

<b>3 NAME</b>	<b>František Tureček</b>
Nominating Society	<b>Czech Mass Spectrometric Society</b>
Supplementary Information and Description of Achievement	
<b>Curriculum Vitae</b>	
František Tureček	<i>tel.:</i> (206) 685-2041
Professor of Chemistry	<i>fax:</i> (206) 685-3478
Department of Chemistry	<i>e-mail:</i> turecek@chem.washington.edu
Bagley Hall, Box 351700	<i>http://depts.washington.edu/chemfac/turecek.html</i>
University of Washington	
Seattle, WA 98195-1700	
<b>Education</b>	<b>Title</b>
Charles University, Prague, Czechoslovakia	RNDr (MSc), 1973
Charles University, Prague, Czechoslovakia	CSc (PhD), 1977
Cornell University, Ithaca, NY	Post-doctoral, 1981-1982, 1988
<b>Employment</b>	<b>Position</b>
J. Heyrovsky Institute of Physical Chemistry and Electrochemistry, Czechoslovak Academy of Sciences	Research Fellow, 1977-1982
J. Heyrovsky Institute of Physical Chemistry and Electrochemistry, Czechoslovak Academy of Sciences	Senior Research Fellow, 1982-1987
Ecole Polytechnique Federale, Lausanne, Switzerland	Visiting Scientist, 1984-1985
Cornell University, Ithaca, NY	Lecturer, 1989
University of Washington	Acting Associate Professor, 1990
University of Washington	Associate Professor, 1991-1995
University of Washington	Professor, 1995-present
<b>Other Professional Experience</b>	
Affiliate Staff Scientist, Pacific Northwest National Laboratory, 1996-1999	
VIP Faculty Fellowship, Department of Physics and Astronomy, University of Aarhus, Denmark, July 2007 and 2008	
Visiting Professor, Universite Pierre et Marie Curie, Paris, France, August 2007 and 2008.	
Visiting Professor, Ecole Polytechnique, Palaiseau, France, September 2006 and 2010	
<b>Editorial Activities</b>	
Organic Mass Spectrometry, North American Editor, 1993-1995	
<u>Founding Editor</u> , Journal of Mass Spectrometry, 1995; Associate Editor, 1995-present	
Spectroscopy Letters, Editorial Board, 1996-2003	
Collection of Czechoslovak Chemical Communications, Advisory Board, 2000-2011	
International Journal of Mass Spectrometry, Editorial Board, 2000-present	
Encyclopedia of Mass Spectrometry, Editorial Board, 2002	
Advances in Physical Chemistry, Editor, 2007-present	

### **Professional Societies**

American Society for Mass Spectrometry, Nomination Committee, 2002-2003, Awards Committee 2011-2012

American Chemical Society, member since 1982

Elected Secretary, American Society for Mass Spectrometry, 2005-2007.

Session chair at the Annual American Society for Mass Spectrometry Conferences, 2003, 2009, 2011, and Asilomar Conference Chair, 2006

Nominated Election Candidate for ASMS President, 2009

Honorary Member of the Czech Society for Mass Spectrometry, 2011

### **Honors & Awards**

Czechoslovak Academy of Sciences Award (1979); Czech Literary Fund Award (1981); J. Heyrovsky Institute Award for Best Young Scientist (1982); Czechoslovak Academy Award for Young Scientists (1982); Honorary Plaque of the Czechoslovak Academy of Sciences (1983); 500 Leaders of Science, American Biographical Institute (2002); Appointed to the International Advisory Board of the *Institute of Organic Chemistry and Biochemistry, Czech Academy of Sciences* (2004); Appointed to the Editorial Board of *Advances in Physical Chemistry* (2007); Editor of *Journal of Mass Spectrometry* (1995-present); P. B. Hopkins Faculty Award, University of Washington, 2006; Honorary Medal, Institute of Organic Chemistry and Biochemistry, Czech Academy of Sciences, 2006; Medal of the Spectroscopy Society of J. M. Marci of Kronstad, 2010; Ceska hlava Patria Science Prize, 2010.

### **Keynote and Plenary Lectures at Major Conferences**

Keynote lecture, 10th International Mass Spectrometry Conference, Swansea, 1985

Keynote lecture, 11th International Mass Spectrometry Conference, Bordeaux, 1988

Keynote lecture, 17th International Mass Spectrometry Conference, Prague, 2006

Keynote lecture, 18th International Mass Spectrometry Conference, Bremen, 2009

Keynote Lecture, 51st ASMS Annual Conference on Mass Spectrometry and Allied Topics, Montreal, 2003

Keynote Lecture, 58th ASMS Annual Conference on Mass Spectrometry and Allied Topics, Salt Lake City, 2010

Plenary lecture, 5th Uppsala Conference on Electron Capture and Transfer Dissociation, Paris, 2007

Keynote lecture, XXXVth Colloquium Spectroscopicum Internationale Conference, Xiamen, PRC, 2007

Plenary lecture, 7th Uppsala Conference on Electron Capture and Transfer Dissociation, Nara, 2009

Keynote lecture, International Symposium on Reactive Intermediates and Unusual Molecules, Liblice, Czech Republic, 2009.

