

Yuko J. Miyamoto

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EDUCATION

Ph.D. Immunology, August 2001

The University of Texas Graduate School of Biomedical Sciences at Houston, Houston, Texas

Dissertation Title: "Functional and Physical Associations of β 1 Integrins in the Activation of Human T Lymphocytes"

Advisor: Brad W. McIntyre, Ph.D.

Bachelor of Science, Pharmacology, June 1993

University of California, Santa Barbara
Santa Barbara, California

TEACHING

Assistant Professor

Elon University, Department of Biology
Elon, NC (August, 2005-current)

- Teach non-major biology courses and biology major courses.
- Major courses: introductory cell biology and labs, sophomore seminar course, and molecular and cellular biology lecture and lab, and introductory immunology.
- Develop research projects for undergraduates.

Instructor for Biology of Cancer Course

Duke University, Talent Identification Program
Durham, NC (July 2007)

- Teach advanced high school students the basics for cancer biology.
- Develop a course using a variety of activities and instruction.
- Identify labs to be used in the course.

Adjunct Instructor-Cell Biology

Meredith College, Department of Science and Mathematics
Raleigh, NC (August, 2004-May, 2005)

- Developed syllabus and lectures for the course.
- Incorporated and discussed current topics that are germane to the class.
- Promoted concept driven thinking about the lecture material.

Guest Lecturer

University of North Carolina at Chapel Hill, Department of Pharmacology
Chapel Hill, NC (September 21, 2004)

"Techniques of Genetic Manipulation"

- Developed and lectured on the current delivery methods for proteins and nucleic acids.
- Utilized a current research publication to emphasize the application of the methods discussed.
- Graduate level course offered to 26 graduate students from various disciplines.

TEACHING (con't)

Course Coordinator

University of North Carolina at Chapel Hill, Alumni Association
Chapel Hill, NC (September 1, 2004)

"Promises and Perils of Modern Technologies in Science"

- Lectured and presented current research techniques and on stem cell research.
- Facilitated discussion on the issues and topics presented in the book "Enough: Staying Human in an Engineered Age" by Bill McKibben
- Alumni Association sponsored "Classes with out Quizzes" course with 12 students with little or no scientific background.

Course Coordinator

University of North Carolina at Chapel Hill, Alumni Association
Chapel Hill, NC (Feb. 24, March 2, 9, and 16, 2004)

"Exploring Modern Biology"

- Presented a general overview of the basics of cell biology, the human genome, stem cell research, how the immune system functions, antibiotic resistance to a lay audience.
- Discussed current scientific topics that have been presented in the media.
- Alumni Association sponsored "Classes with out Quizzes" course with 8 students with little or no scientific background.

Teaching Assistant

University of North Carolina at Chapel Hill, Department of Biology
(May-June 2004)

- Conducted recitation sessions for the Molecular Biology and Genetics summer course
- Provided discussion, review of lecture material, and aided in grading exams.
- Undergraduate course with 60 students

Guest Lecturer

Meredith College, Department of Biology, Raleigh, NC (March 25, 2004)

- Lectured on "Cell Surface Receptors"
- Provided quiz and exam questions
- Undergraduate course with 16 students

Guest Lecturer

University of North Carolina at Chapel Hill, Biomedical Engineering Program, Chapel Hill, NC (March 17, 22, and 24, 2004)

- Developed and presented three lectures on cell signaling to University of North Carolina and NC State biomedical engineering graduate students.
- Provided and graded essay exam questions.
- Utilized distance learning technology to lecture to students at North Carolina State University.

Guest Lecturer

Meredith College, Department of Biology, Raleigh, NC (October 30, 2003)

- Lectured on "Cell Surface Receptors"
- Provided quiz and exam questions
- Undergraduate course with 12 students

Guest Lecturer

Governor's School,
Raleigh, NC (July 17, 2003)

- Presented brief explanation of my research to high school students
- Discussed and described various career opportunities in Biomedical Sciences
- Students (100) were seniors in high school attending the Governor's School

RESEARCH EXPERIENCE

Visiting Scholar

University of North Carolina, Department of Pharmacology
Chapel Hill, NC (June-August, 2006)

Postdoctoral Fellow (2001-2005)

Department of Pharmacology
University of North Carolina at Chapel Hill
Chapel Hill, North Carolina
Advisor: Rudy L. Juliano, Ph.D.

