CURRICULUM VITAE
(updated 8/15/2009)

Curt D. Sigmund, Ph.D.
Roy J. Carver Chair in Hypertension Research
Professor of Medicine and Physiology & Biophysics
Roy J. and Lucille A. Carver College of Medicine
University of Iowa

I. EDUCATIONAL AND PROFESSIONAL HISTORY

A. Higher Education

1982	B.A. (Biology)	State University of New York at Buffalo
1984	M.A. (Biology)	State University of New York at Buffalo
1987	Ph.D. (Molecular and Cellular Biology)	State University of New York at Buffalo

Postgraduate Education

1987-1991	Postdoctoral Fellow	Department of Molecular and Cellular Biology, Roswell Park Cancer Institute, Buffalo, NY

B. Professional and Academic Positions

1991-1997	Assistant Professor, Cardiovascular Diseases	Departments of Internal Medicine and Physiology and Biophysics, University of Iowa College of Medicine, Iowa City, Iowa
1997- 2001	Associate Professor, Cardiovascular Diseases	Departments of Internal Medicine and Physiology and Biophysics, University of Iowa College of Medicine, Iowa City, Iowa
2001 - present	Professor, Cardiovascular Medicine	Departments of Internal Medicine and Physiology and Biophysics, University of Iowa College of Medicine, Iowa City, Iowa
1991-present	Director	Transgenic & Gene Targeting Facility, Transgenic Animal Section

1998-2002	Department Executive Officer (DEO-Chair)	Molecular Biology Interdisciplinary Graduate Program, University of Iowa College of Medicine, Iowa City, Iowa
2000-present	Director	Center on Functional Genomics of Hypertension
2002-present	Director	Roy J. Carver Program of Research Excellence in the Functional Genomics of Cardiovascular Disease.
2008-2013	Endowed Chair	Roy J. Carver Chair in Hypertension Research

C. Honors and Awards

Year	Honor
1978-82	New York State Regents Scholarship
1981-82	Honors Research Program, Regulation of rRNA operons in *E. coli*
1982	B.A. Magna Cum Laude, SUNY at Buffalo National Alpha Lambda Delta Honor Society National Science Foundation Fellowship Honors List
1984-86	Recipient of the SUNY at Buffalo University President's Fellowship
1988-91	Recipient of NIH Postdoctoral Fellowship (HL07963)
1991	Recipient of Merck, Sharp & Dohme Travel Fellowship Award, AHA, Council for High Blood Pressure Research
1993	Elected Fellow of the American Heart Association High Blood Pressure Council
1996	Henry Christian Award for Excellence in Clinical Research, American Federation for Clinical Research (now AFMR)
1997	Young Scholars Award - Hoechst Marion Roussel 1997 American Society of Hypertension
2000	Henry Pickering Bowditch Award Lecture 2000, American Physiological Society
2006	Elected Fellow of the Cardiovascular Section of the American Physiological Society- Member No. 9280

2007	Arthur C. Corcoran Memorial Lecture Award AHA, Council for High Blood Pressure Research
2009	Novartis Award for Hypertension Research AHA, Council for High Blood Pressure Research (pending Sept 2009)
2009	Distinguished Alumni Award, State University of New York at Buffalo, Department of Biological Sciences (pending October 2009)

II. TEACHING:

A. Teaching Assignments

Classroom, Seminar, Teaching Laboratory

Year	Course Title	(% for which responsible)
1982	Teaching Assistant: Molecular Genetics, SUNY at Buffalo	100%
1983	Teaching Assistant: Molecular Biology, SUNY at Buffalo	100%
	Graduate Teaching Assistant: Graduate Student Laboratory, SUNY at Buffalo	50%
1988	Lecturer: Regulatory Mechanisms of Eukaryotic Cells I, Roswell Park Cancer Institute	10%
1989	Lecturer: Regulatory Mechanisms of Eukaryotic Cells II, Roswell Park Cancer Institute	10%
1990	Lecturer: Regulatory Mechanisms of Eukaryotic Cells I, Roswell Park Cancer Institute	10%
1992	Human Physiology (72:150)	10%
1993	Human Physiology (72:150)	10%
	Graduate Student Seminar (142:250), Course Director	100%
1994	Human Physiology (72:150)	10%

	Graduate Student Seminar (142:250), Course Director	100%
1995	Human Physiology (72:150)	10%
	Graduate Student Seminar (142:250), Course Director	100%
1996	Human Physiology (72:150)	10%
	Responsible Conduct of Research, Facilitator	25%
	Molecular Biology I (142:210)	20%
1997	Human Physiology (72:150)	10%
	Molecular Biology I (142:210)	20%
	Genetic Analysis of Biological Systems (127:150)	20%
1998	Molecular Biology I (142:210)	20%
	Genetic Analysis of Biological Systems (127:150)	15%
	Program Director – Molecular Biology Graduate Program	100%
1999	Molecular Biology I (142:210)	20%
	Genetic Analysis of Biological Systems (127:150)	15%
	Program Director – Molecular Biology Graduate Program)	100%
2000	Genetic Analysis of Biological Systems (127:150)	15%
	Human Physiology (72:150)	10%
	Program Director – Molecular Biology Graduate Program	100%
2001	Physiology for Physicians Assistants (72:164)	10%
	Facilitator, Principles in Molecular and Cellular Biology (156:201)	10%
	Molecular Biology Graduate Student Seminar (142:250)	50%
	Genetic Analysis of Biological Systems (127:150)	10%
	Program Director – Molecular Biology Graduate Program	100%
2002	Physiology for Physicians Assistants (72:164)	10%
	Genetic Analysis of Biological Systems (127:150)	10%

	Facilitator, Principles in Molecular and Cellular Biology (156:201)	10%
2003	Physiology for Physicians Assistants (72:164)	10%
	Genetic Analysis of Biological Systems (127:150)	10%
2004	Developmental Neuroscience	1 lecture
	Physiology for Physicians Assistants (72:164)	10%
	Genetic Analysis of Biological Systems (127:150)	1 lecture
2005	Physiology for Physicians Assistants (72:164)	10%
	Genetic Analysis of Biological Systems (127:150)	5%
2006	Physiology for Physicians Assistants (72:164)	10%
	Genetic Analysis of Biological Systems (127:150)	5%
2007	Physiology for Physicians Assistants (72:164)	10%
2008	Genetic Analysis of Biological Systems (127:150)	5%
2009	Molecular Biology of Gene Expression (142:215)	20%
	Genetic Analysis of Biological Systems (127:150)	5%

B. Graduate Student and Postdoctoral Supervision

Past: Postdoctoral

1. Mark Thompson, M.D., Pediatric Fellow (1993-1996),
   Awards:
   Wyeth Pediatric-Neonatology Research Grant;
   Neonatology Research Award, Midwest ASPR,
   Merck, Sharp, and Dohme Award for Excellence in Cardiovascular Research, AHA High Blood Pressure Council, 1995

   Current Position (last known):
   Assistant Professor of Pediatrics, Uniformed Services University of the Health Sciences
   Director, Neonatology Fellowship, Tripler Army Medical Center in Honolulu, HI

2. Linda Cadaret, M.D., Cardiology Fellow (1997-1998).
   Current Position:
   Assistant Professor, Congestive Heart Failure, Pulmonary Hypertension, Cardiac Transplant

Cardiovascular Institute, University of Pittsburgh, PA.

3. Robin L. Davisson, Ph.D., Postdoctoral Fellow (1994-1999),
   Awards:
   Michael J. Brody Postdoctoral Fellowship
   NIH NRSA HL09590 (1996-1998)
   Young Investigator Award from The International Society of Hypertension.
   ASH/Bristol-Myers Squibb Award for Young Investigators-in-Training.