Plenary lecture, 8th Uppsala Conference on Electron Capture and Transfer Dissociation, Villars, 2011

### **Keynote and Plenary Lectures at Mass Spectrometry and Chemical Society Meetings**

Plenary lecture, Meeting of the Finnish Mass Spectrometry Society, Turku, 1986

Keynote lecture, Mass Spektrometrische Tagung, Stolberg, Germany, 1986

Plenary lecture, Congres of the French Mass Spectrometry Society, Metz, 1993

Plenary lecture, 7th National Symposium of the Indian Society for Mass Spectrometry, Gwalior, 1996.

Plenary lecture, Mass Spectrometry Societies of Australia and New Zealand, 2001

Plenary lecture, European Peptide Symposium, Prague, September 2004

Keynote lecture American Society for Laboratory Automation, San Jose, February 2004

Plenary lecture, Annual Meeting of the German Mass Spectrometry Society, Rostock 2005,

Keynote lecture, 11th National Symposium of the Indian Society for Mass Spectrometry, Munnar, 2006

Plenary lecture, 58th Congress of the Czech Chemical Society, Usti nad Labem, September 2006.

Plenary lecture, 59th Conference of the Mass Spectrometry Society of Japan, Osaka 2011

Keynote lecture, 59th Conference of the Mass Spectrometry Society of Japan, Osaka 2011

Plenary lecture, 1st Conference of the Czech Mass Spectrometric Society, Hradec Kralove, Czech Republic 2011

### **Publications (10 Selected from 350+)**

(1) Gerber, S. A.; Scott, C. R.; Tureček, F.; Gelb, M. H. "Analysis of Rates of Multiple Enzymes in Cell Lysates by Electrospray Ionization Mass Spectrometry". *J. Am. Chem. Soc.* **1999**, *121*, 1102-1104.

(2) Gygi, S. P.; Rist, B.; Gerber, S. A.; Tureček, F.; Gelb, M. H.; Aebersold, R. "Quantitative Analysis of Complex Protein Mixtures Using Isotope-Coded Affinity Tags" *Nature Biotechnol.* **1999**, *17*, 994-999 (cited 3037 times by SciFinder).

(3) Syrstad, E. A.; Tureček, F. "Toward a General Mechanism of Electron-Capture Dissociation". *J. Am. Soc. Mass Spectrom.* **2005**, *16*, 208-224. (cited 149 times by SciFinder)

(4) Tureček, F.; Syrstad, E. A. "Mechanism and Energetics of Intramolecular Hydrogen Transfer Atom Transfer in Amide and Peptide Radicals and Cation-Radicals" *J. Am. Chem. Soc.* **2003**, *125*, 3353-3369. (cited 126 times by SciFinder)

(5) Tureček, F. "N—C Bond Dissociation Energies and Kinetics in Amide and Peptide Radicals. Is the Dissociation a Non-Ergodic Process?" *J. Am. Chem. Soc.* **2003**, *125*, 5954-5963. (cited 128 times by SciFinder)

(6) Gatlin, C. L.; Tureček, F.; Vaisar, T. "Copper(II) Amino Acid Complexes in the Gas Phase." *J. Am. Chem. Soc.* **1995**, *117*, 3637-3638. (cited 103 times by SciFinder)

(7) Li, Y.; Scott, C. R.; Chamoles, N. A.; Ghavami, A.; Pinto, B. M.; Tureček, F.; Gelb, M. H. "Direct Multiplex Assay of Lysosomal Enzymes in Dried Blood Spots for Newborn Screening" *Clin. Chem.* **2004**, *50*, 1785-1796. (cited >100 times by ISI)

(8) Tureček, F.; Scott, C. R.; Gelb, M. H. "Tandem mass spectrometry in the detection of inborn errors of metabolism for newborn screening." *Methods in Molecular Biology* (Totowa, NJ, United States) (2007), **359** (Quantitative Proteomics by Mass Spectrometry), 143-157.

(9) Tureček, F. "Computational studies of radicals relevant to nucleic acid damage." *Adv. Quantum Chem.* **2007**, *52*, 89-120.

(10) Tureček, F.; Gu, M.; Shaffer, S. A. "A Novel Tandem Quadrupole Acceleration-Deceleration Mass Spectrometer for Neutralization-Reionization Studies." *J. Am. Soc. Mass Spectrom.* **1992**, *3*, 493-501.

