SUSAN J. GUNST, PhD

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EDUCATION:

Undergraduate:	1969-1973	Brown University, Providence, RI. B.A. Biology
Graduate:	1975-1979	Johns Hopkins University, Baltimore, MD PhD Physiology
Postdoctoral:	1979-1982	Mayo Clinic and Foundation, Rochester, MN. Depts. of Physiology & Biophysics and Internal Medicine

ACADEMIC APPOINTMENTS:

1973-1975	Research Assistant, Yale University School of Medicine, New Haven, CT
1982-1983	Instructor, Physiology and Biophysics, Mayo Medical School, Rochester, MN
1983-1989	Assistant Professor, Physiology and Biophysics, Mayo Medical School, Rochester, MN
1984-1989	Associate Consultant, Depts. of Internal Medicine and Physiology and Biophysics, Mayo Clinic and Foundation, Rochester, MN
1989-1996	Associate Professor of Physiology and Biophysics, Dept. of Physiology and Biophysics, Indiana University School of Medicine, Indianapolis, IN
1986-1989	Teaching and Examining Faculty Member, Department of Physiology and Biophysics, Mayo Graduate School of Medicine, Rochester, MN
1996-present	Professor of Cellular and Integrative Physiology, Dept. of Cellular and Integrative Physiology, Indiana University School of Medicine, Indianapolis, IN

PROFESSIONAL OFFICES, APPOINTMENTS AND AWARDS

American Physiological Society. Member 1979-present
Chair, APS Respiration Section. 2005-2008
Chair, Respiration Section Steering Committee, 2004-2008
Chair, APS Careers in Physiology Committee, 1994-1995.
Chair, Respiration Section Awards Banquet, 2005-2007
Chair, Giles Filley Award Committee, 2005-2008
Respiration Section Program Committee, 2001-2008
APS Nominating Committee, 2005-2008
APS Section Advisory Committee, 2005-2008

American Thoracic Society. Member, 1981-present
ATS Board of Directors, American Thoracic Society, 2002-2004
Chair, Assembly on Respiratory Structure and Function, 2002-2004
Chair, Planning Committee, Assembly on Respiratory Structure and Function, 2001-2002.
Chair, Program Committee. Assembly on Respiratory Structure and Function, 1999-2000.
Chair, RSF Nominating Committee: 2006, 2010
ATS Conference Committee, 1999-2000
ATS Planning and Budget Committee. 2004- 2007
ATS Web and Information Systems Oversight Committee, 2007-2010
ATS Planning Committee, Assembly on Respiratory Structure and Function, 1998-2006
Program Committee, ATS Assembly on Respiratory Structure and Function, 1995-2004.
ATS Parker B. Francis Award, 2010

OTHER PROFESSIONAL SOCIETIES
American Society for Cell Biology. 2001-present
American Society for Biochemistry and Molecular Biology, 2010-present

EDITORIAL BOARDS
Associate Editor: Journal of Applied Physiology, 2000-2009.
American Journal of Physiology: Lung, Cell and Molecular Physiology: 2009-present
Editorial Board Memberships
American Journal Physiology: Lung Cell and Molecular Physiology (1994-present)
Journal of Applied Physiology (1997- present)
Current Respiratory Medicine Reviews (2004-present)
Biochemical Journal (2004-2007)
Respiration Physiology and Neurobiology (1995-2005)
Coordinating Editor:
Highlighted Series: Signal Transduction in Smooth Muscle: J. Appl. Physiol. (7/2001-9/2001)
Highlighted Series: Biomechanics and Mechanotransduction in Cells and Tissues. J. Appl. Physiol. (4/2005-6/2005)
APS Handbook of Physiology: Chapter on "Smooth Muscle Contractility" (2010-2011)

***Journal Review*:**
American Journal of Physiology: Cell Physiology
American Journal of Physiology: Lung, Cellular and Molecular Physiology
American J. Physiol.: Heart and Circulatory Physiology.
American J. Physiol.: Regulatory, Integrative and Comparative Physiology
American Journal of Respiratory and Critical Care Medicine
American Journal of Respiratory Cell and Molecular Physiology
Anesthesiology
Biochemical Journal
Biophysical Journal
Canadian Journal of Physiology and Pharmacology
Circulation Research
Current Respiratory Medicine Reviews
European Journal of Respiration
Journal of Applied Physiology
Journal of Vascular Research
Journal of Biological Chemistry
J. Pharmacology and Experimental Therapeutics
J. Physiology (London)
Life Sciences
Pediatric Pulmonology
PLoS One
Respiration Physiology

GRANT REVIEW COMMITTEES.
NIH Lung Cell, Molecular, & Immunobiology Study Section (LCMI), member, 2006-2010
NIH Respiratory and Applied Physiology Study Section (RAP), member, 1997-2001.
NHLBI Airway Smooth Muscle Function and Targeted Therapeutics in Human Asthma RFA, 2009.
NILBI Program Project Review Committees, 2000, 2005, 2006, 2007, 2008, 2009
NHLBI Special Emphasis Panel, Bioengineering Collaborative Research Program, April, 2005
NIH Lung Cellular, Molecular, & Immunobiology Study Section (LCMI), temp member, 2004, 2005
NIH Respiration Study Section (RESP, RIBT), temporary member 2002, 2003

NIH Study Section for Review of Postdoctoral Training Fellowships, 2002
NIH Special Emphasis Panel: Airway Remodeling and Repair in Asthma, 1999
NIH Clinical Sciences Special Emphasis Panel, 1996
NHLBI Respiratory and Applied Physiology Study Section, temporary member, 1993.
NIH Special Emphasis Panel for Review of Minority Training Applications, 1993
NIH Respiratory and Applied Physiology Ad hoc review Group, 1992
Extramural Grant Review: British Columbia Lung Association, British Columbia Health Research Fndn., Veterans Administration Merit Review, Chicago Lung Association, Asthma Foundation of Western Australia, Medical Research Council of Canada, National Health and Medical Research Council of Australia.
Extramural Program Grant Continuing Review:
External Advisor: NIH COBRE AWARD. Smooth Muscle Plasticity. University of Nevada Health Sciences Center. 2004-2008, 2010-present
External Advisor, NIH Biomedical Engineering Collaborative Research Program. Airway hyper-reactivity: From molecule to organ. 2007-2010