   Current Position:
   Professor, Cornell University, Ithaca, New York.

4. David E. Stec, Ph.D., Postdoctoral Fellow (1996-2000),
   Awards:
   NIH NRSA HL05888 (1996-2000),
   Young Investigator Award from International Society of Hypertension

   Current Position:
   Associate Professor, Department of Physiology, University of Mississippi
5. Kristy Lake-Bruse, Ph.D., Postdoctoral Fellow (1998–2001),
   Awards:
   NIH NRSA HL09988 (1999-2000)
   AHA Heartland Affiliate Postdoctoral Fellowship (2000-2002)
   Merck Award for Excellence in CV Research, AHA High Blood Pressure Council (1995)

   Current Position:
   F. Hoffman LaRoche, Nutley, NJ

6. Satoshi Morimoto, M.D., Ph.D., Postdoctoral Fellow (1999-2002),
   Awards:
   U. of Iowa Bioscience Initiative Postdoctoral Fellowship, 1999
   Uehara Medical Foundation of Japan, Postdoctoral Fellowship, 2000
   American Heart Association, Heartland Affiliate, Postdoctoral Fellowship, 2001-2002

   Current Position:
   Chief of Nephrology, Second Department of Internal Medicine
   Kansai Medical University, Osaka, Japan

7. Michael Ryan, Ph.D., Postdoctoral Fellow (1999-2004)
   Awards:
   Postdoctoral Fellowship from AHA Heartland Affiliate, 2000
   NIH NRSA HL10425 (2001-2003)
   Merck Young Investigator Award, American Heart Association, Council for High Blood Pressure Research, September, 2002

   Current Position:
   Assistant Professor, Department of Physiology, University of Mississippi
   (under review for promotion to Associate Professor)

8. Julie Lavoie, Ph.D., Postdoctoral Fellow (2000-2004)
   Awards:
   Postdoctoral Fellowship from AHA Heartland Affiliate, 2003-2005
   Merck Young Investigator Award, American Heart Association, Council for High Blood Pressure Research, September, 2003

Current Position:
Faculty, Axis 1- Circulatory and Respiratory Health
Centre Hospitalier de l'Université de Montréal (CHUM)
Montreal, Canada

9. Koji Sakai, M.D. Ph.D. (2002–2005)
Awards:
Merck Young Investigator Award for Japanese Fellows, American Heart Association, Council for High Blood Pressure Research, September, 2003

Current Position:
Chief of Cardiovascular Center, Matsuyama Red Cross Hospital, Ehime, Japan

10. Robert Bianco, Ph.D. (2002 – 2006)

11. Willem (Toy) deLange, Ph.D. (2004 - 2008)
Current Position:
Postdoctoral Fellow: University of Wisconsin, Madison

Past: Masters

1. Shane Smith, D.D.S., M.S., Masters Degree in Molecular Biology, July, 1996
2. Ravi Nistala, M.S., Masters Degree in Genetics, July, 2002

Past: Ph.D.

1. Lihua Ying, Ph.D. Physiology - University of Sydney, Sydney, Australia (1996)

2. Gongyu Yang, Ph.D. Anatomy and Cell Biology, University of Iowa (1997)
Awards:
Iowa Heart Fellowship (1995-1997).

3. Patrick Sinn, Ph.D. Physiology and Biophysics, University of Iowa (1999)
Awards:
Caroline tum Suden/Francis A. Hellebrandt Professional Opportunity Award, American Physiological Society, April, 1999
Merck Young Investigator Award, American Heart Association, Council for High Blood Pressure Research, September, 1999

4. Yueming Ding, Ph.D. Genetics (2000)
Awards:
Iowa Heart Fellowship (1997-1999)

5. Qi Shi, Ph.D. Physiology and Biophysics (2000)

6. Branimir Cvetkovic, Ph.D. Molecular Biology (2001)
Awards: Caroline tum Suden/Francis A. Hellebrandt Professional Opportunity Award, American Physiological Society, April 1999

7. Mikhiela Sherrod, Ph.D. Genetics (2004)
   Awards:
   Merck Young Investigator Award, American Heart Association, Council for High Blood Pressure Research, September, 2004

8. Xizhou Zhou, Ph.D. Molecular and Cellular Biology (2007)

9. Andreas Beyer, Ph.D. Genetics (2007)
   Awards:
   AHA Predoctoral Fellowship (2005-2006)
   Merck Young Investigator Award, American Heart Association, Council for High Blood Pressure Research, September, 2006

10. Hana Itani, Ph.D. Molecular Biology (2008)
    Awards:
    Caroline tum Suden/Francis A. Hellebrandt Professional Opportunity Award, American Physiological Society, April 2008

11. Carmen Halabi, M.D. PhD. Genetics Ph.D. Program (2009)
    Awards:
    Merck Young Investigator Award, American Heart Association, Council for High Blood Pressure Research, September, 2007
    Caroline tum Suden/Francis A. Hellebrandt Professional Opportunity Award, American Physiological Society, April 2007

12. Matt Dickson, M.D. Ph.D. Genetics (2009)
    Awards:
    New Investigator Award, American Heart Association, Council for High Blood Pressure Research, September, 2008

Current: Postdoctoral

1. Justin L. Grobe, Ph.D. (9/1/2006 - present)

2. Huiping Li, Ph.D. (9/1/2006 - present)

3. Pimonrat Ketsawatsomkron, Ph. D. (5/1/2008 – present)

4. Giulianna deRocha Borges, Ph.D. (7/1/2008 - present)

5. Mark Santillan, M.D. (5/1/2007 - present)

6. Sungmi Park, Ph.D. (1/1/2009 - present)

Current: Graduate Students

1. Di Xu, Genetics, Ph.D. Program (2005 – present, graduation expected May 2010)

2. Eric Weatherford, Molecular Physiology & Biophysics, Ph.D. Program (2006-present)

3. Jinlu Cai, Genetics (Bioinformatics Track) Ph.D. Program (2007-present)

4. Christopher Pelham, Molecular Physiology & Biophysics, Ph.D. Program (2008-present)

Current: Research Scientists

1. Xuebo Liu, Ph.D. Associate Research Scientist,

2. Henry Keen, Ph.D. Assistant Research Scientist, Associate Director for Bioinformatics, Functional Genomics of Hypertension Center.

3. Severine Groh, Ph.D. Assistant Research Scientist

Center on Functional Genomics of Hypertension

Faculty

1. Kamal Rahmouni, Ph.D.
   Assistant Professor, Department of Internal Medicine

2. Anne Kwitek, Ph.D.
   Associate Professor, Department of Internal Medicine

Visiting Faculty on Sabbatical

1. William Talman, M.D. Professor of Neurology, University of Iowa, Iowa City, IA (Sabbatical 2007- 2008)

2. Mary K. Walker, Ph.D., Professor, Pharmacology & Toxicology, Division of Pharmaceutical Sciences, College of Pharmacy, University of New Mexico, Albuquerque, NM. (Sabbatical 2008-2009)

III. SCHOLARSHIP

A. Publications:

Peer-reviewed

1. Sigmund, C.D., and Morgan, E.A.: Erythromycin Resistance Due to a Mutation in a Ribosomal RNA Operon of *Escherichia coli*. ***Proc. Natl. Acad. Sci. USA***. 79:5602-5606, 1982.

2. Mark, L.G., Sigmund, C.D., and Morgan, E.A.: Spectinomycin Resistance Due to a Mutation in a Ribosomal RNA Operon of *Escherichia coli*. ***J. Bacteriology.***, 155:989-994, 1983.

