

# Dr. Yury O. Tsybin

Director, Biomolecular Mass Spectrometry

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## PROFESSIONAL EXPERIENCE

**Spectroswiss Sàrl**  
EPFL Innovation Park, Lausanne, Switzerland, [www.spectroswiss.ch](http://www.spectroswiss.ch)



2014 - Current **CEO and Founder**

**École Polytechnique Fédérale de Lausanne (EPFL)**  
Lausanne, Switzerland



2006 - 2014 **Assistant Professor of Physical and Bioanalytical Chemistry**  
**Head of the Biomolecular Mass Spectrometry Laboratory**

2006 - 2014 **Director, Mass Spectrometry Service Facility**  
**Institute of Chemical Sciences & Engineering**

## RESEARCH EXPERIENCE

2004 – 2006 **Postdoctoral research associate, National High Magnetic Field Laboratory, FL, USA** | Advisor: Prof. Alan G. Marshall  
*Research: Mass spectrometry for improved macromolecular structure analysis*

2000 – 2004 **Ph.D. student, Angstrom Laboratory, Uppsala University, Uppsala, Sweden** | Supervisor: Prof. Per Hakansson  
*Dissertation title: High rate electron capture dissociation Fourier transform ion cyclotron resonance mass spectrometry*  
Date of degree awarded: May 24, 2004

## EDUCATION

2000 – 2004 **Ph.D. in Ion Physics (Degree date: 24 May 2004)**, Uppsala University, Uppsala, Sweden

1994 – 2000 **M.Sc. in Technical Physics**, State Polytechnical University, Saint-Petersburg, Russia

1997 – 1998 **Entrepreneurship License**, the Finnish Ministry of Education, Jyväskylä Institute of Technology

## AWARDS AND HONORS

- 2016 Curt Brunnée Award of the International Mass Spectrometry Foundation (IMSF), [www.imss.nl](http://www.imss.nl)  
*"For outstanding contributions to the development of instrumentation for high-resolution and tandem mass spectrometry"*
- 2015 Winner of Venture Kick Competition Stage I for Spectroswiss Inc., [www.venturekick.ch](http://www.venturekick.ch)
- 2014 The SGMS Award of the Swiss Group for Mass Spectrometry, [www.sgms.ch](http://www.sgms.ch)
- 2012 European Young Chemist Award, Silver Medal, 4<sup>th</sup> EuCheMS Conference
- 2012 Invited Professor (1 month), Ecole Polytechnique, Palaiseau, France
- 2011 Recipient of the ERC Starting Grant (panel PE4):  
*"Super-resolution mass spectrometry for health and sustainability"*, SRMS4HESUS
- 2011 Recognized as "Outstanding reviewer for the Journal of the American Society for Mass Spectrometry" at the JASMS Editorial Board Meeting, the 59<sup>th</sup> ASMS Conference, Denver, CO
- 2011 Invited Professor (1 month), University of Vienna, Vienna, Austria
- 2009 Invited Professor (1 month), University of Claude Bernard Lyon 1, France
- 2006 Young Investigator Award, finalist. Human Proteome Organization (HUPO)

## SUPERVISION AND MENTORING

2006-2016 Supervised **6** PhD students (all graduated from EPFL), co-supervised **1** PhD student (graduated from University of Geneva), supervised **10** postdoctoral scholars, **7** M.Sc. & **3** B.Sc. students

## EDUCATIONAL ACTIVITY

- 2018-currently Advanced short course on "FTMS Fundamentals and Data Processing" (on-site and/or on-line)
- 2006-currently Organization of and teaching at Summer and Winter PhD Schools in Mass Spectrometry (English)
  - 2006-2014 Teaching of an advanced PhD level course Current Topics in Mass Spectrometry (English/French) at EPFL/UNIL
  - 2006-2014 Teaching at EPFL/UNIL: General Chemistry (BSc, French); Structure Analysis of Organic Molecules (BSc, French); Fundamentals of Mass Spectrometry (MSc, English)

## PUBLICATIONS

Patents/copyrights: **7**; Reviews/chapters: **8**; Research papers: **111**; h-index: **37** (Google Scholar), **32** (Scopus)  
ORCID Researcher ID: [orcid.org/0000-0001-7533-0774](https://orcid.org/0000-0001-7533-0774)

## PRESENTATIONS

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Invited oral presentations, in total >150, including: Plenary invited talks at the International Conferences & Workshops: >15; Regular invited talks at the International Conferences & Workshops: >60; Invited talks at academia/industry seminars: >60; Lectures at summer/winter schools for PhD students and industrial scientists: >20. Regular oral presentations at major international conferences: >20, including ASMS: 5; Talks at ASMS as a principal co-author: 10. Poster presentation as an author or a co-author: >60, including ASMS: >40

