

## CURRICULUM VITAE

### John R. Raymond MD

President, CEO, Professor  
Department of President

#### OFFICE ADDRESS:

8701 Watertown Plank Road

Milwaukee, WI 53226

#### EDUCATION:

09/1974 - 06/1978 B.S., The Ohio State University, Columbus, Ohio

07/1978 - 06/1982 M.D., The Ohio State University, Columbus, Ohio

#### POSTGRADUATE TRAINING AND FELLOWSHIP APPOINTMENTS:

07/1982 - 06/1983 Internship in Medicine, Duke University Medical Center, Durham, NC

07/1983 - 06/1985 Residency in Medicine, Duke University Medical Center, Durham, NC

07/1985 - 06/1986 Fellowship in Nephrology, Duke University Medical Center, Durham, NC

07/1986 - 06/1987 Chief Medical Residency, Durham VA Medical Center, Durham, NC

07/1987 - 06/1988 Fellowship in Nephrology, Duke University Medical Center, Durham, NC

#### FACULTY APPOINTMENTS:

07/1986 - 06/1987 Associate in Medicine, Duke University Medical Center, Durham, NC

07/1989 - 06/1989 Associate in Medicine, Duke University Medical Center, Durham, NC

07/1989 - 06/1994 Assistant Professor of Medicine, Duke University Medical Center, Durham, NC

07/1994 - 06/1996 Associate Professor of Medicine, Duke University Medical Center, Durham, NC

08/1995 Tenure granted, Duke University Medical Center, Durham, NC

07/1996 - 06/2010 Dialysis Clinics Incorporated, Professor of Medicine with tenure, Medical University of South Carolina, Charleston, SC

07/19/2010 - Present Graduate Faculty, MUSC, Charleston, SC

07/2010 - Present Adjunct Professor of Medicine, MUSC, Charleston, SC

#### ADMINISTRATIVE APPOINTMENTS:

08/1991 - 11/2006 Associate Provost for Research, Medical University of South Carolina, Charleston, SC

07/1998 - 06/2002 Associate Chief of Staff for Research, Ralph H. Johnson VA Medical Ctr., Charleston, SC

07/2002 - 12/2002 Interim Vice President for Academic Affairs, and Provost, MUSC, Charleston, SC

01/2003 - 06/2010 Vice President for Academic Affairs, and Provost, MUSC, Charleston, SC

07/2010 - Present President and CEO, Medical College of Wisconsin, Milwaukee, WI

#### EDUCATIONAL ADMINISTRATIVE APPOINTMENTS:

07/1996 - 06/2010 Executive Committee, Nephrology Fellowship Program, MUSC, Charleston, SC

#### HOSPITAL AND CLINICAL ADMINISTRATIVE APPOINTMENTS:

07/1991 - 06/1993 Director of Dialysis, Durham VA Medical Center, Durham, NC

07/1991 - 06/1993 Renal Clinic Director, Durham VA Medical Center, Durham, NC

07/1991 - 06/1996 Chief, Nephrology Section, Durham VA Medical Center, Durham, NC

07/1992 - 06/1996 Coordinator, Hypertension Detection and Screening Program, Durham VA Medical Center, Durham, NC

#### HOSPITAL STAFF PRIVILEGES:

07/1986 - 06/1987 Duke University Medical Center, Durham, NC  
 07/1986 - 06/1987 Durham VA Medical Center, Durham, NC  
 07/1988 - 06/1996 Duke University Medical Center, Durham, NC  
 07/1988 - 06/1996 Durham VA Medical Center, Durham, NC  
 07/1996 - 06/2010 Ralph H. Johnson VA Medical Ctr., Charleston, SC  
 07/1996 - 06/2010 Medical University Hospital Authority, Medical University of South Carolina, Charleston, SC  
 07/1996 - 06/2003 Charleston Memorial Hospital and Specialty Hospital, Charleston, SC  
 07/1996 - 06/2010 Medical University Hospital Authority, Medical University of South Carolina, Charleston, SC  
 07/1998 - 06/2004 Hampton Regional Medical Center, Hampton, SC  
 07/2003 - 06/2010 Kindred Hospital of Charleston, Charleston, SC  
 11/2010 - Present Clement J. Zablocki VA Med. Center, Milwaukee, WI