3. Sigmund, C.D., Ettayebi, M., and Morgan, E.A.: Antibiotic Resistance Mutations in 16S and 23S Ribosomal RNA Genes of *Escherichia coli*. ***Nucl. Acids Res.*** 12:4653-4663, 1984.

4. Sigmund, C.D., and Morgan, E.A.: NusA Protein Affects Transcription Termination *In Vitro* by a Mechanism that is Unrelated to the Effects of NusA on Transcriptional Pausing. ***Biochemistry*** 27:4622-4627, 1988.

5. Sigmund, C.D., and Morgan, E.A.: Effects of *Escherichia coli* NusA Protein on Transcription Termination *In Vitro* are Not Increased or Decreased by DNA Sequences Sufficient for Antitermination *In Vivo*. ***Biochemistry*** 27:5628-5635, 1988.

6. Mullins, J.J., Sigmund, C.D., Kane-Haas, C., Wu, C., Pacholec, F., Zeng, Q., and Gross, K.W.: Studies on the Regulation of Renin Genes Using Transgenic Mice. ***Clin. Exp. Hyperten.*** 10:1157-1168, 1988.

7. Fabian, J., Field, L.J., McGowan, R., Mullins, J.J., Sigmund, C.D., and Gross, K.W.: Gene Specific and Allele Specific Regulation of the Murine Renin Genes. ***J. Biol. Chem.*** 264:17589-17594, 1989.

8. Mullins, J.J., Sigmund, C.D., Kane-Haas, C., and Gross, K.W.: Expression of the Murine *Ren-2* Gene in the Adrenal Gland of Transgenic Mice. ***EMBO J.*** 8:4065-4072, 1989.

9. Jones, C.A., Sigmund, C.D., McGowan, R., Kane-Haas, C., and Gross, K.W.: Temporal and Spatial Expression of the Murine Renin Genes During Fetal Development. ***Mol. Endocrinol.*** 4:375-383, 1990.

10. Sigmund, C.D., Jones, C.A., Fabian, J.R., Mullins, J.J., and Gross, K.W.: Tissue and Cell-Specific Expression of a Renin Promoter-T Antigen Reporter Gene Construct in Transgenic Mice. ***Biochem. Biophys. Res. Comm.*** 170:344-350, 1990.

11. Sigmund, C.D., and Gross, K.W.: Differential Expression of The Murine and Rat Renin Genes in Peripheral Subcutaneous Tissue. ***Biochem. Biophys. Res. Comm.*** 173:218-223, 1990.

12. Sigmund, C.D., Jones, C.A., Kim, U., Mullins, J.J., and Gross, K.W.: Expression of the Murine Renin Genes in Subcutaneous Connective Tissue. ***Proc. Natl. Acad. Sci. USA***. 87:7993-7997, 1990.

13. Sigmund, C.D., Okuyama, K., Ingelfinger, J., Jones, C.A., Mullins, J.J., Kim, U., Kane-Haas, C., Wu, C., Kenney, L., Rustum, Y., Dzau, V., and Gross, K.W.: Isolation and Characterization of Renin Expressing Cell Lines from Transgenic Mice Containing a Renin Promoter Viral Oncogene Fusion Construct. ***J. Biol. Chem.*** 265:19916-19922, 1990.

14. Sigmund, C.D., Jones, C.A., Jacob, H., Ingelfinger, J., Kim, U., Gamble, D., Dzau, V.J., and Gross, K.W.: Pathophysiology of Vascular Smooth Muscle in Renin Promoter-T Antigen Transgenic Mice. ***Am. J. Physiol***. 29:F249-F257, 1990.

15. Jacob, H.J., Sigmund, C.D., Shockley, T.R., Gross, K.W., and Dzau, V.J.: Renin Promoter-SV40 T-Antigen Transgenic Mouse: A Model of Primary Renal Vascular Hyperplasia. ***Hypertension*** 17:1167-1172, 1991.

16. Lim, S.K., Sigmund, C.D., Gross, K.W., and Maquat, L.E.: Nonsense Codons in Human ß-Globin mRNA Result in the Production of mRNA Degradation Products. ***Mol. Cell. Biol.*** 12:1149-1161, 1992.

17. Sigmund, C.D., Jones, C.A., Kane, C.M., Wu, C., Lang, J.A., and Gross, K.W.: Regulated Tissue- and Cell-Specific Expression of the Human Renin Gene in Transgenic Mice. ***Circulation Research*** 70:1070-1079, 1992.

18. Sigmund, C.D.: Expression of the Human Renin Gene Throughout Ontogeny of Transgenic Mice. ***Pediatric Nephrology*** 7:639-645, 1993.

19. Burson, J.M., Aguilera, G., Gross, K.W., and Sigmund, C.D.: Differential Expression of Angiotensin Receptor 1A and 1B Gene in Mouse. ***Am. J. Physiol.*** 267:E260-E267, 1994.

20. Yang, G., Merrill, D.C., Thompson, M.W., Robillard, J.E., and Sigmund, C.D.: Functional Expression of the Human Angiotensinogen Gene in Transgenic Mice. ***J. Biol. Chem***.269:32497-32502, 1994.

21. Catanzaro, D.F., Sun, J., Gilbert, M.T., Yan, Y., Black, T., Sigmund, C.D., and Gross, K.W.: A Pit-1 Binding Site in the Human Renin Gene Promoter Stimulates Activity in Pituitary, Placental, and Juxtaglomerular Cells. ***Kidney International*** 46:1513-1515, 1994.

22. Held, W.A., Giancola-O'Brien, J., Kerns, K., Gallagher, J.F., Sigmund, C.D., and Gross, K.W.: Chromosome 8 Alterations Accompany Tumorigenesis in Renin-SV40 T Antigen Transgenic Mice. ***Cancer Research*** 54:6496-6499, 1994.

23. Lang, J.A., Yang, G., Kern, J., and Sigmund, C.D.: Endogenous Human Renin Expression and Promoter Activity in a Pulmonary Carcinoma Cell Line (Calu-6). ***Hypertension*** 25:704-710, 1995.

24. Smith, D.L., Jeyapalan, S., Lang, J.A., Sigmund, C.D., and Morris, B.J.: Human Renin 5'-Flanking DNA to Nucleotide-2750. ***DNA Sequence*** 5:319-321, 1995.

25. Thompson, H.A., Burson, J.M., Lang, J.A., Gross, K.W., Sigmund, C.D.: Tissue-Specific Expression of Novel mRNAs Cloned from a Renin-Expressing Kidney Tumor Cell Line. ***Endocrinology*** 136:3037-3045, 1995.

26. Merrill, D.M., Thompson, M.W., Carney, C., Granwehr, B., Robillard, J.E., and Sigmund, C.D.: Hypertension and Altered Baroreflex Regulation in Transgenic Mice Containing the Human Renin and Angiotensinogen Genes. ***J. Clin. Invest.*** 97:1047-1055, 1996.

27. Lang, J.A., Ying, L-H., Morris, B.J. and Sigmund, C.D.: Transcriptional and Post-Transcriptional Mechanisms Regulate Expression of the Human Renin Gene in Calu-6 Cells. ***Am. J. Physiol.*** 271:F94-F100, 1996.

28. Thompson, M.W., Smith, S.B., and Sigmund, C.D.: Regulation of Human Renin Expression and Human Renin Release in Transgenic Mice. ***Hypertension*** 28:290-296, 1996.

29. Petrovic, N., Black, T., Fabian, J.R., Loudon, J.A., Abonia, J.P., Sigmund, C.D., and Gross, K.W.: Role of Proximal Promoter Elements in Regulation of Renin Gene Transcription. ***J. Biol. Chem.*** 271:22499-22505, 1996.

