

SUSETTE C. MUELLER, PH.D.

Current Position:

Associate Professor, Department of Oncology, Georgetown University Medical School.
Member Lombardi Comprehensive Cancer Center (LCCC) and the Angiogenesis,
Invasion, Metastasis Program, LCCC.

Director, Microscopy and Imaging Shared Resource (MISR), LCCC.

Special Volunteer, Craniofacial Developmental Biology and Regeneration Branch, National
Institute of Dental and Craniofacial Research, National Institutes of Health, Bethesda,
MD.

GWIM Activities:

Recording Secretary, 2005-present

GU Service:

Director, Microscopy and Imaging Shared Resource, LCCC, 1991 – Present

Flow Cytometry Oversight Committee, LCCC, 1993 – Present

Director of Confocal Component for Department of Cell Biology; Member Microscopy
Committee, 1995 – 1999, 2003,

Committee on Faculty Appointments and Promotions, Georgetown University, 1999 – 2004

Georgetown University Faculty Senate, 2004 – Present

Georgetown University Medical Center (GUMC) Research Committee, 2004 – Present

Teaching:

Postdoctoral Fellows, Graduate Students (Qualifying Exam and Dissertation
Committees for Ph.D. Candidates in Cell Biology, Tumor Biology, Biochemistry; and
Pathology; Graduate Student Rotations in Tumor Biology and Cell Biology)

Graduate Lectures:

“Molecular and Cellular Biology”, and “Techniques in Cell Biology”, Department of Cell
Biology, GUMC.

“FAK Signal Transduction, I, II” lectures in Signal Transduction, Dept. Biochemistry,
GUMC.

“Integrin/FAK”, “ECM”, “Phagocytosis” lectures in Molecular Cell Biology, Graduate Course
C-BIO539, Department of Cell Biology, GUMC.

“Fluorescence Microscopy and Image Analysis” lecture, Elements of Imaging.

“MICB-505: Interdisciplinary Research Survey”, Georgetown University, graduate level
lecture. “Tumor Cell Invasion, Syk and c-Src Tyrosine Kinases and Breast Cancer”.

Workshops on “Utilization of laser scanning confocal microscopy”, “Imaging Mitochondria”,
“FRET”, Lombardi Cancer Center.

“Microscopy and Imaging”, Resources for Cancer Research, TBIO-546, Tumor Biology
Program, Department of Oncology, GUMC.

“Invasion” and “Metastasis”. Tumor Biology 1: Cellular and Molecular Aspects of the
Transformed Cell, TBIO-508.

Undergraduate Students, Lectures

“Techniques for Immunofluorescence and Confocal Microscopy” lectures for Howard
Hughes Biology Department Program, Georgetown University.

Senior Thesis Mentor, Biology Department, Georgetown University.

Other Lectures

Workshops and Sponsored Lectures in Microscopy: “Imaging Mitochondria in Live Cells”,
“FRET”, “FISH”, “Fluorescence Live Imaging Techniques” “Intracellular Dynamics of

Nuclear Receptors and Cytoplasmic Endocytic/Secretory Proteins”, “Use of Confocal Microscopy”.

Clinical/Research Interests:

The study of breast cancer invasion and metastasis
The tumor and metastasis suppressor functions of Syk tyrosine kinase
Regulation of invadopodia through c-Src, cortactin, MT1-MMP
Invadopodia contribution to metastasis

Public Service:

Minority Student Mentor (DC high school students in NIH funded mentorship program, P.I. Joy Williams and Karen Huff); and Computer-Assisted Microscopy”, Junior Science and Humanities Symposium (High School students), Greater Washington Metropolitan Area, Sponsored by Georgetown University.
NIH: Ad hoc NIH review panel, National Center for Research Resources.Member; and External Reviewer for “Science Education Partnership Award” from National Center for Research Resources, NIH.
Pathobiology PBY-2 and 4 review panels, ARMY Breast Cancer Program; and Pathobiology, ARMY Breast Cancer CONCEPT Program reviews.
Cell Biology Review Panel B, NSF; and Special Emphasis Panel for Research Planning Grants, Career Advancement Awards, NSF.
Science Fair Judge, Montgomery Blair High School, Biochemistry, Microbiology.

Selected recent publications:

Coopman, P.J.P., M.T.H. Do, M. Barth, E.T. Bowden, A.J. Hayes, E. Basyuk, J.K. Blacato, P.R. Vezza, S.W. McLeskey, P.H. Mangeat, and **S. C. Mueller**. 2000. The Syk tyrosine kinase suppresses malignant growth of human breast cancer cells. *Nature* 407:742-747.
Urano, T., J. Liu, Zhang, P., Fan, X., Egile, C., Li, R., **S.C.Mueller** and Zhan, X. 2001. Activation of Arp2/3 complex-mediated actin polymerization by cortactin. *Nature Cell Biology* 3:259-266.
Yang, X. Wei, L.L., Tang, C., Slack, R., **Mueller, S.**, and M.E. Lippman. 2001. Overexpression of KAI1 Suppresses *In Vitro* Invasiveness and *In Vivo* Metastasis in Breast Cancer Cells. *Cancer Research* 61:5284-5288.
Moroni M, Soldatenkov V, Zhang L, Zhang Y, Stoica G, Gehan E, Rashidi B, Singh B, Ozdemirli M and **S.C. Mueller**. 2004. Progressive loss of Syk and abnormal proliferation in breast cancer cells. *Cancer Res.* 64:7346-54.
Bowden, E.T., Onikoyi, E., Slack, R., Myoui, A., Yoneda, T., Yamada, K.M. and **S.C. Mueller**. 2006. Colocalization of Cortactin and Phosphotyrosine Identifies Active Invadopodia in Human Breast Cancer Cells. *Experimental Cell Research (In press)*.
Artym, V.V., Zhang, Y., Seillier-Moiseiwitsch, F., Yamada, K.M., and **S.C. Mueller**. 2006. Dynamic Interactions of Cortactin and MT1-MMP at Invadopodia: Defining the Stages of Invadopodia Formation and Function. (*Cancer Research, In press*).
Coopman, P.J. and **S.C. Mueller**. 2006. The Syk tyrosine kinase: a new negative regulator in tumor growth and progression. (*In press*)

Personal Interests:

Old time country music musician: autoharp, banjo, guitar; visit www.theshivershow.com!