Graduate Research Assistant II (1995-2001)

Department of Immunology
The University of Texas Graduate School of Biomedical Sciences at Houston
Houston, Texas
Advisor: Brad W. McIntyre, Ph.D.

Research Intern (1993-1995)

Zeneca Pharmaceuticals
Department of Pharmacology
Wilmington, Delaware
Supervisor: Stephen G. Farmer, Ph.D.

Research Intern (1993)

SmithKline Beecham
Department of Inflammation and Pharmacology
King of Prussia, Pennsylvania
Supervisor: Lisa A. Marshall, Ph.D.

Undergraduate Research Assistant (1990-1993)

University of California, Santa Barbara
Pharmacology Program
Santa Barbara, California
Supervisor: Robert S. Jacobs, Ph.D.

LEADERSHIP and COMMUNITY ACTIVITIES

Mentor for Duke Preparing Future Faculty Program

Duke University
Durham, NC (January 2006-current)
Mentored:

- Liza Makowski, PhD Stedman Nutrition Center (January-June, 2006)
- Dawoon Jung, graduate student in Environmental Toxicology (September 2006-current)
- Liberty Hodge, graduate student in Cell and Developmental Biology (September 2006-current)

Co-Director of Collegiate Association of North Carolina Academy of Sciences (CANCAS) (2006-current)

- Assist in identifying Fall workshop location
- Attend Board of Director and Executive Committee meetings
- Advise and assist student officers

LEADERSHIP and COMMUNITY ACTIVITIES (con't)

Invited Speaker for Graduate Assistance in Areas of National Needs Program

University of North Carolina-Chapel Hill
Chapel Hill, NC (February 20, 2007)

- Discussed teaching career with graduate students interested in teaching at an undergraduate institution.
- Provided opportunity to visit a predominantly undergraduate campus.

Invited Speaker

University of North Carolina-Chapel Hill
"Finding a Postdoc Position"
Chapel Hill, NC (October 12, 2006)

Facilitator-Leadership Symposium

University of North Carolina-Postdoctoral Association Sponsored "Leadership Symposium"
Chapel Hill, NC (June 21, 2006)

Invited Speaker

University of North Carolina-Postdoctoral Association
"Teaching at a Liberal Arts Undergraduate Institution"
Chapel Hill, NC (April 28, 2006)

Co-Chair of the Programming Committee

University of North Carolina-Postdoctoral Association Sponsored 4th Annual Career Symposium- "CAREERS 2004: Get Networking!"
Chapel Hill, NC (May 25, 2004)

- Organize and plan events to help postdocs and graduate students network with professionals in academia and industry
- Design and focus symposium topics on "Networking"

Co-Founder of "Science for Kids" Outreach Program

University of North Carolina at Chapel Hill Postdoc Association
Chapel Hill, NC (2002-2005)

- Establish a community outreach program between UNC postdocs and local elementary schools (Burton and Bethesda Elementary Schools) in Durham to encourage science education

Co-Chair of UNC Postdoc Association Outreach Committee

University of North Carolina at Chapel Hill Postdoc Association
Chapel Hill, NC (2002-2005)

- Organize and create community outreach programs for postdocs
- Create a link between the UNC postdocs and local elementary schools to encourage science education

Volunteer for the Orange County Literacy Council

Chapel Hill, NC (2002-present)

- Teach and tutor adult learners to improve reading, writing, or math skills
- Create lessons plans and homework to encourage and improve their basic reading, writing, or math skills

Volunteer for the Outreach Program

University of Texas Graduate School of Biomedical Sciences
Houston, TX (1995-2001)

- Taught various science topics third graders
- Participated as a mentor to fifth graders interested in science

LEADERSHIP and COMMUNITY ACTIVITIES (con't)**Co-organizer for the Immunology Program Seminar Series**

University of Texas Graduate School of Biomedical Sciences
Houston, TX (1998-2000)

- Invited and coordinated student speakers for the seminar series.

Student Representative for Immunology Program Steering Committee

University of Texas Graduate School of Biomedical Sciences
Houston, TX (1998-2001)

- Representative for the Immunology Program during orientation
- Communicated student concerns during Steering Committee meetings

PUBLICATIONS

R.L. Juliano, V.R. Dixit, H. Kang, Y.K. Kim, **Y. Miyamoto**, and D. Xu. 2005. Epigenetic manipulation of gene expression: a toolkit for cell biologists. *Journal of Cell Biology*. 169:847-857.

