**Catherine Fenselau**

### Professor

**Personal Data**

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**Education**

* A.B. Chemistry 1961, Bryn Mawr College, Bryn Mawr, PA
* Ph.D. [Organic Chemistry](http://www.chem.umd.edu/research/organic-chemistry/) 1965, Stanford University (with Carl Djerassi)
* Postdoctoral Fellow 1966, Univ. Calif. Berkeley, (with Melvin Calvin) (AAUW Fellowship)
* Postdoctoral Fellow 1967, NASA Space Sciences Laboratory (with Melvin Calvin and A.L. Burlingame)

**Professional Experience**

* Professor, Dept. of Chemistry & Biochemistry, University of Maryland, 1998-present;
* Member, Greenebaum Cancer Center, Univ. Maryland Med. School, 2001-present;
* [Affiliate faculty](http://www.chem.umd.edu/people/affiliate-faculty/), Fischell Dept of Bioengineering, Univ. of Maryland, 2007-present;
* Chair, Dept. of Chemistry & Biochemistry, University of Maryland, 1998-2000.
* Professor and Chair, Dept. of Chemistry & Biochemistry, Univ. Maryland Baltimore County, 1987-1998
* Interim Dean of the Graduate School & Assoc. Vice President for Research, UMBC 1995-1996
* Instructor to Professor, Dept. of Pharmacology and Molec. Science, Johns Hopkins Univ. Sch. of Med., 1967-1987
* Visiting Professor, Kansai Univ. (Japan) 1986;
* Visiting Professor, Univ. Warwick (UK) 1980;
* Exchange Lecturer Moscow Institute of Physics & Technology 1991.

**Research Interests**  
Mechanisms of acquired and innate drug resistance in tumors; new methods for proteomics; rapid identification of environmental microorganisms.  
 **Professional Societies**

ASMS, ACS, ASPET, AACR, HUPO, USHUPO

**Major Recognitions and Honors**

* Distinguished Contribution Award, American Society for Mass Spectrometry 2012
* Board of Trustees, Maryland Science Center 1998-2010;
* Internat.Mass Spectrom.Foundation Thomson Medal 2009;
* ACS Field & Franklin Award for Contributions in Mass spectrom. 2008;
* Braude Award, ACS Chesapeake Section, 2006;
* Honorary Foreign Member of the Japanese Society for Mass Spectrometry 2006-present;
* Hillebrand Prize, ACS Capitol Section; AnaChem Award 2003;
* Elected Fellow of the American Association for the Advancement of Science 2001;
* Eastern Analytical Symposium Award for Achievements in [Analytical Chemistry](http://www.chem.umd.edu/research/analytical-chemistry/) 1999;
* Robert and Jane Meyerhof Chair in Biochemistry 1997-1998;
* Medal of the Spectroscopy Society of Pittsburgh 1993;
* NIH Merit award 1991-2001;
* Maryland Chemist Award, ACS Chesapeake Section1989;
* ACS Garvan Medal,1985; Best Paper of the Year in Drug Metabolism Disposition 1982;
* NIH Research Career Development Award 1970-1974;
* Fellow, American Association of University Women 1965-1966.

**Significant Professional Service and Activities**  
National Research Council Board on Chemical Sciences and Technology 2000-2006; NIH: study section Medicinal Chemistry B 1975-1979; study section Pharmacological Sciences 1989-1993; Council member, Institute for Research Resources 2003-2007; NSF: Director’s Advisory Council 1979-1983; ACS: Associate Editor [Analytical Chemistry](http://www.chem.umd.edu/research/analytical-chemistry/) 1990-present; Chair [Analytical Chemistry](http://www.chem.umd.edu/research/analytical-chemistry/) Division 2001-2002; Division Councilor 2005-2013; International Human Proteome Organization (HUPO): Vice President, 2007-2008; Service Award 2006; U.S.HUPO: founding president 2004-2006; American Society for Mass Spectrometry: President 1982-1984; Founding Editor Biological Mass Spectrometry (now Journal of Mass Spectrometry) 1973-1989; Editorial Advisory Boards (current & past): J. Proteome Research; Clinical Proteomics; Protein Structure, Function and Genetics; Mass Spectrometry Reviews; Drug Discovery; Drug Metabolism and Disposition; Journal of Mass Spectrometry; Biological Mass Spectrometry; Pharmaceutical and Biomedical Analysis; Chemical Research in Toxicology; Journal of the Amer. Soc. Mass Spectrometry; Chemical & Engineering News.  
 **Students Mentored**  
More than 150 post-doctoral fellows, graduate students and undergraduate students have received training in Dr. Fenselau’s laboratories at Johns Hopkins Med School, UMBC and the University of Maryland.

Publications

Choksawangkarn, W., Kim, S., Cannon, J., Edwards, N., Lee, S.B. and Fenselau, C. Enrichment of plasma membrane proteins using nanoparticle pellicles: comparison between silica and higher density nanoparticles. J. Proteome Res. DOI: 10.1021/pr301107x (2013).

Cannon, J., Nakasone, M., Fushman, D. and Fenselau, C. Proteomic Identification and Analysis of K63-linked Ubiquitin Conjugates. Anal. Chem. 84: 10121-10128 (2012).

Choksawangkarn, W., Edwards, N., Wang, Y., Gutierrez, P. and Fenselau, C. Comparative Study of Workflows Optimized for In-gel, In-solution and On-filter Proteolysis in the Analysis of Plasma Membrane Proteins. J. Proteome Research 11: 3030-3034 (2012).

Fenselau, C. and Demirev, P. Rapid Characterization of Microorganisms by Mass Spectrometry: An Overview, in “Rapid Characterization of Microorganisms by Mass Spectrometry” eds. C. Fenselau and P. Demirev, American Chemical Society, Washington, DC, pp. 1-4 (2011).

Fenselau, C., Laine, O., and Swatkoski, S. Microwave Assisted Acid Cleavage for Denaturation and Proteolysis of Intact Human Adenovirus.International Journal of Mass Spectrometry 301, 7-11 (2011). PMID: 21499518 PMCID: PMC3076687.

Cannon, J., Lohnes, K., Wynne, C., Wang, Y. Edwards, N. and Fenselau, C. High-throughput Middle-Down Analysis Using an Orbitrap. J. Prot. Res. 9, 3886-3890 (2010).

Wynne, C., Edwards, N. and Fenselau, C. Phyloproteomic Classification of Unsequenced Organisms by Top-Down Identification of Bacterial Proteins using capLC-MS/MS on an Orbitrap. Proteomics 10, 3631-3643 (2010).

Li, J., Shefcheck, K., Callahan, J. and Fenselau, C. Primary Sequence and Site-selective Hydroxylation of Prolines in Isoforms of a Major Peanut Allergen Protein Ara h 2. Protein Science 19: 174-182 (2010).