SERVICE, INDIANA UNIVERSITY

School of Medicine and IUPUI Campus

1991-1993	Committee for Ethical Conduct of Research, IUSM
1993-1995	IUPUI Faculty Council
1998-1999	*Chair,* IUSM Salary Equity Panel
2002-2004	*Chairperson*. Search and Screen Committee for Associate Dean of IU School of Medicine Graduate School
2002-2003	Search and Screen Committee, Chairman, Dept. of Cellular and Integrative Physiology
2002-2005	Search and Screen Committee, Director of Pulmonary Research, Wells Center, IUSM
2004-2006	IUPUI Faculty Council
2005	Biochemistry Research Day Judge
2005, 2007	IU/Purdue Collaborative Biomedical Research Grant Review Committee
2006-2008	Search and Screen Committee. Pulmonary Division, Wells Center, IUSM
2004-2006	IUSM Faculty Promotion & Tenure Committee. Clinical and Lecturer Ranks
2007-2010	RSFG Grant review Committee
2009-2010	O'Brien Grant Review Committee
2009-2010	Dean of the IU Dental School Search and screen committee:
2009-	*Chairperson*, Research Tech appeals Committee, IUSM
2004-	IUSM Faculty Promotion & Tenure Comm. Tenure and Research Ranks
2005-	INGEN Core Oversight Committee (Indiana Center for Biological Microscopy)
2005-	IUSM Institutional Animal Care and Use Committee. Indiana Univ. School of Medicine
2011-	IUPUI Sabbatical Leaves Committee

IUSM Dept of Cellular and Integrative Physiology:

1990-1995	Graduate Education Committee, Dept. of Physiology and Biophysics, Indiana University School of Medicine
1990	*Coordinator*, Dept. of Physiology and Biophysics Seminar Series, IUSM
1989	Physiology Faculty Development Committee, IUSM
1990	Physiology Faculty Search and Screen Committee, IUSM
1991-1992	*Chairman*, Dept. of Physiology Faculty Search and Screen Committee, Indiana University School of Medicine
1993	*Coordinator,* Physiology Dept. Graduate Education Open House
1995-1999	*Chairman,* Physiology Dept. Steering Committee
1995-1996	*Chairman*, Physiology Dept. Search and Screen Committee.
1998	*Coordinator,* Physiology Dept. Seminar

2004	Faculty Search and Screen Committee
1994-2006	Physiology Dept. Tenure and Promotion Committee.
1998-2001	*Chair,* Physiology Dept. Tenure and Promotion Committee.
2007-	*Chair,* Physiology Dept. Steering Committee
2009-	Chair, Physiology Dept. grant review Committee

TEACHING

Indiana University-courses taught

1989-1993	*Lecturer*	Human Physiology (F509). Dental students
1990-1991	*Director*	Seminar in Physiology (F702).
1991-1992	*Lecturer*	Physical biochemistry. Graduate seminar
1992-1993	*Lecturer*	Physiology of Muscle (F725). Graduate student seminar.
1993-1996	*Lecturer*	Human Physiology (F513). Allied Health students
1994-1998	*Group leader*	Human Physiology (F513). Problem-based learning, Medical Students
1999-2002	*Group leader*	Concepts in Health and Disease (X604), Medical students
1996-2004	*Lecturer*	Human Physiology (F503). Graduate students.
1997-1998	*Course Director and Lecturer* (F725).	Muscle Macromolecules and Contraction Graduate students
1998-1999	*Director*	Seminar in Physiology (F702), graduate seminar
1998- 2002	*Lecturer, discussion leader.*	Integrative Cell Biology *(*G818) Graduate students
2001-2004	*Lecturer.*	Cell to cell communication (G706). Graduate students
2004	*Lecturer*.	Human Physiology. Dental School. Dental students.
2004-2007	*Lecturer*	Cellular Physiology: Molecules to Cells (F710). Graduate students
2004-2007	*Developed and Directed new graduate course*: Integrative Physiology: Cells to systems. (F711), graduate students.	
2007	*Developed and directed new course*.	Physiology of Smooth Muscle, graduate students
2007	*Lecturer*	Pulmonary seminar (26015), postgraduate students and clinical fellows
2007	*Lecturer*	Biomedical Science III, graduate students
2008- (annual)	*Lecturer*	Cardiovascular, Renal and Respiratory Function, G735. Graduate students (annual)
2010, 2011	Director	Physiology of Smooth Muscle, graduate students

Mayo Graduate School of Medicine-courses taught

1979-1983	*Lecturer.* Respiratory Physiology laboratory. Medical students.
1979-1985	*Lecturer.* Respiratory Physiology. Mayo School of Health-related Sciences. Physical therapy graduate students.
1979-1989	*Lecturer*. Advanced Respiratory Physiology (M-8856). Advanced graduate students and post-doctoral fellows.
1985-1989	*Course coordinator*. Advanced Respiratory Physiology (M-8856). Advanced graduate students and post-doctoral fellows.
1983-1989	*Course coordinator*. Seminars in Advanced Respiratory Physiology (MS-101).
1984-1989	*Lecturer.* Human respiratory Physiology. Introductory physiology for graduate students.

Graduate Student Dissertation Committees:

Dolly Mehta (Ph.D.), University of Delhi, 1989
Steve Griffith (Ph.D.), Dept. of Physiology, Indiana University School of Medicine, 1990
Joseph Steenbergen (Ph.D.), Dept. of Physiology, Indiana University School of Medicine, 1993
Christie Sanborn, (PhD) Dept. of Physiology and Biophysics, IUSM, 1995-1997
Nancy Palaez (Ph.D), Dept. of Physiology , Indiana Univ. School of Medicine,1999.
Wenwu Zhang (PhD), *(Chair)* Cellular and Integrative Physiology, Indiana University (2000-2004).
Rong Zhao (PhD), *(Chair)* Dept. of Cellular and Integrative Physiology, Indiana University (2003-2009).

Xin Long (PhD), Dept. of Cellular and Integrative Physiology, Indiana University, (2004-2009).
Kimberly Campana (PhD), Dept. of Biomedical Engineering, Purdue University, (2004-2009).
Angela Plummer (MS), *(Chair)* Dept. of Cellular and Integrative Physiology (2008-2010).
Sally Head (MD, PhD), Dept of Cellular and Integrative Physiology, in progress
Krzystof Kamocki (PhD), Dept of Medicine, Indiana University, in progress.
Muithi Mwanthi (PhD), Dept. of Microbiology, IUSM, in progress.

