Dr. Yury O. Tsybin

Director, Biomolecular Mass Spectrometry

tsybin@spectroswiss.ch | +41 21 693 98 06

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PROFESSIONAL EXPERIENCE

Spectroswiss Inc.
EPFL Innovation Park, Lausanne, Switzerland, 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**, 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
"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

2014 The SGMS Award of the Swiss Group for Mass Spectrometry, www.sgms.ch

2012 European Young Chemist Award, Silver Medal, 4th 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 59th 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 (graduation from University of Geneva), supervised **8** postdoctoral scholars, **7** M.Sc. & **3** B.Sc. students

EDUCATIONAL ACTIVITY

2006-currently Organization of and teaching at Summer and Winter PhD Schools in Mass Spectrometry (English)

2006-2014 Teaching at EPFL/UNIL: General Chemistry (BSc, French); Structure Analysis of Organic Molecules (BSc, French); Fundamentals of Mass Spectrometry (MSc, English), Current Topics in Mass Spectrometry (PhD)

PUBLICATIONS

Patents/copyrights: **6**; Reviews/chapters: **5**; Research papers: **86**; h-index: **27** (Google Scholar), **25** (Scopus)

PRESENTATIONS

Invited oral presentations, in total **>100**, including: Plenary invited talks at the International Conferences & Workshops: **>12**; Regular invited talks at the International Conferences & Workshops: **>50**; Invited talks at academia/industry seminars: **>30**; 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: **>50**, including ASMS: **>30**

COMMITTEE ACTIVITY AND COMMUNITY SERVICE

Member, for Education, Swiss Group for Mass Spectrometry Board. Details: www.sgms.ch
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
Member, External Expert Board for the ICR Program, National High Magnetic Field Laboratory, Tallahassee, FL, USA
Member, Scientific Advisory Board for Horizon 2020 project METASPACE
Member, External Reviewer Panel for the French FTMS user network, France. Details: www.fticr.org
Member, External Advisory Board for the FP7 project High Speed Proteomics Analysis (HiSPRA)
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

CONFERENCES & WORKSHOPS ORGANIZATION

Coordinator, ASMS FTMS Interest Group Annual Meetings, USA, 2007, 2008, 2009; 300 participants/year
Organizer, Doctoral Summer School "Frontiers in Mass Spectrometry", Switzerland, 2009; 70 students
Principal Co-Organizer, 9th European FTMS Workshop, Switzerland, 2010; 150 participants
Organizer, Winter Doctoral School "Electron capture and transfer dissociation", Switzerland, 2011
Organizer, 8th UppCon Conference on Radical Ion Chemistry in the Gas Phase, Switzerland, 2011; 100 participants
Co-Organizer, Annual Summer School on Mass Spectrometry in Biotechnology & Medicine, Croatia, 2008-2015
Co-Organizer, Annual Swiss Group for Mass Spectrometry meeting, Beatenberg, Switzerland, 2010-2015
Session chair: numerous services at ASMS, SGMS, EFTMS, IMSC, summer schools, etc.

REVIEWING ACTIVITY

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

Total (PI): 2'410 kEuro (2'890 kCHF), incl. SNSF: 733 kEuro (893 kCHF), EU: 1'575 kEuro (1'897 kCHF)

2011-2016 ERC Starting Grant (PI), "Super resolution mass spectrometry for health and sustainability". Total amount: 1'425'731 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

2015-2018 SPECo (Economic and Commercial Promotional Service, canton Vaud, Switzerland) promotion of innovative start-up companies in the Vaud region (PI). Total amount: 100 kEuro.

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

2009-2013 Swiss National Science Foundation (PI), Independent Basic Research Grant. "Understanding energy absorption & relaxation pathways in dehydrated biomolecular systems upon electron capture & transfer dissociation for probing peptide and protein structures and interactions". Total amount: 342'000 Euros

2013-2014 Swiss-Russia Science & Technology Cooperation Program of SNSF. PI, mobility grant: "Multi-enzyme Accurate Mass-Time Approach for Peptide Quantification in Protein Extracts" Total amount: 7'800 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

2012-2013 Swiss National Science Foundation, Swiss-Russia Science and Technology Cooperation Program (PI), mobility grant: "Application of the advanced methods of statistical data analysis to improve high resolution mass spectrometry-based molecular structure analysis" Total amount: 8'300 Euros

2008-2011 Swiss National Science Foundation, SystemsX (www.systemsx.ch) Initiative (co-applicant). "Metabolic network in *Mycobacterium tuberculosis*". Total amount: 131'000 Euros

2009-2010 Swiss National Science Foundation & KGF Foundation, PI, Conference grants and fundrising. "Organization of the 9th European FTMS Workshop". Total amount: 46'000 Euros

2010-2011 Swiss National Science Foundation, SCOPES & KGF Foundation, PI, Conference grants and fundrising. "Organization of the 8th UppCon Conference on ECD & ETD". Total amount: 50'000 Euros

2009-2011 Partenariat Hubert Curien (PHC), Germaine de Staël (SATW). PI, mobility grant. "Hydrogen bonded networks, modifications and energy relaxation pathways of peptides and proteins probed by mass spectrometry". Total amount 14'000 Euros

2009-2010 Swiss-Russia Science & Technology Cooperation Program. PI, mobility grant: "High performance mass spectrometry with predictive liquid chromatography for on-line protein characterization and in-depth systems biology data mining" Total amount: 9'200 Euros

2010-2011 Swiss-Russia Science & Technology Coop. Program. PI, mob. grant: "Intramolecular energy relaxation in biomolecular radical cations: ion-electron & ion-photon interactions". Total amount: 6'800 Euros