30. Davisson, R.L., Nuutinen, N., Coleman, S., and Sigmund, C.D.: Inappropriate Splicing of a Chimeric Gene Containing a Large Internal Exon Results in Exon Skipping in Transgenic Mice. ***Nucleic Acids Research*** 24:4023-4028, 1996.

31. Jones, C.A., Petrovic, N., Novak, E.K., Swank, R.T., Sigmund, C.D., and Gross, K.W.: Biosynthesis of Renin in Mouse Kidney Tumor As4.1 Cells. ***Eur. J. Biochemistry*** 243:181-190, 1996.

32. Ying, L., Morris, B.J., and Sigmund, C.D.: Transactivation of the Human Renin Promoter by the Cyclic AMP/Protein Kinase A Pathway is Mediated by Both CREB-Dependent and CREB-Independent Mechanisms in Calu-6 Cells. ***J. Biol. Chem.*** 272:2412-2420, 1997.

33. Davisson, R.L., Kim, H-S., Krege, J.H, Lager, D.J., Smithies, O., and Sigmund, C.D.: Complementation of Reduced Survival, Hypotension and Renal Abnormalities in Angiotensinogen Deficient Mice by the Human Renin and Human Angiotensinogen Genes. ***J. Clin. Investigation*** 99:1258-1264, 1997.

34. Petrovic, N., Kane, C.M., Sigmund, C.D., and Gross, K.W.: Down-regulation of the Renin Gene by Interleukin-1. ***Hypertension*** 30:230-235, 1997.

35. Ding, Y., Davisson, R.L., Hardy, D.O., Zhu, L., Merrill, D.C., Catterall, J.F., and Sigmund, C.D.: The Kidney Androgen-regulated Protein (KAP) Promoter Confers Renal Proximal Tubule Cell-specific and Highly Androgen-responsive Expression on the Human Angiotensinogen Gene in Transgenic Mice. ***J. Biol. Chem.*** 272:28142-28148, 1997.

36. Yan, Y., Jones, C.A., Sigmund, C.D., Gross, K.W., and Catanzaro, D.F. Conserved Enhancer Elements in Human and Mouse Renin Genes Have Different Transcriptional Effects in As4.1 Cells. ***Circulation Research*** 81:558-566, 1997.

37. Faraci, F.M., Sigmund, C.D., Shesely, E.G., Maeda, N., and Heistad, D.D. Responses of Carotid Artery in Mice Deficient in Expression of the Gene for Endothelial Nitric Oxide Synthase. ***Am. J. Physiol.*** 274:H564-H580, 1998.

38. Yang, G., and Sigmund, C.D. Regulatory Elements Required for Human Angiotensinogen Expression in Hep62 Cells are Dispensable in Transgenic Mice. ***Hypertension*** 31:734-740, 1998. (Journal Cover Photo)

39. Yang, G. and Sigmund, C.D.: Developmental Expression of Human Angiotensinogen in Transgenic Mice. ***Am. J. Physiol.*** 274:F932-F939, 1998.

40. Davisson, R.L., Yang, G., Beltz, T.G., Cassell, M.D., Johnson, A.K., and Sigmund, C.D.: The Brain Renin-Angiotensin System Contributes to the Hypertension Exhibited by Mice Containing Both the Human Renin and Human Angiotensinogen Transgenes. ***Circulation Research*** 80:1047-1058, 1998.

41. Yan, Y., Chen, R., Pitarresi, T., Sigmund, C.D., Gross, K.W., Sealey, J.E., Laragh, J.H. and Catanzaro, D.F.: Kidney is the only source of human plasma renin in 45-kb human renin transgenic mice. ***Circulation Research*** 83:1279-1288, 1998.

42. Yang, G., Gray, T., Sigmund, C.D., and Cassell, M.: The Angiotensinogen Gene Is Expressed in Both Astrocytes and Neurons in Murine Central Nervous System. ***Brain Research*** 817:123-131, 1999.

43. Sinn, P.L., and Sigmund, C.D.: Human Renin mRNA Stability is Increased in Response to cAMP in Calu-6 Cells. ***Hypertension*** 33:900-905, 1999.

44. Davisson, R.L., Ding, Y., Stec, D.E., Catterall, J.F., and Sigmund, C.D.: Novel Mechanism of Hypertension Revealed by Cell-Specific Targeting of Human Angiotensinogen in Transgenic Mice. ***Physiological Genomics*** 1:3-9, 1999.

45. Stec, D.E., Davisson, R.L., Haskell, R.E., Davidson, B.L., and Sigmund, C.D.: Efficient Liver-Specific Deletion of a Floxed Human Angiotensinogen Transgene by Adenoviral Delivery of Cre-Recombinase In Vivo. ***J. Biol. Chem.*** 274:21285-21290, 1999.

46. Lake-Bruse, K.D., Faraci, F.M., Shesely, E.G., Maeda, N., Sigmund, C.D., and Heistad, D.D.: Gene Transfer of Endothelial Nitric Oxide Synthase (eNOS) Restores Vasorelaxation to Acetylcholine and A23187 in eNOS-Deficient Mice. ***Am. J. Physiol.*** 277:H770-H776, 1999.

47. Sinn, P. L., Zhang, X., and Sigmund, C.D.: Juxtaglomerular Cell Expression and Partial Regulation of a Human Renin Genomic Transgene Driven by a Minimal Renin Promoter. ***Am. J. Physiol.*** 277:F634-F642, 1999.

48. Shi, Q., Black, T.A., Gross, K.W., and Sigmund, C.D.: Species-Specific Differences in Positive and Negative Regulatory Elements in the Renin Gene Enhancer. ***Circulation Research.*** 85:479-488, 1999.

49. Sinn, P.L., Davis, D., and Sigmund, C.D.: Highly Regulated Cell-Type Restricted Expression of Human Renin in Mice Containing 140 Kb or 160 Kb P1 Phage Artificial Chromosome Transgenes. ***J. Biol. Chem.*** 274:35785-35793, 1999.

50. Mark, A.L., Shaffer, R.A., Correia, M.L.G., Morgan, D.A., Sigmund, C.D., and Haynes. W.G.: Contrasting Blood Pressure Effects of Obesity in Leptin-Deficient Ob/Ob and Agouti Yellow Obese Mice. ***J. Hypertension*** 17: 1949-53, 1999.

51. Cvetkovic, B., Yang, B., Williamson, R.A., and Sigmund, C.D.: Appropriate Tissue- and Cell-Specific Expression of a Single Copy Human Angiotensinogen Transgene Specifically Targeted Upstream of the HPRT Locus by Homologous Recombination. ***J. Biol. Chem.*** 275:1073-1078, 2000.

52. Wang, Q., Sigmund, C.D., and Lin, J.J.C.: Identification of Cis-Elements in the Cardiac Troponin T Gene Conferring Specific Expression in Cardiac Muscle of Transgenic Mice. ***Circulation Research*** 86: 478-484, 2000. (supplemental data available at www.circresaha.org)

53. Didion, S.P., Sigmund, C.D., and Faraci, F.M.: Impaired Endothelial Function in Transgenic Mice Expressing Human Renin and Human Angiotensinogen. ***Stroke*** 31: 760-765, 2000.

54. Sinn, P.L. and Sigmund, C.D. Identification of Three Human Renin mRNA Isoforms Resulting from Alternative Tissue-Specific Transcriptional Initiation. ***Physiological Genomics*** 3: 25-31, 2000.

55. Davisson, R.L., Oliverio, M.I., Coffman, T.M. and Sigmund, C.D.: Divergent Functions of Angiotensin II (AT1) Receptor Isoforms in Brain. ***J. Clin. Investigation*** 106: 103-106, 2000.