**SPECIALTY BOARDS AND CERTIFICATION:**

| <u>Board Certified</u>                                  | <u>Issue Date</u> | <u>Expiration</u> |
|---|-------------------|-------------------|
| American Board of Internal<br>Medicine:Medicine         | 09/10/1986        | None              |
| ABI: Nephrology   | 11/01/1988        | None              |
| American Heart<br>Assn:Cardiopulmonary<br>Resuscitation | 10/19/2009        | 11/01/2011        |

| <u>Licensure</u>                             | <u>Number</u> | <u>Issue Date</u> | <u>Expiration</u> |
|--|---------------|-------------------|-------------------|
| Ohio License(INACTIVE)                       | 479660        | 07/01/1982        | 12/31/1982        |
| North Carolina Training<br>License(INACTIVE) |               | 07/01/1982        | 06/30/1986        |
| North Carolina Permanent<br>License          | 30459         | 07/01/1986        | None              |
| South Carolina Permanent<br>License          | 18867         | 07/01/1996        | None              |

**AWARDS AND HONORS:**

1975 - Present Phi Kappa Phi Honor Society, Ohio State University  
 1982 Individual Service Award, Ohio Commission on Aging  
 1984 - 1985 Haskell Schiff Housestaff Award(most outstanding house officer), Duke University Medical Center, Department of Medicine  
 1987 Finalist, Golden Apple Award, Duke University School of Medicine  
 1987 Alpha Omega Alpha Honor Society Duke University School of Medicine  
 1991 Henry Christian Award for Excellence in Research, American Federation for Clinical Research  
 1994 Finalist, Eugene Stead Teaching Award from Medicine Housestaff, Duke University Medical Center, Department of Medicine  
 1995 Henry Christian Award for Excellence in Research, American Federation for Medical Research  
 1996 DCI Endowed Professorship, Medical University of South Carolina  
 1996 - 2000 Who's Who in Medicine/Healthcare, Marquis Who's Who  
 1996 - 2000 Who's Who in the World, Marquis Who's Who  
 1998 - 2002 Who's Who in Science/Engineering, Marquis Who's Who  
 2000 Strathmore's Who's Who, Millenium Edition  
 2000 Marquis Who's Who, Millenium Edition  
 2000 International Who's Who, International Who's Who of Professionals  
 2001 Federal Employee of the Year, Federal Executive Association, Greater Charleston Area  
 2001 - 2002 Distinguished Alumnus, Archbishop Hoban High School, Akron, Ohio  
 2001 - 2002 Outstanding Professional, America's Registry of Outstanding Professionals  
 2001 - 2002 Who's Who, National Registry of Who's Who

2001 - 2002 Strathmore's Who's Who, Strathmore's Who's Who  
2002 Who's Who in America, Marquis Who's Who in America  
2004 Diversity Advocate of the Year, South Carolina Commission on Higher Education  
2005 Henry Middleton Award for Research Excellence, Department of Veterans Affairs, VISN7  
2007 Presidential Service Citation for Service, South Carolina Dental Association  
2009 Best Doctors™ citation Best Doctors in America-Nephrology  
2009 Marcy Speer Outstanding Reviewer Award, NIH Center for Scientific Review  
2010 Citation for Service, College of Nursing, Medical University of South Carolina  
2010 Citation for Service, University of South Carolina-Columbia School of Medicine  
2010 Citation for Service, Health Sciences South Carolina  
2010 Doctor of Medical Science Honoris Causa, Medical University of South Carolina (Honorary degree)  
2010 John R. Raymond, M.D. Scholarship created, Medical University of South Carolina  
2010 Annual John R. Raymond Mentorship Award created, Medical University of South Carolina  
2010 Citation for Service, Office of Student Diversity, Medical University of South Carolina  
2010 Best Doctors™ citation Best Doctors in America-Nephrology  
2010 Honorary Nurse designation, College of Nursing, Medical University of South Carolina