## COMMITTEE ACTIVITY AND COMMUNITY SERVICE

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**Member**, for Education, Swiss Group for Mass Spectrometry Board. Details: [www.sgms.ch](http://www.sgms.ch)  
**Member**, Editorial Board for the peer-reviewed *International Journal of Mass Spectrometry*  
**Member**, Editorial Advisory Board for the peer-reviewed *European Journal of Mass Spectrometry*  
**Member**, Board of Directors of Top-Down Proteomics Consortium, [www.topdownproteomics.org](http://www.topdownproteomics.org)  
**Member**, Industrial Scientific Advisory Board for Horizon 2020 project EPIC-XS, on-going  
**Member**, External Expert Board for the ICR Program, National High Magnetic Field Laboratory, Tallahassee, FL, USA  
**Member**, External Reviewer Panel for the French FTMS user network, France. Details: [www.fticr.org](http://www.fticr.org)  
**Member**, Scientific Advisory Board for Horizon 2020 project METASPACE (completed)  
**Member**, External Advisory Board for the FP7 project High Speed Proteomics Analysis (completed)  
**Member**, Committee for Doctoral Program in Chemistry and Chemical Engineering, EPFL (2007-2014)  
**Expert** on PhD defenses both internally and externally to EPFL: 19; President at PhD defenses: 2  
**Membership**: Am. Chem. Soc.; Swiss Chem. Soc.; Am. Soc. Mass Spectrom.; Swiss Group Mass Spectrom., Human Proteome Organization; Russian Mass Spectrom. Society  
**President**: Russian Mass Spectrometry Interest Group @ American Society for Mass Spectrometry, 2014-2015, 2017-2018

## CONFERENCES & WORKSHOPS ORGANIZATION

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**Co-Organizer**, Annual Swiss Group for Mass Spectrometry meeting, Beatenberg, Switzerland, 2010-2021  
**Organizer**, FTMS School at the Swiss Group for Mass Spectrometry meeting, Beatenberg, Switzerland, 2018  
**Co-Organizer**, The 3<sup>rd</sup> International Mass Spectrometry Summer School, Dubrovnik, Croatia, 2017  
**Co-Organizer**, Summer School on Mass Spectrometry in Biotechnology & Medicine, Dubrovnik, Croatia, 2008-2017  
**Organizer**, Doctoral Summer School "Frontiers in Mass Spectrometry", Villars-sur-Ollon, Switzerland, 2009  
**Principal Co-Organizer**, 9<sup>th</sup> European FTMS Workshop, Lausanne, Switzerland, 2010  
**Organizer**, Winter Doctoral School "Electron capture and transfer dissociation", Villars-sur-Ollon, Switzerland, 2011  
**Organizer**, 8<sup>th</sup> UppCon Conference on Radical Ion Chemistry in the Gas Phase, Villars-sur-Ollon, Switzerland, 2011  
**Coordinator**, ASMS FTMS Interest Group Annual Meetings, USA, 2007, 2008, 2009; 300 participants/year  
**Session chair**: numerous services at ASMS, SGMS, EFTMS, IMSC, summer schools, etc.

## REVIEWING ACTIVITY

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Journals: J. Am. Chem. Soc.; J. Am. Soc. Mass Spectrom.; Ang. Chemie Int. Ed., Anal. Chem.; Anal. Bioanal. Chem.; J. Prot. Res.; Rapid Commun. Mass Spectrom.; Int. J. Mass Spectrom., Mol. Cell. Prot., Analyst, PNAS, etc.  
Funding agencies: Swiss National Science Foundation (Switzerland), French National Research Agency (ANR, France), Hercules Foundation (EU), European Science Foundation (EU)

## FUNDING ID

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### Total (PI): 3'884 kEuro

- 2021-2025 FET Open Grant, EU Horizon 2020 (co-PI), «Ariadne: Redefining mass spectrometry – a breakthrough platform for real-time noninvasive breath analysis with single ion detection of intact viruses and bacteria and post-analysis molecular characterization». Total amount for this PI: 450'000 Euros
- 2021-2022 FET Innovation Launchpad Grant, EU Horizon 2020 (PI), «A2MStools: Tools to access and analyze un-reduced mass spectrometry data to accelerate access to biotherapeutics». Total amount: 100'000 Euros
- 2019-2021 FET Open Grant, EU Horizon 2020 (co-PI), «TopSpec: Next generation precision antibody profiling - from science fiction to reality». Total amount for this PI: 430'000 Euros
- 2018-2021 Eurostars Eureka Grant (co-PI), «AerOrbi: Aerosol soft photo ionization Orbitrap mass spectrometry». Total amount for this PI: 350'000 Euros
- 2017-2018 ERC Proof of Concept Grant (PI), "Precision mass spectrometry to leverage applications in life and environmental sciences". Total amount: 150'000 Euros
- 2015-2016 ERC Proof of Concept Grant (PI), "Advanced signal processing of time-domain data in mass spectrometry to leverage life sciences". Total amount: 150'000 Euros
- 2011-2016 ERC Starting Grant (PI), "Super resolution mass spectrometry for health and sustainability". Total amount: 1'425'731 Euros
- 2015-2020 SPECo (Economic and Commercial Promotional Service, canton Vaud, Switzerland) promotion of innovative start-up companies in the Vaud region (PI). Total amount: 100'000 Euros
- 2013-2016 Swiss National Science Foundation (PI), Independent Basic Research Grant. "Advancing mass spectrometry-based protein structure analysis at the proteoform level for comprehensive description of biological systems". Total amount 175'000 Euros
- 2009-2014 Swiss-Russia Science & Technology Cooperation Program. PI, mobility grants. Total amount: 32'100 Euros
- 2010-2012 Swiss National Science Foundation, Swiss-Russia Science and Technology Cooperation Program (PI), "High performance mass spectrometry with predictive liquid chromatography for on-line protein characterization and in-depth systems biology data mining". Total amount: 180'000 Euros
- 2008-2011 Swiss National Science Foundation, SystemsX ([www.systemsx.ch](http://www.systemsx.ch)) Initiative (co-PI). "Metabolic network in *Mycobacterium tuberculosis*". Total amount for this PI: 131'000 Euros