56. Ding, Y. and Sigmund, C.D. Androgen-Dependent Regulation of Human Angiotensinogen Expression in KAP-hAGT Transgenic Mice. ***Am.J.Physiol.*****(Renal)** 280: F54-F60, 2001.

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9. Stec, D.E., Davisson, R.L., and Sigmund, C.D.: Transgenesis and Gene Targeting in the Mouse: Tools for Studying Genetic Determinants of Hypertension. ***Trends in Cardiovascular Medicine*** 8:256-264, 1998.

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11. Sigmund, C. D.: Transgenesis and Gene Targeting: Tools for Studying the Renin-Angiotensin System. ***Newsletter of the American Heart Association: Council on Kidney in Cardiovascular Disease*** 1:7-13, 1998/1999.

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14. Cvetkovic, B., and Sigmund, C.D.: Understanding Hypertension Through Genetic Manipulation in Mice. ***Kidney International*** 57: 863-874, 2000.

15. Sinn, P.L., and Sigmund, C.D.: Transgenic Models as Tools for Studying the Regulation of Human Renin Expression. ***Regulatory Peptides*** 86: 77-82, 2000.

16. Lake-Bruse, K.D. and Sigmund, C.D.: Transgenic and Knockout Mice To Study the Renin-Angiotensin System and Other Interacting Vasoactive Pathways. ***Current Science*** 2: 211-216, 2000.

17. Sigmund, C.D.: Viewpoint: Are Studies in Genetically Altered Mice Out of Control? ***Arter. Throm. Vasc. Biol.*** 20:1425-1429, 2000.

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19. Sigmund, C.D.: Genetic Manipulation of the Renin-Angiotensin System: Targeted Expression of the RAS in the Kidney. ***Am. J. Hypertens.*** 14: 33S-37S, 2001.

20. Sigmund, C.D.: Genetic Manipulation of the Renin-Angiotensin System in the Kidney. ***Acta. Physiologica. Scand.*** 173, 67-73, 2001.

21. Ryan, M.J., and Sigmund, C.D.: Use of Transgenic and Knockout Strategies in Mice. ***Seminars in Nephrology.*** 22:154-160, 2002.

22. Morimoto, S., and Sigmund, C.D.: Angiotensin Mutant Mice: A Focus on the Brain Renin-Angiotensin System. ***Neuropeptides*** 36: 194-200, 2002.

23. Glueck, S.B., and Sigmund, C.D.: Meeting report: Physiological Genomics of Cardiovascular Disease: from Technology to Physiology. ***Physiological Genomics*** 9:135-136, 2002.

24. Sigmund, C.D.: Regulation of renin expression and blood pressure by vitamin D3. A Commentary on: 1,25-dihydroxyvitamin D3 is a Negative Endocrine Regulator of the Renin-Angiotensin System. ***J. Clin. Investigation*** 110: 115-156, 2002 .

25. Lavoie, J.L. and Sigmund, C.D.: Overview of the Renin-Angiotensin System: An Endocrine and Paracrine System. ***Endocrinology*** 144: 2179-2183, 2003.

26. Bianco, R.A., Keen, H.L., Lavoie, J.L., Sigmund, C.D.: Untraditional Methods for Targeting the Kidney in Transgenic Mice. ***Am. J. Physiol: Renal*** 285:F1027-F1033, 2003.

27. Ryan, M.J., Sigmund, C.D.: Editorial: HPRT Targeting: "Ets" A Powerful Tool For Investigating Endothelial-Cell Specific Gene Expression. ***Arterioscler Thromb Vasc Biol.*** 23:1960-2, 2003.

28. Ryan, M.J., Sigmund, C.D.: Editorial: ACE, ACE Inhibitors and Other JNK. ***Circulation Research*** 94: 1-3, 2004.

29. Lavoie, J.L., Bianco, R.A., Sakai, K., Keen, H.L., Ryan, M.J., Sigmund, C.D. Transgenic mice for studies of the renin-angiotensin system in hypertension. ***Acta Physiol Scand.*** 181:571-577, 2004.

30. Sakai, K. Sigmund, C.D. Molecular evidence of tissue renin-angiotensin systems: a focus on the brain. ***Current Hypertension Reports*** 7: 135-140, 2005

31. Halabi, C.M. and Sigmund, C.D. PPARγ and its agonists in hypertension and atherosclerosis: mechanisms and clinical implications. ***Am J Cardiovascular Drugs***. 5:389-398, 2005.

32. Sigmund, C.D. and Davisson, R.L. Editorial: Targeting Brain AT1 Receptors By RNA Interference. ***Hypertension*** 47: 145-146, 2006.

33. Dickson, M.E. and Sigmund, C.D. Genetic Basis of Hypertension: Revisiting Angiotensinogen. ***Hypertension*** 48: 214-20, 2006.

34. Sigmund, C.D. and Hall, J.E. To the Readers of Hypertension. ***Hypertension*** 49: 1195, 2007.

35. Weatherford, E.T., Itani, H., Keen, H.L., and Sigmund, C.D. Is Peroxisome Proliferator-Activated Receptor-γ a New "Pal" of Renin? ***Hypertension*** 50: 844-846, 2007.

36. Grobe, J.L., Xu, D., and Sigmund, C.D. An Intracellular Renin-Angiotensin System in Neurons: Fact, Hypothesis, or Fantasy. ***Physiology*** 23: 187–193, 2008. (PMCID: 2538674)

37. Rahmouni, K., and Sigmund, C.D. Editorial: Id3, E47 and SREBP-1c: Fat Factors Controlling Adiponectin Expression. ***Circulation Research*** 103: 565-567, 2008.

38. Sigmund, C.D. Editorial Focus: A Growing Chain of Evidence Linking Genetic Variation in Angiotensinogen with Essential Hypertension. ***Am. J. Physiol. Regul. Integr. Comp. Physiol.*** 295: R1846-R1848, 2008.

39. Grobe, J.L., Venegas-Pont, M., Sigmund, C.D. and Ryan, M.J.. Editorial Focus: The PPARγ agonist rosiglitazone enhances rat brown adipose tissue lipogenesis from glucose without altering glucose uptake. ***Am. J. Physiol. Regul. Integr. Comp. Physiol.*** 296: R1325-R1326, 2009.

Editorials Through AJP: Regulatory Editorship

40. Sigmund, C.D. Editorial: AJP: Regulatory, Integrative and Comparative Physiology: 2007 and Beyond. ***Am. J. Physiol. Regul. Integr. Comp. Physiol.*** 293: R1-R2, 2007.

41. Sigmund, C.D. Editorial AJP: Regulatory, Integrative and Comparative Physiology: One Year Later… ***Am. J. Physiol. Regul. Integr. Comp. Physiol.*** 295: R1007-R1008, 2008.