RESEARCH TRAINEES:

Postdoctoral Fellows	Training Years	Current position	Support/awards
Somnath Bandyopadhyay, Ph.D	1986-87	Pharmaceutical Co.,New Delhi	NIH R01
Hon Ping Lau, M.D.	1987-89	Pulmonologist	NIH PPG
Jean-F Brichant, M.D.	1987-89	Anesthesiologist	NIH PPG
Mohammed Al-Hassani, M.D., Ph.D.	1989-93	Assistant Professor, Dept. of Dermatology, IUSM	NIH R01
Zhonglin (Peter) Wang, MD. PhD	1993-96	Scientist, Eli Lilly Co	NIH R01
Xun Shen, MD, PhD	1995-00	Oregon State Dept. of Health	Riley Fndn fellowship
Dolly Mehta, PhD	1993-99	Assistant Professor (tenure track) Univ. of Illinois at Chicago PI: NIH R01	AHA post-doctoral fellowship. Selkurt Fndn fellowship. Giles Filley Award for Excellence in Respiratory Research, American Physiological Society.
Roshni Ramchandani, PhD	1998-02	School of Pharmacy, UCSF	NIH R01
Dale (Da-chun) Tang	1996-01	Assistant Professor Albany Medical College, NY PI: NIH R01	AHA Postdoctoral fellowship (John B. Hickam Award) AHA Scientist Development Award
Anabelle Opazo-Saez, PhD	1999-03	Research Scientist Kreislauflabor/Circulation Laboratory University of Essen, Germany	Canadian Lung Assoc. Post-Doc fellowship AHA Post-doctoral fellowship Highlighted abstract, ATS
Yi Liu, MD, PhD	2002-05	Professor	Riley Fndn fellowship
He-Huang, PhD	2005	Post-doctoral fellow	NIH
Liping Du, PhD	2004-2008	Post-doctoral fellow	NIH
Bhargavi Vermuri	2006-	Public Health administration	NIH

Postdoctoral Fellows	Training Years	Current position	Support/awards
Current Post-docs			
Yidi Wu, PhD	2003-	Post-doctoral fellow	AHA post-doctoral fellowship
Wenwu Zhang, PhD	2005-	Post-doctoral fellow	American Lung Association fellowship, American Heart Association fellowship, NIH training grant
Youliang Huang, PhD	2005-	Post-doctoral fellow	American Heart Association
Leena Desai	2008-	Research Associate	

Graduate Students	Years	Degree program	Support/ Awards
Michael Rowe, M.S.	1991-92	MS, MD	
Daniel D. Smith	1991-92	MS, MD	IUSM Student research competition prize
David Parker	1990	MS	
Chadwick Strain	1997-99	MS, MD	
Andrew Chandler	2003	MS	
Eric Felix	2004	MS	
Wenwu Zhang	2000-04	PhD	AHA predoctoral fellowship
Rong Zhao	2004-2009	PhD	AHA Fellowship
Angela Plummer	2007-2010	MS	Research Support Fund

Research Interns	Year(s)	Degree program	Research Program
Gerta Jans	1981	BS	Premed summer internship
Blair Roberts	1983	BS	Premed summer internship
Gary Poole	1984	BS	Premed summer internship
Habib Kurwa	1985	BS	Premed summer internship
Candy Blomquist	1986	BS	Premed summer internship
Jennifer Service	1988-89	BS	Premed summer internship
Marcia Williamson	1994	BS	Premed summer internship
Lauren Smith	1996	BS	Premed summer internship
Kendra Washington	1996	BS	Premed summer internship
Kristy Sanborn	1995	PhD	PhD rotation
Sachen Mehta	1999	MD, PhD	PhD rotation
Heidi Baumgartner	1999	PhD	PhD rotation
Amanda David	1999	PhD	Premed summer internship
Liying Cai	2002	PhD	PhD rotation
Jenny Stover	2004	PhD	PhD rotation
Matt Richardson	2002	PhD	PhD Rotation
Alaina Pizzo	2003	PhD Purdue Univ	PhD thesis work
Samual Aruajo	2004	MD IUSM	Med school internship
Gao, Yong	2006	PhD	PhD rotation

Williams, Dawina	2006	BS	Summer intern
Ivan Dixon	2007	PhD	PhD rotation
Krzystof Kamocki	2008	PhD	PhD rotation
Lashira Williams	2008	BS	Summer intern
Angela Plummer	2008	PhD	PhD rotation
Jorge Martinez	2009, 2010	BS	Summer Intern

INVITED LECTURES, CONFERENCES AND SYMPOSIA:

1981 International Symposium on Smooth Muscle Contraction, Winnipeg, Ontario.
1984 27th Annual Aspen Lung Conference: Asthma, Aspen, CO.
1985 FASEB Summer Conference on Smooth Muscle, Saxton's River, VT.
1985 University of Chicago, Chicago, IL, Department of Pulmonary and Critical Care Medicine.
1985 The Ohio State University, Columbus, OH, Department of Veterinary Physiology and Pharmacology.
1985 International Union of Physiological Sciences Satellite Conference on Smooth Muscle Contraction, Minaki, Ontario, CA
1987 Chicago Lung Conference on Asthma, Chicago, IL.
1988 FASEB Summer Conference on Smooth Muscle, Saxton's River, VT
7/88 Temple University School of Medicine, Philadelphia, PA, Department of Pulmonary Medicine.
10/88 Johns Hopkins University, Baltimore, MD, Department of Pulmonary Medicine.
11/88 University of Pennsylvania, Philadelphia, PA, Department of Physiology.
1989 Mayo Clinic Thoracic Society, Rochester, MN.
1/89 Case Western Reserve University, Cleveland, OH, Department of Pulmonary Medicine.
2/89 Duke University School of Medicine, Durham, NC, Department of Cell Biology and Physiology.
2/89 Weis Medical Research Center, Danville, PA.
3/89 Johns Hopkins University, Baltimore, MD, Department of Anesthesiology.
1/90 University of British Columbia, Department of Pulmonary Medicine. Talk entitled "Effects of lung volume on the regulation of airway tone".
5/91 Symposium on Airway Smooth Muscle, American Thoracic Society International Conference. Lecture title "Regulation of airway smooth muscle tone".
10/93 University of Illinois, Urbana-Champagne, Department of Physiology. Talk entitled "Effects of shortening on smooth muscle contractility."
4/94 International Symposium on "Beta-adrenoceptor Agonists and the Airways" held in Association with the meeting of the British Pharmacological Society, Manchester, England. Talk entitled "Effects of agonists at beta-adrenoceptors on cytosolic free concentration in airways smooth muscle."
5/94 Meakins-Christie Laboratories, Dept. of Pulmonary Medicine, McGill Univ. Talk entitled "Mechanical Regulation of Airway Smooth Muscle Tone".
5/94 American Thoracic Society International Conference, Boston MA. Symposium on Mechanisms Contributing to Tissue Hysteresis. Talk entitled "Crossbridge Mechanisms in Airway Smooth Muscle Hysteresis".
10/94 Symposium on "Mechanisms Regulating Airflow in the Lung" (Flow-Volume Underworld), Camogli, Italy. Talk entitled "Cellular Mechanisms of Airway Smooth Muscle Hysteresis".
5/95. American Thoracic Society International Conference. Postgraduate Course on Asthma: Airway Biology and Clinical Questions". Talk entitled "Smooth Muscle Function in Asthma".
5/95 American Thoracic Society symposium on "Cytoskeletal Mechanisms in the Regulation of Airway Smooth Muscle" Lecture title: "Cytoskeletal Filaments and Airway Muscle Mechanics".
9/95 European Respiratory Society, Barcelona, Spain. Presidents' Symposium on Structure and Function in the Lung. Talk entitled "Interdependence between Airways and Parenchyma".
5/96 Airway Smooth Muscle Workshop. Meakins-Christie Laboratories, Montreal, Quebec. "Cellular Mechanisms for the Mechanical Regulation of Airway Smooth Muscle".