### **Books**

F. W. McLafferty and F. Tureček: "*Interpretation of Mass Spectra*", 4th Edition. University Science Books, Mill Valley, CA, **1993** (cited >2000 times by Google Scholar)

J. S. Splitter and F. Tureček, Eds.; *Applications of Mass Spectrometry to Organic Stereochemistry*, VCH Publishers, New York, **1994**.

P. Kočovský, F. Tureček, and J. Hájíček: "*Synthesis of Natural Products. Problems of Stereoselectivity*." Vol. 1 and 2. CRC Press, Boca Raton, FL, **1986**.

### **Educational Activity**

Short Course on Mass Spectrometry, Pardubice, Czechoslovakia, 1986

Short Course on Interpretation of Mass Spectra, York Wastewater Laboratories, November 1988

Physical Chemistry Laboratory, CHEM 291, Cornell University, 1989-2000

Short Course on Advanced Interpretation of Mass Spectra, 39th ASMS Conference on Mass Spectrometry and Allied Topics, Nashville, TN, May 1991

Short Course on Advanced Interpretation of Mass Spectra, 40th ASMS Conference on Mass Spectrometry and Allied Topics, Washington, DC, May 1992

Short Course on Mass Spectrometry, Charles University, Prague, September 1994

Short Course on Mass Spectrometry, Exxon Research, Florham Park, NJ, 1994, 1995

Short Course on Mass Spectrometry, Hewlett-Packard, Naperville, IL, 1995

Analytical Mass Spectrometry, CHEM 520, Graduate Course in Chemistry, University of Washington, 1992-present

Analytical Spectroscopy, CHEM 522, Graduate Course in Chemistry, University of Washington, 1997-present

UW chemistry courses CHEM 152, CHEM 162, and CHEM 321, multiple times since 1990

Short Course on Interpretation of Mass Spectra, Kansai University, Japan, September 2006.

Short Course on Electron Capture Dissociation of Peptides, 18th International Mass Spectrometry Conference, Bremen, 2009

Short Course on Electron Capture Dissociation of Peptides, 8th Uppsala Conference on Electron Capture and Transfer Dissociation, Villars, 2011

### Book Chapters

F. Tureček: "Pyrolysis Mass Spectrometry." In *Advances in Mass Spectrometry 1988*, (P. Longevialle, Ed.), Wiley: 1989, pp 1079-1097.

F. Tureček: "The Chemistry of Ionized Enones in the Gas Phase." In *The Chemistry of Enones*, (S. Patai and Z. Rappoport, Eds.), Chapter 6; Wiley: 1989, pp 151-197.

F. Tureček: "The Chemistry of Enol Ions in the Gas Phase." In *The Chemistry of Enols* (Z. Rappoport, Ed.), Wiley: Chichester, 1990; Chapter 3, pp 95-146.

F. Tureček: "Mass Spectrometry of Alcohols and Ethers." in *The Chemistry of the Hydroxyl and Ether Group, Supplement E2*, S. Patai, Ed., Wiley, 1993, Chapter 8, pp. 373-404.

F. Tureček: "Stereochemical Effects in the Fragmentation Processes of Saturated Monocyclic Molecular Ions with One Functional Group (X = OH, OCH<sub>3</sub>, Cl, NHR)." In *Applications of Mass Spectrometry to Organic Stereochemistry*, Chapter 6; Splitter, J. S.; F. Tureček, Eds.; VCH Publishers: New York, 1994.

F. Tureček: "Stereochemical Effects in the Fragmentation Processes of Other Epimeric Bi- and Polycyclic Molecular Ions." In *Applications of Mass Spectrometry to Organic Stereochemistry*, Chapter 11; Splitter, J. S.; Turecek, F., Eds.; VCH Publishers: New York, 1994.

F. Tureček: "Stereochemical Effects in the Fragmentation Processes of Epimeric Heterocyclic Molecular Ions." In *Applications of Mass Spectrometry to Organic Stereochemistry*, Chapter 12, Splitter, J. S.; Turecek, F. Eds.; VCH Publishers: New York, 1994.

R. Houriet and F. Tureček: "Stereochemical Effects in Ion-Molecule Reactions Studied by Ion Cyclotron Resonance Spectroscopy." In *Applications of Mass Spectrometry to Organic Stereochemistry*, Chapter 17, Splitter, J. S.; Turecek, F., Eds.; VCH Publishers: New York, 1994.

F. Tureček: "The Use of Labeled Compounds." In *Applications of Mass Spectrometry to Organic Stereochemistry*, Appendix 1, Splitter, J. S.; Turecek, F., Eds.; VCH Publishers: New York, 1994.