H. Kang, M.H. Fisher, D. Xu, **Y.J. Miyamoto**, A. Marchand, A. Van Aerschot, P. Herdewijn, R.L. Juliano. 2004. Inhibition of MDR1 gene expression by chimeric HNA antisense oligonucleotides. *Nucleic Acids Res.*;32:4411-9.

Y.J. Miyamoto, P.J. Reddig, and R.L. Juliano. 2004. Regulation of Signal Transduction by Integrins. In: *Handbook of Experimental Pharmacology* (Eds J. Behrens and J Nelson) Springer, Heidelberg.

Y.J. Miyamoto, J.S. Mitchell, and B.W. McIntyre. 2003. Physical Association and functional interaction between $\beta 1$ integrin and CD98 on human T lymphocytes. *Molecular Immunology*. 39:739-751.

Y.J. Miyamoto, B.F. Andruss, J.S. Mitchell, M.J. Billard, and B.W. McIntyre. 2003. The dynamic effects of integrin coactivation and signaling in T lymphocytes. *Immunologic Research*. 27:71-84.

D.G. Woodside, D.K. Wooten, T.K. Teague, **Y.J. Miyamoto**, E. Krohn, T. Udagawa, and B.W. McIntyre. 2003. Control of T lymphocyte morphology by the GTPase Rho. *BMC Cell Biology*. 4:2.

L. Lee, **Y.J. Miyamoto**, B.W. McIntyre, M. Hook, K. McCrea and E.L. Brown. 2002. Prevention of T Cell-Mediated Responses by the Major Histocompatibility Complex Class II Analog Protein from *Staphylococcus aureus*. *Journal of Clinical Investigation*. 110: 1461-1471.

Y.J. Miyamoto, E.R. Wann, T. Fowler, E. Duffield, M. Höök, and B.W. McIntyre. 2000. The fibronectin-binding MSCRAMM FnbpA of *Staphylococcus aureus* can mediate human T lymphocyte adhesion and coactivation. *Journal of Immunology*. 166:5129-5138.

A.P. Warren, K. Patel, **Y. Miyamoto**, J.N. Wygant, D.G. Woodside, and B.W. McIntyre. 2000. Convergence between CD98 and $\beta 1$ integrin mediated T lymphocyte costimulation. *Immunology*, 99:62-68.

AWARDS

- **Faculty Research & Development Grant**, Elon University, 2006.
- **Hulquist Award**, Elon University, 2005.
- **National Institutes of Health Ruth L. Kirschstein National Research Service Award**, 2003-2005.
- **R.W. Butcher Achievement Award**, University of Texas at Houston Graduate School of Biomedical Sciences, 2004.
- **National Institutes of Health Immunology Training Grant**, 2000-2001
- **National Institutes of Health Travel Grant Award**, Keystone Symposia, 2000

PRESENTATIONS

"Manipulating Focal Contact Proteins with Small Interfering RNA (siRNA)"
Tri-Beta Induction Ceremony
Elon University, Elon, NC
March 29, 2006

"Manipulating Focal Contact Proteins with siRNA"
Department of Pharmacology Postdoc Seminar Series
University of North Carolina at Chapel Hill, Chapel Hill, NC
April 23, 2004

"A Preview: Taking Apart the Focal Adhesion Complex Using Old and New Techniques." Department of Pharmacology Postdoc Seminar Series
University of North Carolina at Chapel Hill, Chapel Hill, NC
August 18, 2002.

"*Staphylococcus aureus* fibronectin binding protein A can modulate human T lymphocyte adhesion and activation." Institute of Bioscience and Technology, Texas A&M University System Health Science Center, Houston, Texas, Oct. 18, 2000.

"The Role of Integrins in Human T Lymphocyte Mediated Immunity." University of Texas Program in Immunology Research Seminar Series. Houston, Texas, Oct. 4, 2000.

"Association of CD98 and β 1 Integrin on Human T Lymphocytes." Seventeenth Texas Regional Immunology Conference, Galveston, Texas, Nov. 19-21, 1999.

PROFESSIONAL ASSOCIATIONS

- American Society for Cell Biology
- North Carolina Academy of Sciences
- Association of Southeastern Biologists