7/95 Mayo Clinic and Foundation. Depts. of Anesthesiology and Physiology. Talk entitled "Mechanisms of Smooth Muscle Contraction".

9/97 Flow-Volume Underworld, Rochester, MN, Lecture title “Cellular mechanisms in the mechanical modulation of airway tone”

9/98 Transatlantic Airway Conference. Lucerne, Switzerland, January, 1998 “Biology of Airway Smooth Muscle”

9/98 Major Symposium “Changing views of airway smooth muscle ”European Respiratory Society, Geneva, Switzerland, Sept. 18-23, 1998. Lecture Title:“Cytoskeletal Mechanisms for the Mechanical Properties of Airway Smooth Muscle.”

1/99 Dept. of Pharmacology, Univ. of Nevada, Reno, NV. Lecture title: “Cytoskeletal Mechanisms in the Regulation of Smooth Muscle Contractility”

4/99 Second Seidel Symposium: Smooth Muscle Cells: Structure, Motility and Signaling.Woods Hole, MA. LecTure Title: “Role of Cytoskeletal Remodeling in the Regulation of Smooth Muscle Contraction”.

4/99 Symposium: “Airway Narrowing in the Asthmatic Lung: Emerging Issues” ATS international Conf. Lecture Title: “Smooth Muscle Plasticity and Airway Narrowing”

9/00 Mechanisms regulating Airflow in the Lung: Satellite Conference of the European Respiratory Society International Conference. Novi Ligure, Italy.

9/00 Visiting Professor. Dept. of Medical Physiology. Texas A &M University System Health Science Center., College Station, TX.

1/00 Institute of Medicine. Medical College of Georgia, Augusta GA. Visiting Professor.

12/00 Dept. of Physiology. Queen’s University. Kingston Ontario. Visiting Professor.

4/00 Symposium speaker. Experimental Biology. San Diego, CA. “Dynamic cytoarchitectural remodeling of airway smooth muscle.”

4/00 Symposium speaker. Experimental Biology, San Diego, CA. Novel Mechanisms for the involvement of the Cytoskeleton in smooth Muscle Cell Signaling and Contractile Function.

3/00 RAP Study Section. Lunchtime speaker. ”Cytoskeletal mechanisms in the regulation of Airway Function.”

4/01 Postgraduate course: "What is new in mechanics of breathing: Implications for diagnosis and treatment", Lake Como, Italy.
Lecture “Mechanical Properties of Airway Smooth Muscle”.

1/ 01 Visiting Professor. Johns Hopkins Asthma and Allergy Center. Johns Hopkins University, Baltimore ,MD.

12/01 Visiting Professor. Dept. of Biomedical Engineering. Boston University, Boston, MA.

10/01 Biomedical Engineering Society, Durham, NC. Invited speaker. “Cell, Tissue and Airway Mechanics”

4/02 Invited speaker. Symposium. Experimental Biology, “Mechanisms of Vascular Remodeling”

12/02 Visiting Professor, Dept. of Biology. Marquette University

3/03 Visiting Professor, Dept of Biological Sciences, Brown University, Providence RI

7/03 Invited Speaker. FASEB Summer Conf on Smooth Muscle. Cytoskeletal Mechanisms for Mechanotransduction. Lecture Title: Cytoskeletal Mechanisms for the Mechanosensitive Regulation of Smooth Muscle Contraction

9/03 Visiting Professor. Boston University, Dept. of Biomedical Engineering.

10/03 Visiting Professor. Boston Biomedical Research Institute

4/04 The Smooth Muscle Crossbridge Cycle, A Symposium in honor of Richard A. Murphy. Charlottesville, Va.
Lecture Title: Smooth Muscle Contraction: Is Crossbridge Cycling Enough?

6/04 Visiting Professor. Dept. of Physiology. University of Calgary. Lecture Title:Cytoskeletal Processes in Smooth muscle Contraction: Is Crossbridge Cycling Enough?

9/04 European Respiratory Society, Glasgow, Scotland. Symposium: **"**Role of mechanical stretch in respiratory pathophysiology. "The mechanics of smooth muscle cells in asthma: to stretch or not to stretch"

4/05 Experimental Biology, San Diego, CA. Symposium: Ca channels, tyrosine kinases, and smooth muscle function. "Role of focal adhesion proteins in the regulation of airway smooth muscle function".

4/06 Visiting Distinguished Lecturer. Cardiovascular Research Institute, Albany Medical College, Albany, NY. "Cytoskeletal Dynamics in Airway Smooth Muscle."

5/06 Visiting Scientist. Theravance Corp. San Francisco, CA. Cytoskeletal Processes in the Regulation of Smooth Muscle Contraction.

6/06 Meakins Christie Laboratories, McGill University, Montreal Quebec. "cytoskeletal Dynamics during Airway smooth muscle contraction: A Molecular Model of Airway Smooth muscle Plasticity"

8/06 FASEB Summer Conf on Smooth Muscle. "Cytoskeletal Dynamics during Airway Smooth Muscle Contraction"

9/06 NIHLBI Worskhop: Airway Smooth Muscle in Bronchomotor Tone, Inflammation, and Remodelling: Advancing from Basic Knowledge to Clinical Relevance . "Myosin, actin, and filaments". Bethesda, MD

9/06 Symposium in honor of Dr. Solbert Permutt. Johns Hopkins University, Baltimore Maryland. "A Molecular Model of Airway Smooth muscle Plasticity".

