

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel in the order listed for Form Page 2.
Follow the sample format for each person. **DO NOT EXCEED FOUR PAGES.**

| NAME Richard M. Caprioli | | POSITION TITLE Professor and Director | |
|---|----------------------------------|---|----------------|
| CURRENT AFFILIATION Vanderbilt University Medical Center | | | |
| EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i> | | | |
| INSTITUTION AND LOCATION | DEGREE <i>(if applicable)</i> | YEAR(s) | FIELD OF STUDY |
| Columbia University, New York, NY | B.Sc. | 1965 | Pharmacy |
| Columbia University, New York, NY | Ph.D. | 1969 | Biochemistry |
| Purdue University, W. Lafayette, IN | Post-doc | 1970 | Chemistry |

List of five recent publications (from over 200):

Andersson, M., Groseclose, M.R., Deutch, A.Y, Caprioli, R.M. Imaging mass spectrometry of proteins and peptides: 3D volume reconstruction. *Nat Methods* 5(1): 101-8, 2008.

Burnum KE, Tranguch S, Mi D, Daikoku T, Dey SK, Caprioli RM. Imaging Mass Spectrometry Reveals Unique Protein Profiles during Embryo Implantation. *Endocrinology* 4, 2008 [Epub ahead of print]

Sanders ME, Dias EC, Xu BJ, Mobley JA, Billheimer D, Roder H, Grigorieva J, Dowsett M, Arteaga CL, Caprioli RM. Differentiating Proteomic Biomarkers in Breast Cancer by Laser Capture Microdissection and MALDI MS. *J Proteome Res.* 2008 Apr 4;7(4):1500-1507.

Puolitaival SM, Burnum KE, Cornett DS, Caprioli RM. Solvent-Free Matrix Dry-Coating for MALDI Imaging of Phospholipids. *J Am Soc Mass Spectrom.* (3), 2008. Epub ahead of print.

Hardesty, WM, Caprioli RM. In situ molecular imaging of proteins in tissues using mass spectrometry. *Anal Bioanal Chem.* (3), 2008. Epub ahead of print.

Personal Statement

I would be pleased to continue as a member of the HUPO council. Below are some of my accomplishments in the field of protein chemistry.

I am currently the Stanley Cohen Professor of Biochemistry and Director of the Mass Spectrometry Research Center at Vanderbilt University School of Medicine. I also hold positions as Professor in the Departments of Chemistry and Pharmacology at Vanderbilt University. As noted above, I received my B.S. in 1965 from Columbia University in New York, N.Y., my Ph.D. in 1969 in Biochemistry, also at Columbia University with Professor David Rittenberg. I then completed a one-year postdoctoral fellowship at Purdue University with Professor John H. Beynon. In 1970, I was appointed as Assistant Professor of Biochemistry at Purdue. In 1975, I moved to the University of Texas Medical School in Houston where I was Professor of Biochemistry and Molecular Biology and Director of the Analytical Chemistry Center until my relocation to Nashville in early 1998.

I am interested in the use of mass spectrometry for the analysis of compounds in biological systems. Current work includes the use of electrospray and laser desorption ionization methods with biological tissues and samples. Applications have focused on the development of this instrumentation and associated methodologies to achieve ultra-high sensitivity detection of endogenous compounds (e.g., neuropeptides) in live animal systems.

Recent work involves the development of Imaging Mass Spectrometry, a technique whereby molecular images of peptides, proteins, drugs and other compounds are localized in tissue sections with molecular weight specificity. This method involves molecular mapping of animal tissue through the production of ion images obtained from the analysis of mammalian tissue. Applications to specific research areas involve questions about certain spatial distributions of molecules within specific tissues, e.g., mapping proteins in cancer tissue. Specific applications include human glioblastomas, breast cancer, colorectal cancer and lung cancer.

I have been a member of the American Society for Mass Spectrometry since 1975; where I served two years each as President of the Society and Vice-President for Programs. I am currently a member of the American Society for Biochemistry and Molecular Biology, the American Association for Cancer Research, and the American Chemical Society. I have been the Editor-in-Chief of the *Journal of Mass Spectrometry* since 1990. I am currently co-editing several volumes and am Series Editor of *Encyclopedia of Mass Spectrometry*. I have published over 300 scientific papers, including three books. In 2003, I received the Thomson Medal Award from the International Mass Spectrometry Society for "for outstanding achievements in mass spectrometry and for distinguished service to international mass spectrometry." I then received the Field and Franklin Award from the American Chemical Society in April, 2006 for Outstanding Achievement in Mass Spectrometry.

Thank you for your consideration of my candidacy.