI4)
Paragliding instructor license (SHV)

VOLUNTEERING

Scientific experiment show performer for primary and elementary school students
Tutoring (Chemistry, Mathematics, Physics, Music, Magic cube solving, Paragliding)
Hungarian Red Cross (**AIDS advisor**)

HOBBIES

Paragliding, music, travelling, cooking, teaching, psychology, pocket watches, magic cube (Rubik's cube), friends.

References are available upon request