9/06 Visiting Professor. Drexel University, Philadelphia, PA. "Cytoskeletal Dynamics During Smooth Muscle Contraction". A Molecular Model for Mechanical Adaptation by Smooth Muscle".

9/06 Visiting Professor. Institute for Medicine and Engineering, University of Pennsylvania, Philadelphia, PA. "Cytoskeletal Dynamics During Smooth Muscle Contraction".

4/07 Visiting Professor. University of Chicago, Dept. of Medicine. "Cytoskeletal Dynamics during Smooth Muscle Contraction: A Molecular Model for Mechanical adaptation by Smooth Muscle".

4/07 Experimental Biology. "Signaling from the extracellular matrix to the cytoskeleton in the regulation of airway smooth muscle function" Symposium: on "Intercellular Regulation of Airway Smooth Muscle"

5/09 Invited Speaker. ATS Satellite Symposium: Airway Hyper-reactivity: from molecule to organ. "A New Paradigm for Airway Smooth Muscle Contraction." San Diego, CA.

8/09 Invited Speaker. FASEB Summer Conf on Smooth Muscle. Tuscany, Italy. *"Regulation of cytoskeletal dynamics and contraction by vinculin"*

10/09 Invited Speaker. FVUW – Control of Airway Narrowing, Baltimore, MD *A New Model for Airway Smooth Muscle Contraction"*.

12/09 Dept of Medicine, IUSM. Pulmonary Noon Conference. "*PAK as a Novel Target for Asthma Therapy.*

4/10 Invited Speaker. Experimental Biology. Anaheim,CA. Symposium: Dynamic regulation of smooth muscle contractility by adhesion complex proteins.

5/10 Invited speaker. ATS International conference. New Orleans, LA. Symposium: Airway smooth muscle in asthma: born to be bad or born in a bad environment? "*Role of Cytoskeletal Dynamics in the Regulation of Airway Smooth Muscle Contractility."*

5/10 Invited speaker. ATS International conference. New Orleans, LA. Symposium: New Frontiers in Asthma Therapy. "*P21 Activated Kinase (PAK) as a Novel Target for Reducing Airway Inflammation and Airway Hyperreactivity."*

5/10 2010 Parker B. Francis Lecture of the American Thoracic Society: *Role of Cytoskeletal Dynamics in the Regulation of Airway Smooth Muscle Contractility.*

SYMPOSIUM CHAIR OR ORGANIZER:

5/91 Chair and Invited Speaker; "Symposium on Airway Smooth Muscle", American Thoracic Society International Conference, 1991.

5/92 Organizer and Chair; Symposium on "Regulation of Contractile Proteins", American Thoracic Society International Conference, 1992.

5/93 Chair; Poster-Discussion Session on "Contractile Mechanisms in Airway Smooth Muscle", American Thoracic Society International Conference, 1993.

5/94 Chair; Poster-Discussion on "Biomechanics of Lung and Airway", American Thoracic Society International Conference, Boston, MA.

5/94 Chair; Poster-Discussion Session on "Cell Signaling in Airway Smooth Muscle Tone", American Thoracic Society Intl. Conference, Boston, MA.

5/95 Organizer and Chair. American Thoracic Society symposium on "Cytoskeletal Mechanisms in the Regulation of Airway Smooth Muscle"

5/95. Chair; Poster-Discussion Session. American Thoracic Society International Meeting. "Airway Smooth Muscle: Regulation of Contractility and Relaxation".

5/95 Discussion Facilitator. American Thoracic Society Session on "Airway Smooth Muscle: Regulation of Contractility and Relaxation".

5/96 Chair; Poster-Discussion Session. American Thoracic Society International Conference. "Regulation of Airway Smooth Muscle."

5/98 Symposium Chair: “Biophysics of Airway Smooth Muscle ”American Thoracic Society International Conference.

5/00 Symposium chair and Organizer: Cytoskeletal Mechanisms in the Regulation of Lung Cell Function. ATS International Conf.

5/02 Symposium chair and Organizer. Mechanism and role of smooth muscle plasticity in airway remodeling and Function

5/03 Symposium Chair and Organizer. Integrin-mediated signaling in smooth muscle. ATS International Conf.

5/04 Symposium Chair and Speaker. : ATS International Conference. "Stress, Stretch and Strain and Airway Smooth Muscle" Lecture Title: "Lung Volume History at the Level of Airway Smooth Muscle"

5/06 Poster Discussion Chair. ATS International Conf., San Diego, CA. "Intracellular Regulation of Airway Smooth Muscle Contraction and Relaxation".

7/06 Session Chair and organizer. FASEB Summer Conference on Smooth Muscle. “Organizational Dynamics in the Smooth Muscle Cell”. Aspen, CO

11/06 Session Chair. Mathematical Biosciences Workshop: Genomic Regulators of Airway Smooth Muscle, Inflammation, and Airway-Tissue Remodelling. Columbus, OH

4/07 Experimental Biology. Symposium Chair and organizer. “Intercellular regulation of Smooth Muscle Contraction”

5/08 American Thoracic Society. Session chair. “Cell and Molecular Biology of Airway Remodeling.” San Francisco, CA.

8/09 Session Chair and Speaker. FASEB Summer Conference on Smooth Muscle, Lucca, Italy. Smooth Muscle Cytoskeletal Dynamics.

10/09 Moderator. Conference on Regulation of Airway Narrowing. Session on “Asthma and Airways”

5/10 Poster Discussion Leader. Airway Smooth Muscle Cell Signaling and Function In Health and Disease.

5/10 Symposium Organizer and Chair. ATS International Conference. New Orleans, LA. New Frontiers In Asthma therapy.