**MEMBERSHIPS IN HONORARY AND PROFESSIONAL SOCIETIES:**

1975 - Present Phi Kappa Phi (Member)  
1981 - Present American Medical Association (Member)  
1986 - Present American College of Physicians (Member)  
1987 - Present Alpha Omega Alpha (Member)  
1988 - Present American Society of Nephrology Member  
1989 - Present American Federation for Medical Research (Member)  
1990 - Present American Heart Association (Member)  
1990 - Present National Kidney Foundation (Member)  
1991 - Present American Society of Nephrology (Session Chair)  
1994 - 2000 New York Academy of Sciences (Member)  
1995 - 1998 Annals of Internal Medicine (Readership Advisory Group)  
1995 - Present American Society for Clinical Investigation (Member)  
1995 - 2004 Molecular Medicine Society (Member)  
1996 - Present Hypertension Council of the American Heart Association (Member)  
1996 - 2010 Southern Society for Clinical Investigation (Member)  
1996 - 2010 Southern Salt, Water and Kidney Club (Member)  
1996 - Present Hypertension Council of the American Heart Association (Fellow)  
1997 - Present American Society of Nephrology (Session Chair)  
1997 - 2004 Molecular Medicine Society (Fellow)  
1998 - Present Association of American Physicians (Member)  
1999 - Present American Society of Pharmacology Experimental Therapeutics (Member)  
2003 - 2008 American Society for Biochemistry Molecular Biology (Member)  
2004 - Present American Society of Nephrology (Session Chair)  
2007 - Present American Society of Nephrology (Session Chair)  
2009 - Present American Heart Association (Fellow)  
2009 - Present American College of Physicians (Fellow)  
2009 - Present American Society of Nephrology (Fellow)

**EDITORSHIPS/EDITORIAL BOARDS/JOURNAL REVIEWS:**

Editorial Board

07/2001 - 06/2010 American Journal of Physiology Renal Physiology  
07/2003 - 06/2008 Journal of Biological Chemistry  
07/2004 - Present ASSAY and Drug Development Technology

Journal Review

American Journal of Pharmacogenomics  
American Journal of Physiology: Cell  
American Journal of Physiology: Endocrine  
American Journal of Physiology: Integrative  
Am. J. Resp. Cell Mol. Biol.

Annals of Internal Medicine  
Biochem Biophys Acta  
Biochemical Pharmacology  
Biochemistry  
Biological Psychiatry  
Biophysical Journal  
Brain Research  
British Journal of Pharmacology  
Cellular and Molecular Cardiology  
Circulation  
Circulation Research  
Current Medicinal Chemistry  
Diabetes  
FASEB Journal  
FEBS Letters  
Geriatrics  
Tissue and Cell  
International Journal of Neuropsychopharmacology  
Journal of the Am. Society of Nephrology  
Journal of Applied Physiology  
Journal of Cell Science  
Journal of Clinical Investigation  
Journal of Immunology  
Journal of Investigative Dermatology  
Journal of Molecular and Cellular Cardiology  
Journal of Neurochemistry  
Journal of Neuroimmunology  
Journal of Neuroscience  
Journal of Pharmacology & Experimental Therapeutics  
Journal of Vascular Research  
Kidney International  
Life Sciences  
Molecular Membrane Biology  
Molecular Pharmacology  
Nature Molecule Pages  
Neuropsychimmunology  
Neuropsychimmunology  
New England Journal of Medicine  
New England Journal of Medicine  
North Carolina Medical Journal  
Pharmacogenomics  
Physiological Genomics  
Physiological Journal  
Proc. Natl. Acad. Sci. U.S.A.  
American Journal of Pathology  
American Journal of Kidney Diseases  
American Heart Journal  
Hypertension