B. Current Funding:

1. NIH R37 MERIT HL048058 (years 13-17, MERIT extension from 18-23) "Role of Enhancers Regulating Renin Gene Expression"
   1/1/06-11/30/10 $250,000 (annual direct costs) PI: Sigmund

2. NIH R01 HL061446 (years 11-15) "Significance of Angiotensinogen Variants in Hypertension"
   7/1/09-6/30/14, $255,000 (annual direct costs) PI: Sigmund

3. NIH P01 HL062984 (years 6-10) "Oxidative Mechanisms in Vascular Disease"
   Project 4 "Identification & Function of PPARγ and PPARγ Target Genes in the Blood Vessel"
   5/1/06-4/30/11, $256,010 (annual direct costs) Project PI: Sigmund

4. NIH P01 HL084207 (year 1-5) "Genetic and Signaling Mechanisms in the Central Regulation of Blood Pressure"
   Project 1 "Functional Significance of a Novel Intracellular Renin in the Brain"
   Core A "Administration"
   Core C "Mouse Genetics"
   6/1/07-5/31/12, $1,405,725 (annual direct costs) Program PI: Sigmund

C. Previous Major Funding

1. NIH P50 HL55006 "SCOR- Molecular Genetics of Hypertension" 2/1/01-1/31/06
   Project 5: "Hypertension and the Role of Tissue Renin Angiotensin Systems"
   Core A: "Administration Core"
   Core B: "Animal Models Core"
   $1,450,000 (annual direct costs)
   Overall Program and Center PI: Sigmund

2. NIH P01 NS24621 "PPG on Cerebral Vascular Biology Program Project Grant"
   Overall PI: Frank M. Faraci
   Project 4 "Protective Mechanisms in the Cerebral Vascular Wall: Role of PPARγ"
   Core B "Transgenic Mouse Core"
   6/1/02-5/31/07 $264,682 (annual direct costs) Project and Core PI: Sigmund

3. NIH R01 HL76421 "Significance of Variation on the NOS3 and SOD3 Genes"
   4/1/04-3/31/08, $250,000 (annual direct costs) PI: Sigmund

D. Invited Lectures

1. Invited Speaker: "Renin Transgenics in Cardiovascular Research: A Model for Renal Vascular Hyperplasia and Smooth Muscle Ontogeny." U.S. (NIH)-Japan Cooperative Program - Workshop on Transgenic Animals. Kona, Hawaii, April, 1990.

2. Invited Speaker: "Molecular Genetic Manipulation of the Mouse: Applications for Studying Gene Regulation and Cardiovascular Disease." Workshop on Molecular Biology in Medicine and Biomedical Research, Principals and Practice of Molecular Biology in the Cardiovascular System: A Problem Oriented Approach, Council for High Blood Pressure Research, 44th Annual Fall Conference and Scientific Sessions, Baltimore, Maryland, September, 1990.

3. Invited Speaker: "Isolation and Characterization of Renin Expressing Cell Lines from Transgenic Mice." Workshop on the Development of Cell Lines for Hypertension Research, Hypertension Branch, NIH, Bethesda, Maryland, February, 1991.

4. Platform Presentation: "Regulated Expression of the Human Renin Gene Transgenic Mice." AHA Council for High Blood Pressure Research, Chicago, Illinois, September, 1991.

5. Invited Speaker: "On the Lineage of Juxtaglomerular Smooth Muscle Cells." Keystone Symposia, Keystone, Colorado, January, 1992.

6. Invited Speaker: Fifth International Workshop on Developmental Renal Physiology, Milan, Italy, August, 1992.

7. Invited Speaker: International Pediatric Nephrology Association, Jerusalem, Israel, August, 1992.

8. Invited Speaker: American Motility Society Meeting, Lake Tahoe, Nevada, September, 1992.

9. Invited Speaker: "Manipulating Genes to Understand Cardiovascular Diseases: Principles, Methodologies and Applications." American Heart Association National Meeting, New Orleans, November, 1992.

10. Invited Speaker: American Heart Association - Scientific Conference on Molecular Biology of the Normal, Hypertrophied and Failing Heart. Asilomer, CA, August, 1993.

11. Invited Speaker: University of Alabama-Birmingham Hypertension Research Symposium. Sandestin, Florida, October, 1993.

12. Invited Speaker: Angiotensin II Gordon Conference. Oxnard, CA, February, 1994.

13. Invited Session Chair and Organizer: Transgenic Animals in Physiological Research - Experimental Biology '94. Anaheim, CA, April, 1994.

14. Invited Speaker, Massachusetts General Hospital, Harvard Medical School, Boston, Massachusetts, May, 1994

15. Session Chair: Gene Regulation. American Heart Association Council for High Blood Pressure, Scientific Sessions, Chicago, IL, September 1994.

16. Invited Speaker: American Society of Nephrology Annual Meeting, Orlando, FL, October 26-30, 1994.

17. Invited Speaker: The Genetics of Hypertension: A Postgraduate Seminar - American Heart Association 67th Scientific Sessions. Dallas, TX, November 13, 1994.

18. Invited Speaker: Genetics in Cardiovascular Disease: Panacea or Canard? A Postgraduate Seminar - American Heart Association 67th Scientific Sessions, Dallas, TX, November 14, 1994.

19. Invited Lecture: American Federation for Clinical Research, West Section, Carmel, CA, February 1995.

20. Invited Speaker: Beth Israel Hospital - Harvard Medical School, Boston, MA, March 1995.

21. Invited Speaker: 11th Scientific Meeting of the Inter-American Society of Hypertension, Montreal, Canada, June 1995.

22. Workshop Organizer and Session Chair, Workshop on Transgenic and Knockout Animal Models in the Study of Hypertension and Cardiovascular Research, American Heart Association, New Orleans, LA, September 1995.

23. Invited Speaker: Department of Physiology, Medical College of Wisconsin - Graduate Students Choice Invited Speaker, Milwaukee, WI, October 1995.

24. Invited Speaker: Department of Pharmacology, Emory University, Atlanta, GA, October 1995.

25. Invited Speaker: Department of Physiology, University of Florida, Gainesville, FL, December 1995.

26. Session Chair: High Blood Pressure Council Annual Meeting, Chicago, IL, September, 1996.

27. Invited Speaker: Department of Physiology, University of West Virginia, Morgantown, WV, October, 1996.

28. Invited Speaker: Department of Pediatrics, Georgetown University, Washington, DC., November, 1996.

29. Invited Speaker: Department of Physiology, University of Melbourne, Melbourne, Australia, December, 1996.

30. Invited Speaker: Australian High Blood Pressure Council, Melbourne, Australia, December, 1996.

31. Invited Speaker: Department of Biochemistry, University of Sydney, Sydney, Australia, December, 1996.

32. Invited Speaker: Experimental Biology 1997, Symposium, Genomics to Physiology: How Do We Get There, "Use of Transgenics and Gene Targeting for Studying the Genetics of Complex Diseases." New Orleans, LA, April 1997.

33. Invited Speaker: F. Hoffman LaRoche, Basel, Switzerland, April, 1997.

34. Keynote Lecture: Graduate Student Association Student Research Day, Medical College of Wisconsin, Milwaukee, WI, October, 1997.

35. Invited Speaker: Department of Physiology, Tulane University, New Orleans, LA, October, 1997.

36. Invited Speaker: American Heart Association National Scientific Sessions: Symposia Title: "Altered Vascular Biology and Hemodynamics in Knockout Mice." Orlando, FL, Nov., 1997.

37. Invited Speaker: Angiotensin Gordon Conference, Ventura, CA, February, 1998.

38. Invited Speaker: Department of Medicine, Harvard Medical School, Brigham and Women's Hospital, Boston, MA, March, 1998.

39. Symposia Organizer and Chair, Hot Topic Symposia "Integrated Cardiovascular Physiology in the Mouse: Applications to Transgenic and Gene Targeted Mice." Experimental Biology '98, San Francisco, CA, April, 1998.

40. Invited Speaker: Department of Medicine, University of Western Ontario, London, Ontario, May, 1998.

41. Invited Speaker: Department of Physiology, University of Buffalo, Buffalo, NY, May, 1998.

42. Invited Speaker: FASEB Summer Conference "Renal Hemodynamics. Integration of Endothelial, Epithelial and Vascular Control Mechanisms." Saxton River, VT, July, 1998.

43. Invited Speaker: College de France, Paris, France, September, 1998.

44. Invited Organizer and Speaker: Physiology In Focus: Tissue-Specific Gene Targeting as a Window into Physiological Function, Experimental Biology '99, Washington, DC, April, 1999.