EXTRAMURAL FUNDING

CURRENT ACTIVE FUNDING:

4/2007-3/2012	National Institutes of Health (R01 HL29289-25) Smooth Muscle Mechanisms in Dynamic Airway Properties Role: Principal Investigator	$1,888,500
7/2007-6/2012	National Institutes of Health (R01 HL074099-8) Regulation of Actin Dynamics in Airway Smooth Muscle Role: Principal Investigator	$1,540,000
7/2007-6/2013	National Institutes of Health (R01 HL 048522-13) Modulation of Airway Reactivity by Chronic Mechanical Strain (PI: Tepper) Role: Co-Principal Investigator	$1,850,000
1/2007-12/2009	American Heart Association The Regulation and Function of vinculin in smooth Muscle Contraction Postdoctoral Fellowship to Youliang Huang Role: Sponsor	$130,000
7/2007-6/2009	American Lung Association Cytoskeletal Mechanisms for the Regulation of Airway Smooth Muscle Post-doctoral Fellowship to Wenwu Zhang Role: Sponsor	$70,000

PAST FUNDING:

AS PRINCIPAL INVESTIGATOR:

1980-1983	American Lung Association (ALA 13) Effects of Bronchoconstriction on the Mechanical Properties of Airways	$ 30,000
1983-1986	National Institutes of Health New Investigator Award (R29 HL 29289) Smooth Muscle Mechanisms in Dynamic Airway Properties	$180,000
1983-1986	Puritan-Bennett Foundation. Parker B. Francis Fellowship in Pulmonary Research	$90,000
1983-1984	American Heart Association, Minnesota Affiliate Grant-in-Aid Intrinsic Mechanisms for Regulating Smooth Muscle Tone	$18,000
1984-1985	American Lung Association of Minnesota Smooth Muscle Mechanisms in Dynamic Airway Properties	$10,000
1986	American Lung Association of Minnesota Intracellular Regulation of Airway Smooth Muscle Tone	$5,000
1986-1989	National Institutes of Health (R01 HL35811) Intracellular Calcium Regulation in Airway Smooth Muscle	$430,757
1986-1992	National Institutes of Health Competitive Renewal (R01 HL29289)	

Smooth Muscle Mechanisms in Dynamic Airway Properties $1,059,073

1990-1991 Biomedical Research Support Program
Indiana University Medical School
Airway Smooth Muscle Mechanisms $16,860

1992-1997 National Institutes of Health
Competitive Renewal (R01 HL29289)
Smooth Muscle Mechanisms in Dynamic Airway Properties $1,024,223

1997-2002 National Institutes of Health
Competitive Renewal (R01 HL29289)
Smooth Muscle Mechanisms in Dynamic Airway Properties $1,477,350

2002-2007 National Institutes of Health $1,365,500
Competitive Renewal (R01 HL29289)
Smooth Muscle Mechanisms in Dynamic Airway Properties

2003-2008 National Institutes of Health (R01 HL074099) $1,693,125
Regulation of Actin Dynamics in Airway Smooth Muscle

CO-PRINCIPAL INVESTIGATOR or COINVESTIGATOR:

1987-1992 National Institutes of Health
Program project grant
K. Rehder, Principal Investigator
Effects of Anesthesia on Ventilation and Respiratory Mechanics $1,002,386
Role: Co-investigator

1992-1997 National Institutes of Health (R01 HL 48522), 25% effort
R.S. Tepper, Principal Investigator
Airway Response: Mechanical Determinants with Maturation $759,118
Role: Co-Principal Investigator

1993-1995 American Lung Association $50,000
Grant-in-Aid
F.M. Pavalko, Principal Investigator
Cytoskeletal Regulation of Airway Smooth Muscle Contraction`
Role: Collaborator

1997-2002 National Institutes of Health (R01 HL 48522), 30% effort $1,562,601
Airway Response: Mechanical Determinants with Maturation
Role: Co-Principal Investigator

2002-2008 National Institutes of Health (R01 HL48522) $1,762,510
Airway Response: Mechanical Determinants with Maturation
Role: Co-Principal Investigator

SPONSOR TRAINING FELLOWSHIPS

2005-2006 American Heart Assoc.
The Role of Integrin-Linked Kinase in Smooth muscle contraction $108,000
Postdoctoral Fellowship (Yidi Wu)

1994-1997 American Heart Association $44,000
Cellular Mechanisms for the Effects of Shortening on
Smooth Muscle Contraction
Postdoctoral Fellowship (Dolly Mehta)

1999-2000 Schowalter Foundation fellowship (Dolly Mehta) $60,000
Cytoskeletal Regulation of Smooth Muscle Contractility

1999-2001. American Heart Association $70,000
The roles of focal adhesion kinase and paxillin in smooth muscle
contraction. John B. Hickam Memorial Post-doctoral Fellowship(D. Tang)

2000-2001 Canadian Lung Association. $33,000
Structural and Functional Correlates of Smooth Muscle Plasticity
Post-doctoral fellowship award (Anabelle Opazo-Saez)

2001-2003 American Heart Association. $62,500
Role of cytoskeletal plasticity in the regulation of airway
smooth muscle contraction
Post-doctoral fellowship award (Anabelle Opazo-Saez)

2002-2004 American Heart Association $49,000
The role of alpha-actinin in smooth muscle contraction
Pre-doctoral fellowship (Wenwu Zhang)

2005-2007 American Heart Association $130,000
The Role of Integrin-Linked Kinase in smooth Muscle contraction
Post-doctoral Fellowship (Yidi Wu)

2002-2005 American Heart Association Scientist Development Award $260,000
Role and regulation of profiling in smooth muscle contraction
Scientist Development Award to Dale D. Tang.

2007-2009 American Heart Association $105,000
The Regulation of Cofilin Phosphorylation in Smooth Muscle
Predoctoral Fellowship to Rong Zhao
Role: Sponsor

TRAINING GRANT FACULTY:

1993-1998 National Institutes of Health
W. Martin, Program Director
Training Grant on Lung Pathophysiology $665,000

1994-1999	National Institutes of Health Short-term Research Training for Minority Students David Wilkes, Principal Investigator	$440,598
1999-2004	National Institutes of Health Training Grant in Lung Pathophysiology. W. Martin, Principal Investigator.	$865,000.
1989-2006	National Institutes of Health Short Term Training for Students in Health Professions PI: Rodney Rhoades	$404,000
2002-2007	National Institutes of Health Research Training Program in Pediatrics PI: Richard Shreiner, MD	$230,596
2005-2010	National Institutes of Health Short Term Training for Students in Health Professions PI:Sturek	$500,000
2008-2013	National Institute of General Medical Sciences Indiana Medical Scientist/Engineer Training Program PI:Clapp	
2009-2014	National Heart Lung and Blood Institute IU Training Program in Molecular Physiology and Clinical Mechanisms of Lung Disease PIs: Wilkes and Petrache	

SHARED INSTRUMENTATION GRANTS:

1999-2000	Biorad Multiphoton Microscope PI: Marshall Montrose, PhD	$400,000
2002-2003	Transmission Electron Microscope with Digital and cryopreparation PI: Andrew Evan, PhD	$386,560

PUBLICATIONS:

Gunst, S.J., and Mitzner, W. Mechanical properties of contracted canine bronchial segments in vitro. J.Appl. Physiol.: Respirat. Environ. Exercise Physiol. 50:1236-1247, 1981.