C. L. Gatlin and F. Turecek, "Electrospray Ionization of Inorganic and Organometallic Complexes", *Electrospray Ionization Mass Spectrometry, Fundamentals, Instrumentation and Applications* (Cole, R. B. Ed.), Wiley: New York, 1997; pp. 527-570.

F. Tureček: "Mass Spectrometry in Studies of Highly Reactive and Transient Molecules." *Proceedings of the 7th National Symposium on Mass Spectrometry*, S. K. Aggarwal and H. C. Jain, Eds.; Indian Society for Mass Spectrometry, Defence Research and Development Establishment, Gwalior, India, 1996.

F. Tureček: "Generation and Characterization of Transient Intermediates by Neutralization-Reionization Mass Spectrometry." In *Encyclopedia of Mass Spectrometry*, Vol. 1 (Armentrout, P. B. Ed.); Elsevier: Amsterdam, 2003. Chapter 8, pp. 528-542.

F. Tureček: "Thermochemical and Kinetic Factors Controlling Fragmentation." *Encyclopedia of Mass Spectrometry*, Vol. 4; Nibbering, N. M. M., Ed., Elsevier: Amsterdam, 2005, Chapter 1, pp. 1-9

F. Tureček: "Pyrolysis Mass Spectrometry". *Encyclopedia of Mass Spectrometry*, Vol. 4; Nibbering, N. M. M. Ed., Elsevier, 2005; Chapter 3, pp. 306-312 .

F. Tureček: "The McLafferty and Related Rearrangements". *Encyclopedia of Mass Spectrometry*, Vol. 4, Nibbering, N. M. M., Ed., Elsevier: Amsterdam, 2005; Chapter 4, pp. 396-403.

Turecek, F.; Scott, C. R.; Gelb, M. H. "Tandem mass spectrometry in the detection of inborn errors of metabolism for newborn screening." *Methods in Molecular Biology* (Totowa, NJ, United States) (2007), **359** (Quantitative Proteomics by Mass Spectrometry), 143-157.

Lu, Y.; Bottari, P.; Aebersold, R.; Turecek, F.; Gelb, M. H. "Absolute quantification of specific proteins in complex mixtures using visible isotope-coded affinity tags." *Methods in Molecular Biology* (Totowa, NJ, United States) (2007), **359** (Quantitative Proteomics by Mass Spectrometry), 159-176.

### **Review Panels**

Review Panel of U.S. Civilian Research and Development Foundation, 1996

National Science Foundation Review Panel for Major Instrumentation in Biology, 1997

National Institutes of Health, Review Panel for Major Instrumentation, 2005, 2006, and 2007

National Science Foundation Ad Hoc Review Panel for Major Instrumentation, 2009

International Advisory Board, Institute of Organic Chemistry and Biochemistry,

Academy of Sciences of the Czech Republic, 2004-present.

### **Reviewing Activities**

On average 50-80/year invited reviews for journals (Science, Nature, Proceedings of the National Academy of Sciences USA, Angewandte Chemie, American Chemical Society journals, Clinical Chemistry, all mass spectrometry journals). Grant proposal reviews for the U. S. grant agencies (NSF, NIH, DOE) and grant agencies in Canada, United Kingdom, France, Germany, Czech Republic, Denmark, South Korea, Taiwan, Hong Kong, and Australia.

### **Current Research Grants**

Source: NIH/NIDDK 5R01-DK067859-10 (Turecek, F, P.I.)

Award period: 9/01/2009 - 8/31/2013

Title: *Multiplex Analysis of Inborn Errors of Metabolism*

Total Award Amount: \$1,327,344

Person-Months: Acad: 1 Sumr: 1.0

Development of tandem mass spectrometric methods for assays to be used for specific quantitation of enzyme activities related to lysosomal storage disorders and porphyrias.

Source: NIH/NIGMS/EUREKA 1R01GM094905-01 (Turecek, F., P.I.)

Award period: 09/01/2010-08/31/2014

Title: *Interfacing Droplets with Mass Spectrometry for Single-Cell Analysis*

Total Award Amount: \$1,129,799

Person-Months: Acad: 1 Sumr: 1.0

This grant is from RFA-GM-1-1009, Exceptional, Unconventional Research Enabling Knowledge Acceleration program to design a droplet nanolab platform coupled to a mass spectrometer for the detection of single cells and organelles.

Source: NSF Chemistry Division CHE-1055132 (Turecek, F, P.I.)

Award Period: 9/15/2011 - 9/14/2014

Title: *Transient Intermediates in Proton and Electron Transfer*

Total Award Amount: \$455,000

Person-Months: Acad: 1 Sumr: 1.0

Experimental and computational studies of reactive intermediates of electron transfer to amino acids, peptides and proteins.