45. Invited Speaker: Seminar on Cardiovascular Biology and Medicine, Pamplone, Spain, May, 1999.

46. Invited Speaker: FASEB Summer Conference: "Neural Mechanisms in Cardiovascular Regulation". Saxton River, VT, July, 1999.

47. Invited Speaker: State-of-the-Art Lecture, 25th International Aldosterone Conference, San Diego, CA, June 1999.

48. Invited Speaker: State-of-the-Art Lecture, The Renin-Angiotensin System: Current Perspectives. American Society Nephrology, Miami, FL, November, 1999.

49. Invited Speaker: Angiotensin Gordon Conference. Oxford, UK, August, 1999.

50. Invited Speaker: UCLA Department of Human Genetics and Department of Physiology, Los Angeles, CA, January, 2000.

51. Invited Speaker: Vanderbilt University, Department of Medicine, Nashville, TN, February, 2000.

52. Invited Speaker: Georgetown University, Department of Pharmacology, Washington, DC, March, 2000.

53. Invited Speaker: Henry Pickering Bowditch Annual Lecture EB 2000, San Diego, CA, April, 2000.

54. Invited Speaker: Parke-Davis Corporation, Ann Arbor, MI, April, 2000.

55. Invited Speaker: Affymax Corporation, San Francisco, CA, May, 2000.

56. Invited Speaker: Baxter Healthcare Corporation, Chicago, IL, June, 2000.

57. Invited Speaker: State of the Art Lecture, "Molecular and Physiologic Studies of the Tissue Renin-Angiotensin System". Joint American Physiological Society/Scandinavian Physiology Society Meeting. Stockholm, Sweden August, 2000.

58. Invited Speaker: State of the Art Lecture, "Molecular and Physiologic Studies of the Tissue Renin-Angiotensin System". International Society of Hypertension, Chicago, IL, August, 2000.

59. Invited Speaker: University of Utah, Department of Human Genetics, Salt Lake City, UT, September, 2000.

60. Invited Speaker: Jackson Cardiovascular Meeting 2000, University of Mississippi, Jackson, MS, Nov. 2000.

61. Invited Speaker: University of Alabama Birmingham, Department of Physiology. March 2001.

62. Invited Speaker: Angiotensin Gordon Conference, Ventura, CA, March, 2001.

63. Invited Speaker: Department of Physiology and Biophysics and the Department of Medicine, Division of Hypertension. Case Western Reserve University, Cleveland, OH, April 2001.

64. Visiting Professor: University of Colorado, Renal Division, Department of Internal Medicine, May 2001.

65. Invited Speaker: Renal Microcirculatory Hemodynamic: Molecular Cellular, Physiologic, Clinical and Integrative Mechanism, FASEB Summer Conference, Saxtons River, June 2001.

66. Invited Speaker: IUPS, New Zealand, August 2001

67. Invited Speaker: College of Medicine, University of Florida, Gainesville, FL, October 2001.

68. Invited Speaker: American Society of Nephrology , San Francisco, CA, October 2001.

69. Invited Speaker: Division of Hypertension, Cleveland Clinic Research Foundation, Cleveland, OH, November 2001.

70. Invited Speaker: Department of Physiology, University of Akron, Akron, OH, November 2001.

71. Invited Speaker: Department of Physiology and Biophysics, Texas A&M University, Temple, TX, January, 2002.

72. Invited Speaker: Department of Physiology, University of Nebraska Medical School, Omaha, NE, January, 2002.

73. Invited Speaker: Department of Physiology and Biophysics, University of Tennessee, Memphis, TN, January, 2002.

74. Distinguished Lecturer: Department of Medicine, University of Maryland, Baltimore, MD, March, 2002.

75. Invited Speaker: Department of Medicine, Morehouse School of Medicine, Atlanta, GA, May, 2002.

76. Invited Speaker: Angiotensin Gordon Conference, Lucca, Italy, May 2002

77. Invited Speaker: International Society of Hypertension: State-of-the-art Lecture, Prague, Czech Republic, June 2002

78. Invited Speaker: Department of Physiology and Biophysics, University of South Dakota, Vermillion, SD, October, 2002.

79. Invited Speaker: Department of Pathology, Emory University, Atlanta, GA, December, 2002.
80. Invited Speaker: Western Pharmacology Society Meeting, Lake Tahoe, NV, February 2003.
81. Invited Speaker: Max Delbruck Center for Molecular Medicine, Berlin, Germany, February 2003.
82. Invited Speaker: University of Edinburgh, Edinburgh, Scotland, February 2003.
83. Invited Speaker: Karolinska Institute, Stockholm, Sweden, February 2003.
84. Invited Speaker, Department of Physiology, University of Michigan, Ann Arbor, MI, March 2003.
85. Invited Speaker, Department of Physiology, Michigan State University, East Lansing, MI, March 2003.
86. Invited Speaker, Department of Medicine, Kyoto University, Kyoto, Japan, March 2003.
87. Invited Speaker, Japanese Circulation Society, Fukuoka, Japan, March 2003.
88. Invited Speaker, Understanding Renal and CV Function Through Physiological Genomics, Augusta, GA, October 2003.
89. Invited Speaker, ACTA Physiologica Scandinavica Symposium "Functional Genomics of the Juxtaglomerular Apparatus", Odense, Denmark, October 2003.
90. Session Organizer and Discussion Leader, 2004 Angiotensin Gordon Conference, February, 2004
91. Invited Speaker, University of Kentucky, Lexington, KY, March 2004
92. Invited Speaker, University of Utah, Salt Lake City, UT, April 2004
93. Invited Speaker, University of Mississippi, Jackson, MI, May 2004
94. Invited Speaker, FASEB Summer Conference on Renal Hemodynamics, Callaway Gardens, GA June 2004
95. Invited Speaker, Louisiana State University, New Orleans, LA, October 2004
96. Invited Speaker, University of Virginia, Charlottesville, VA, February 2005
97. Invited Speaker, International Union of Physiological Sciences (IUPS), San Diego, CA April 2005
98. Invited Instructor, Hypertension Summer School, Castine, ME, July 2005.
99. Invited Speaker, Clinical research Institute of Montreal, Montreal, Canada September 2005.
100. Invited Speaker, Centre Hospitalier de l'Université de Montréal (CHUM), Montreal Canada, September 2005.
101. Invited Speaker, New York Medical College, Valhalla, NY, October 2005
102. Invited Speaker, Kyushu University, Fukuoka, Japan, January 2006
103. Invited Discussion Leader, Angiotensin Gordon Research Conference, Aussois, France, Sept 2006

104. Invited Speaker, Medical College of Georgia, Augusta, GA, October, 2006

105. Invited Speaker, Yale University, Department of Department of Molecular and Cellular Physiology, January 2007

106. PPG Consultant, University of Kentucky, Lexington, KY, April 2007

107. Invited Speaker, "A. Clifford Barger Memorial Symposium: Control Mechanisms of Renin Synthesis and Release: a 21st Century Perspective" at EB2007, Washington DC, April 2007

108. Invited Speaker, FASEB Summer conference on Renal Hemodynamics, July 2007

109. Invited Speaker, American Physiological Society Inspirational Seminar Series, Louisiana State University and Tulane University, New Orleans, LA, September 2007

110. Invited Speaker, Max Delbruck Center for Molecular Medicine, Berlin, Germany, October 2007

111. Invited Speaker, Molecular Determinants of Kidney Function, Regensburg, Germany, October 2007.

112. Invited Speaker, University of Florida, Gainesville, FL December 2007

113. Invited Speaker, Roswell Park Cancer Institute, Buffalo, NY, March 2008

114. Invited Speaker, University of California, San Diego, April 2008

115. Invited Speaker, University of Nebraska, Omaha, NE, May 2008

116. Invited Speaker, Emilia Island Cardiovascular and Renal Meeting, May 2008

117. Invited Speaker, Jackson Cardiovascular and Renal Meeting, Jackson, MS, Oct 2008

118. Session Organizer, Speaker and Chair, American Heart Association Scientific Sessions, New Orleans, LA, November, 2008