Gunst, S.J., and Russell, J.A. Contractile force of canine tracheal smooth muscle during continuous stretch. J. Appl. Physiol.: Respirat. Environ. Exercise Physiol. 52:655-663, 1982.

Gunst, S.J. and Lai-Fook, S.J. Effect of inflation on trachealis muscle tone in canine tracheal segments in vitro. J. Appl. Physiol.: Respirat. Environ. Exercise Physiol. 54:906-913, 1983.

Gunst, S.J. Contractile force of canine airway smooth muscle during cyclical changes in length. J. Appl. Physiol.: Respirat. Environ. Exercise Physiol. 55:759-769, 1983.

Gunst, S.J. Effect of length history of contractile behavior of canine tracheal smooth muscle. Am. J. Physiol.: 250 (Cell Physiol. 19):C146-C154, 1986.

Gunst, S.J. and Pisoni, J.M. Effects of extracellular calcium on canine tracheal smooth muscle. J. Appl. Physiol. 61:706-711, 1986.

Gunst, S.J., Stropp, J.Q., and Flavahan, N.A. Analysis of receptor reserves in canine tracheal smooth muscle. J. Appl. Physiol. 62:1755-1758, 1987.

Gunst, S.J., Stropp, J.Q., and Flavahan, N.A. Interaction of contractile responses in canine tracheal smooth muscle. J. Appl Physiol. 63:514-520, 1987.

Gunst, S.J., and Stropp, J.Q. Effect of Na-K ATPase activity on relaxation of canine tracheal smooth muscle. J. Appl. Physiol. 64:635-641, 1988.

Gunst, S.J., and Stropp, J.Q. Pressure-volume and length-stress relationships in canine bronchi in vitro. J. Appl Physiol. 64:2522-2531, 1988.

Antol, P.J., Gunst, S.J., and Hyatt, R.E. Histamine tachyphylaxis in canine airways despite prostaglandin synthesis inhibition. J. Appl. Physiol. 65:1944-1949, 1988.

Gunst, S.J., Warner, D.O., Wilson, T.A., and Hyatt, R.E. Parenchymal interdependence and airway response to methacholine in excised dog lobes. J. Appl. Physiol. 65:2490-2497, 1988.

Gunst, S.J. Effects of muscle length and load on intracellular Ca^{2+} in tracheal smooth muscle. Amer. J. Physiol. 256 (Cell Physiol .25):C807-C812, 1989.

Gunst, S.J., and Bandyopadhyay, S. Contractile force and intracellular Ca^{2+} during relaxation of canine tracheal smooth muscle. Amer. J. Physiol. 257 (Cell Physiol. 26.):C355-C364, 1989.

Gunst, S.J., Stropp, J.Q., and Flavahan, N.A. Muscarinic receptor-reserve and beta-adrenergic sensitivity in tracheal smooth muscle. J. Appl. Physiol. 67:1294-1298, 1989.

Gerthoffer, WT, Murphey, KE, and Gunst, S.J. Aequorin luminescence, myosin phosphorylation and active stress in tracheal smooth muscle. Amer. J. Physiol. 257(Cell Physiol.26):C1062-C1068, 1989.

Brichant, J.-F., Warner, D.O., Gunst, S.J. and Rehder, K. Muscarinic receptor subtypes in canine trachea.

Amer. J. Physiol.: Lung Cell Mol Physiol. 258 (2): L349-L354, 1990.

Gunst, S.J., Stropp, J.Q., and Service, J. Mechanical modulation of pressure-volume characteristics of canine airways in vitro. J. Appl. Physiol. 68(5): 2223-2229, 1990.

Brichant, J.F., Gunst, S.J., Warner, D.O., and Rehder, K. Halothane, enflurane, and isoflurane depress the peripheral vagal motor pathway in isolated canine tracheal smooth muscle. Anesthesiology 74:325-332, 1991.

Gunst, S.J. and Wu, M.-F. Effects of muscle length on intracellular Ca^{2+} during isometric contraction of tracheal smooth muscle. In: Advances in Experimental Biology and Medicine: Regulation of Smooth Muscle Contraction. Edited by Robert S. Moreland. New York: Plenum Press. Vol. 330:435-443, 1991.

Warner, D.O. and Gunst, S.J. Limitation of maximal bronchoconstriction in dogs. Amer. Rev. Resp. Dis. 145(3):553-560, 1992.

Lau, H.P., Saytner, A., Warner, D.O., Gunst, S.J. and Rehder, K. Halothane alters the response of isolated airway smooth muscle to carbon dioxide. Respir. Physiol. 87:255-268, 1992.

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Gunst, S.J., Wu, M.-F. and Smith, D.D. Contraction history modulates isotonic shortening velocity in smooth muscle. Am. J. Physiol. (Cell Physiol. 34):C467-C476, 1993.

Gunst, S.J., Al-Hassani, M.H. and Adam, L.P. Regulation of isotonic shortening velocity by second messengers in tracheal smooth muscle. Am. J. Physiol.:Cell Physiol. 266(Cell Physiol. 35):C684-C691, 1994.

Pavalko, F.M., Adam, L.P., Wu, M.F., Walker, T.L. and Gunst, S.J. Phosphorylation of dense plaque proteins talin and paxillin during tracheal smooth muscle contraction. Am. J. Physiol. 268: (Cell Physiol. 37): C563-C571, 1995.

Tepper, R.S., Gunst, S.J., Doerschuk, C.M., Shen, X. and Bray, W. Effect of transpulmonary pressure on airway closure in immature and mature rabbits. J. Appl. Physiol. 78(2): 505-512, 1995.

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Tepper, R.S., Shen, X., Bakan, E., and Gunst, S.J. Maximal airway response in mature and immature rabbits during tidal ventilation. J. Appl. Physiol.79: 1190-1198, 1995.

Gunst, S.J. Sodium/Potassium-Dependent Adenosine Triphosphatase. In: Airways Smooth Muscle: Peptide Receptors, Ion Channels and Signal Transduction". Ed. by D. Raeburn and and M.A. Giembycz. Birkhauser Verlag AG: Basel, Switzerland. 255-271, 1995.

Gunst, S.J. Effects of agonists at beta-adrenoceptors on cytosolic free Ca^{2+} concentration in airways smooth muscle. In: Beta Receptor Agonists and the Airways. Edited by R. Small and M. Johnson. Royal Society of Medicine Press: London, England, 37-48, 1995.

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Shen, X, SJ Gunst, and RS Tepper. The effect of tidal volume and frequency on airway responsiveness in mechanically ventilated rabbits. J. Appl. Physiol. 83(4): 1202-1208, 1997.