**LOCAL/REGIONAL APPOINTED LEADERSHIP AND COMMITTEE POSITIONS:**

1999 - 2002 Charleston Research Institute, Secretary-Treasurer, Board of Directors, Directors  
2001 - 2010 Foundation for Research Development, MUSC, Vice-Chair, Board of Directors  
2001 - 2009 Hollings Marine Laboratory, South Carolina, Board of Directors (Chair 2001-2006)  
2001 - 2010 University Medical Associates (Affiliated Physicians' Practice of MUSC), Executive Committee,  
Board of Directors  
2002 - 2006 Charleston Research Institute, Member, Board of Directors  
2002 - 2010 SC State EPSCOR/IDEA Committee Executive Board (Chair, South Carolina University)

Research and Education Foundation, Member, Board of Trustees, Chair (2005-2006)  
 2002 - 2010 Lowcountry Graduate Center, Board of Directors, Chair, Executive Committee  
 2003 - 2010 Governor's School for Science and Mathematics, State of South Carolina, Member, Board of Trustees  
 2003 - 2010 South Carolina Bio, State of South Carolina, Member, Board of Directors  
 2003 - 2010 University Center at Greenville, Board of Directors, Executive Committee  
 2004 - 2010 Health Sciences South Carolina, Member, Scientific Committee (VPs of six partners)  
 2006 - 2007 Charleston Regional Development Alliance, Member, Board of Directors  
 2007 - 2010 South Carolina BioEngineering Alliance, Member, Board of Directors  
 2007 - 2010 South Carolina College of Pharmacy, Member, Board of Trustees  
 2010 - Present Greater Milwaukee Committee, Member  
 2010 - Present National Kidney Foundation of Wisconsin, Member, Board of Directors  
 2010 - Present American Heart Association of Wisconsin, Member, Board of Directors  
 2010 - Present Consortium on Community and Public Health, Member, Executive Committee  
 2010 - Present Milwaukee Health Care Partnership, Member, Board of Directors  
 2010 - Present Milwaukee Regional Medical Center, Member, Board of Directors  
 2011 - Present Milwaukee County Research Park Member, Board of Directors  
 2011 - Present Milwaukee Academy of Science, Member, Board of Directors,  
<http://milwaukeeacademyofscience.org/>  
 2011 - Present Center for International Health Milwaukee, Member, Board of Directors,  
[\(http://centerforinternationalhealth.org/\)](http://centerforinternationalhealth.org/)  
 2011 United Way of Greater Milwaukee, Member, Campaign Cabinet Co-Chair, Healthcare  
 2011 American Heart Association of Wisconsin, Chair, Heart Walk