119. Keynote Speaker, 14th Angiotensin Conference, Tokyo, Japan, Feb 2009

120. Invited Speaker, Chiba University, Tokyo, Japan, Feb 2009

121. Invited Speaker, Tohoku University, Sendai, Japan, Feb 2009

122. Keynote Speaker, 2009 Graduate Student Research Day, Medical College of Georgia, Augusta, GA, March 2009

123. Invited Speaker, Duke University, Durham, NC (to be re-scheduled)

124. Distinguished Alumni Lecture- SUNY Buffalo, Buffalo, NY, October 2009

125. Distinguished Lectureship, University of Mississippi Medical Center, Jackson, MS, October 2009

126. Invited Speaker, University of Virginia, Charlottesville, VA, December 2009

127. Invited Speaker, The Cellular and Molecular Basis of Disease Seminar Series, University of ?New Mexico, Albuquerque, NM, Feb 2010

128. Invited Speaker, Medical College of Ohio, Toledo, OH, March 2010

IV. SERVICE

Editorships:

Year	Activity
1994-2000	Associate Editor, *American Journal of Physiology: Endocrinology and Metabolism*
1995-1996	Guest Editor, Genetics Section, *Hypertension* – Proceedings of the Council on High Blood Pressure Research
1999-2000	Editorial Board, *Physiological Genomics*
1993-2001	Editorial Board, *Hypertension*
1999-present	Editorial Board, *American Journal of Physiology: Heart and Circulatory*
1999-present	Editorial Board, *General Pharmacology: The Vascular System*
2001-present	Editorial Board, *Journal of Molecular and Cellular Cardiology*
2000-2007	Associate Editor, *Physiological Genomics*
2002-2007	Associate Editor, *Hypertension*
2007-2008	Editorial Board, *Circulation Research*
2007-2013	**Editor-in-Chief, *American Journal of Physiology: Regulatory, Integrated and Comparative Physiology***

Grant Review Panels:

Year	Activity	
1991	Ad Hoc Reviewer: VA Merit Review Grant Applications	
1991	Ad Hoc Reviewer: National Research Council Grant, Switzerland	
1994-1995	American Heart Association Fellowship Review Panel	
1994	Outside Reviewer-National Institutes of Health Endocrinology Study Section-NIDDK	
1996	Ad Hoc Reviewer	Medical Research Council of Canada,
1996	Ad Hoc Reviewer	NHLBI, Program Project Study Section
1996	External Reviewer	National Institutes of Health, Cardiovascular and Renal (CVB) Study Section

1997	Ad Hoc Reviewer	NHLBI, Program Project Grant Study Section
1997-2000	American Heart Association, Cardiorenal Study Section Review Panel	
1998	Ad Hoc Reviewer	NIDDK, Program Project Grant Site Visit Team and Study Section
1998	Ad Hoc Reviewer	NHLBI Special Emphasis Panel
2000	Ad Hoc Reviewer	NIH, Cardiovascular and Renal Study Section
2000	Ad Hoc Reviewer	NIH, Experimental Cardiovascular Sciences Study Section
2000	Ad Hoc Reviewer	NHLBI, Special Program Project Review Committee
2001	Ad Hoc Reviewer	NIH, Cardiovascular and Renal Study Section
2002	Ad Hoc Reviewer	NHLBI, Special Program Project Review Committee
2002-2003	Regular Member	NIH, Cardiovascular and Renal Study Section (CVB)
2004-2006	Regular Member	NIH, Hypertension and Microcirculation Study Section (HM)
2007-2011	**Regular Member**	**NHLBI Program Project Parent Committee**

Departmental, collegiate, or university committees:

Year	Committee
1993-present	Transgenic Facility Advisory Committee – Ex Officio Member
1994-1995	Interim Director, American Heart Association Medical Student Research Fellowship Program
1994-1998	Research Committee, University of Iowa College of Medicine
1994-1997	Chair, Admissions Committee, Molecular Biology Interdisciplinary Program, Graduate College
1995	CVD Retreat Organizing Committee
1995-1998	Co-Director, American Heart Association Medical Student Research Fellowship Program
1995-1998	Cardiovascular Division, Core Facilities Committee – Chair Faculty Advisory Committee, Fellowship Research Committee
1995-1999	Genetics Interdisciplinary Program, Curriculum Committee
1996	Reclassification Committee, College of Medicine (P/S and Merit Staff)
1997-1998	Graduate Affairs Committee, Molecular Biology Interdisciplinary Program
1998-1999	Promotions Committee, Dept. Internal Medicine
1998	Chair, Graduate Affairs, Molecular Biology Interdisciplinary Program
1998-2002	Chair, Executive Committee: Molecular Biology Interdisciplinary Program
1999	Search Committee, Assistant Dean for Research and Graduate Programs, College of

	Medicine
1999	Search Committee, Director, Neuroscience Interdisciplinary Graduate Program, Graduate College
1999-2002	Executive Committee: Medical Scientist Training Program
2002-2003	Chair, Graduate Affairs Committee: Molecular Biology Interdisciplinary Program
2000-present	Executive Committee: University of Iowa Cardiovascular Center
2002-present	Graduate Affairs Committee: Medical Scientist Training Program
2005	Chair, Senior Promotions Committee, Department of Internal Medicine
2009	Member, Anatomy and Cell Biology Department Review Committee

National Committees

Year	Activity
1994	Consultant, Wyeth-Ayerst Research, Princeton, NJ
1995-1996	American Heart Association – High Blood Pressure Council, Ad Hoc Member Publications Committee
1997-2000	American Heart Association, Cardiorenal Study Committee
1997	American Physiological Society Blue Ribbon Panel on Programming
1996-1998	Research Committee, American Heart Association, Iowa Affiliate
1998-2002	Research Committee, American Heart Association, Heartland Affiliate (Vice-Chair 1999-2000)(Chair 2000-2002)
1998-2000	American Physiological Society At-large Member, Joint Program Committee
1998-2000	American Heart Association, Council for High Blood Pressure Research, Program Committee
1999	American Heart Association, Council for High Blood Pressure Research, Strategic Planning Committee
2000-2001	American Heart Association, Great America Research Consortium Steering Committee, Representing Heartland Affiliate
2000-2002	American Physiological Society, Physiological Genomics Task Force
2002-2007	Chair, Joint Program Committee, American Physiological Society
2002-2007	American Physiological Society, Council (Ex Officio)
2002-2003	American Heart Association, Council for High Blood Pressure Research, Executive Committee
2003-2005	Member, United States Scientific Program Committee (USSPC) for International

	Union of Physiological Sciences (IUPS) 2005.
2003-2005	Member, International Scientific Program Committee (ISPC) for International Union of Physiological Sciences (IUPS) 2005.
2003-2005	Member, FASEB Program Committee (representing the American Physiological Society)
2005-2006	Chair, Genomics Commission, International Union of Physiological Sciences (IUPS)
2005-2006	Member, International Scientific Program Committee (ISPC) for International Union of Physiological Sciences (IUPS), Kyoto, Japan, 2009.
2006-2007	Chair, Task Force on Meetings, American Physiological Society
2009-2012	**Elected Councilor, American Physiological Society**

Special Activities

2004	Chair, Hypertension SCOR Directors Meeting, Bethesda, MD, Feb 2004