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Mehta, D. and S.J. Gunst. Actin polymerization stimulated by contractile activation regulates force development in canine tracheal smooth muscle. J. Physiol.(London) 519:829-840, 1999.

Tepper, RS, B Wiggs, SJ Gunst, and PD Pare. Comparison of the shear modulus of mature and immature rabbit lungs. J. Appl. Physiol.. 87: 711-714, 1999.

Gunst, SJ. Applicability of the Sliding Filament/Crossbridge Paradigm to Smooth Muscle. Reviews of Physiology, Biochemistry and Pharmacology. Edited by R.A. Murphy. 134:7-61, 1999.

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Ramchandani R, X Shen, CL Emsley, WT Ambrosius, SJ Gunst, RS Tepper. Differences in airway structure in immature and mature rabbits. J.Appl. Physiol. 89: 1310-1316, 2000.

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Tang, DD and SJ Gunst. Selected Contribution: Roles of focal adhesion kinase and paxillin in the mechanosensitive regulation of myosin phosphorylation in smooth muscle. J. Appl. Physiol. 91:1452-1458, 2001.

Gunst, SJ, X Shen, R. Ramchandani and RS Tepper. Bronchoprotective and bronchodilatory effects of deep inspiration in rabbits subjected to methacholine challenge. J. Appl. Physiol. 91:2511-2516, 2001.

Gerthoffer, WT and SJ Gunst. Signal transduction in Smooth Muscle: Invited Review: Focal adhesion and small heat shock proteins in the regulation of actin remodeling and contractility in smooth muscle. J. Appl. Physiol. 91: 963-971, 2001.

Gunst, SJ. Role of airway smooth muscle mechanical properties in the regulation of airway caliber. In: Mechanics of Breathing: Pathophysiology, Diagnosis and Treatment. A. Alverti, et al Ed. 34-44, Springer-Verlag Italia, Milan, 2002.

Lambert, RK, R. Ramchandani, X. Shen, SJ Gunst, and RS Tepper. Computational model of airway narrowing: mature vs. immature rabbit. J Appl Physiol 93: 611-619, 2002.

Tang, DD, MF Wu, AM Opazo-Saez, SJ Gunst. The focal adhesion protein paxillin regulates contraction in canine tracheal smooth muscle. J. Physiol. (Lond.) 542: 501-513, 2002.

Ramchandani R, X Shen, SJ Gunst, RS Tepper. Comparison of elastic properties and contractile responses of isolated airway segments from mature and immature rabbits. J. Appl. Physiol. 95(1):265-71, 2003.

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Tang, DD and SJ Gunst. The Small GTPase Cdc42 Regulates Actin Polymerization and Tension Development during Contractile Stimulation of Smooth Muscle. J Biol Chem. 279(50):51722-8, 2004.

Bai TR, ….Gunst SJ, ….Wang L. On the terminology for describing the length-force relationship and its

changes in airway smooth muscle. J Appl Physiol. 97(6):2029-34. 2004

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Zhang W, Y Wu, L Du, DD Tang, and SJ Gunst. Activation of the Arp2/3 Complex by N-wasp is Required for Actin Polymerization and Contraction in Canine Tracheal Smooth Muscle. Am J Physiol Cell Physiol 288(5):C1145-60. 2005.

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Tang, DD, Zhang, W and SJ Gunst. The adapter protein Crk II regulates Neuronal Wiskott - Aldrich syndrome protein, actin polymerization and tension development during contractile stimulation of smooth muscle. J Biol Chem. 280(24):23380-9, 2005.

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Zhang, W and SJ Gunst. Dynamic association between α-actinin and β-integrin regulates contraction of canine tracheal smooth muscle. J Physiol. 572.3: 659-676, 2006. *Editorial focus by MP.Walsh. J. Physiol., 572(3): 611 – 612, 2006.*

An SS, …Gunst SJ, … Wang L. Airway smooth muscle dynamics: a common pathway of airway obstruction in asthma. Eur Respir J.29(5):834-60, 2007.

Zhang W, Wu Y, Wu C, SJ Gunst. Integrin-linked Kinase (ILK) regulates N-WASp-mediated actin polymerization and tension development in tracheal smooth muscle. J Biol Chem. 282(47):34568-80, 2007.

Zhang, W and SJ Gunst. Dynamics of Cytoskeletal and Contractile Protein Organization: An Emerging Paradigm for Airway Smooth Muscle Contraction. In: *Airway Smooth Muscle Biology and Pharmacology*. Edited by KF Chung. Wiley Press, 2008.

Zhang, W. and Gunst, S. J. Interactions of airway smooth muscle cells with their tissue matrix: Implications for contraction. *Proc. Am. Thorac. Soc.* 5(1): 32-39, 2008.

Xue Z, L Zhang, Y Liu, SJ Gunst, and RS Tepper. Chronic inflation of ferret lungs with CPAP reduces airway smooth muscle contractility in vivo and in vitro. J. Appl. Physiol. 104(3): 610-5, 2008. *Editorial focus by JHT Bates.*

Kim HR, Gallant C, Leavis PC, Gunst SJ, K G Morgan. Cytoskeletal Remodeling in Differentiated Vascular Smooth Muscle is Actin Isoform-dependent and stimulus-dependent. Am. J. Physiol. Cell Physiol. 295(3):C768-78, 2008.

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Wu Y, Huang Y, Herring BP, and Gunst SJ. Integrin-linked kinase regulates smooth muscle differentiation marker gene expression in airway muscle tissue. Am J Physiol Lung Cell Mol Physiol Dec; 295(6):L988-97, 2008.

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Fomin VP, Kronbergs A, Gunst S, Tang D, Simirskii V, Hoffman M, Duncan RL. Role of protein kinase Calpha in regulation of [Ca^{2+}](I) and force in human myometrium. Reprod Sci. Jan;16(1):71-9, 2009.

Zhang W, Du L, SJ Gunst. The effects of the small GTPase RhoA on the muscarinic contraction of airway smooth muscle result from its role in regulating actin polymerization. Am J Physiol Cell Physiol. 299(2):C298-306, 2010.

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Desai LP, Y Wu, RS Tepper, SJ Gunst. Integrin signaling mediates the mechanosensitive expression of smooth muscle differentiation marker myosin heavy chain (SmMHC) in airway smooth muscle tissue. Submitted.

Zhang W, Y Huang and SJ Gunst. RhoA couples muscarinic stimulation to the activation of cdc42, Neuronal Wiskott Aldrich Syndrome protein (N-WASp) and p21-activated kinase (PAK) in smooth muscle tissues. Submitted.

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