**NATIONAL ELECTED/APPOINTED LEADERSHIP AND COMMITTEE POSITIONS:**

1989 Medical Research Council of Canada, Ad hoc grant referee  
 1990 Department of Veterans Affairs Gastroenterology Study Section, Ad hoc grant referee  
 1991 Department of Veterans Affairs, Basic Sciences Study Section, Ad hoc grant referee  
 1991 - 2001 Department of Veterans Affairs Nephrology Study Section, Ad hoc grant referee  
 1992 - 1995 National Kidney Foundation Young Investigator Grants, Study section member  
 1992 National Institutes of Health Experimental Cardiovascular Sciences Study Section, NHLBI Ad hoc grant referee  
 1992 - 2001 Wellcome Trust Individual Investigator Awards, Ad hoc grant referee  
 1993 - 2003 Jewish Foundation of Louisville Biomedical Research Awards, Ad hoc grant referee  
 1993 - 1996 National Institutes of Health Neurological Sciences 2 Study Section, Ad hoc grant referee  
 1994 - 1996 National Science Foundation Neural & Glial Mechanisms, Ad hoc grant referee  
 1996 - 1997 National Institutes of Health Neurological Sciences 1 Study Section, NINDS Ad hoc grant referee  
 1997 National Institutes of Health Mt. Sinai Pharmacology PPG, NIA Special Emphasis Panel  
 1997 National Institutes of Health New York University Neuroscience PPG, NIA Special Emphasis Panel  
 1997 - 1998 National Institutes of Health Neurological Sciences 1 Study Section, NINDS Study section member (disbanded due to reorganization)  
 1997 National Institutes of Health Signaling Laboratory, NIMH Intramural Review Panel  
 1997 National Science Foundation Signal Transduction and Molecular Biochemistry, Ad hoc grant referee  
 1998 - 2002 American Heart Association, Cardio-Renal Study Section member; co-Chair, 2000 & 2001  
 1998 - 1999 National Institutes of Health Molecular Developmental Cellular Neurosciences 5 Study Section (MDCN-5), NINDS Ad hoc grant referee  
 1998 National Institutes of Health Yale Physiology PPG, NIDDK Special Emphasis Panel  
 1998 National Institutes of Health Vanderbilt Nephrology PPG, NIDDK Special Emphasis Panel  
 1998 National Institutes of Health General Medicine B Study Section, NIDDK Ad hoc grant referee  
 1999 National Institutes of Health Physiological Sciences Study Section, Ad hoc grant referee  
 1999 - 2004 National Institutes of Health MDCN-5, NINDS Study section member  
 1999 Department of Veterans Affairs Central Office, R & D Service, Member, Research Career, Scientist Program Task Force  
 1999 Department of Veterans Affairs Pulmonary, Renal and Gastrointestinal, Adjudicator, Merit Review Appeal  
 1999 Department of Veterans Affairs Pulmonary, Renal and Gastrointestinal, Chair, Research Enhancement

Area Program, Special Emphasis Panel  
2000 - 2001 Department of Veterans Affairs Office of Research Compliance and Assurance, Chair, Animal Welfare Task Force  
2000 Department of Veterans Affairs Central Office, R & D Service, Chair, San Diego VA/JDFI Diabetes Research Center Site Visit  
2000 National Institutes of Health, NHLBI Special Emphasis Panel  
2000 - 2001 Department of Veterans Affairs Office of Research Compliance and Assurance Multi-Assessment Program, Member, Task Force  
2000 Department of Veterans Affairs Central Office, R & D Service, Chair, Iowa City VA/JDFI Diabetes Research Center Site Visit  
2000 Department of Veterans Affairs Central Office, R & D Service, Chair, Nashville VA/JDFI Diabetes Research Center Site Visit  
2000 Department of Veterans Affairs Central Office, R & D Service, Member, Middleton Award Selection Committee  
2001 National Institutes of Health Emory University PPG site visit, NIDDK Special Emphasis Panel  
2001 Department of Veterans Affairs Central Office, R & D Service, Merit Review Advisory Council  
2001 National Institutes of Health, NINDS Special Emphasis Panel  
2001 National Institutes of Health NIDDK, NIDDK Special Emphasis Panel, Centers of Excellence in Pediatric Nephrology  
2001 National Institutes of Health, NIGMS Special Emphasis Panel  
2001 Medical Research Council, United Kingdom, Ad hoc grant referee  
2002 National Institutes of Health NIDDK, NIDDK Special Emphasis Panel, Loan Repayment Program  
2003 National Institutes of Health NIDDK, NIDDK Special Emphasis Panel, Loan Repayment Program  
2003 Department of Veterans Affairs Central Office, R & D Service, Research Enhancement Award, Program Advisory Council  
2003 National Institutes of Health, Center for Scientific Review, ZRG1 MDCN-1 Special Emphasis Panel, Functional and Cognitive Neuroscience 1 Study Section (IFCN1)  
2003 National Institutes of Health, Center for Scientific Review, ZRG1 UROL Special Emphasis Panel, Urology Study Section (NIDDK)  
2003 National Institutes of Health, Center for Scientific Review, ZRG1 MDCN-1 Special Emphasis Panel (SYN)  
2003 National Institutes of Health NIDDK, NIDDK Special Emphasis Panel, Loan Repayment Program  
2003 National Institutes of Health Center for Scientific Review, ZRG1 MDCN-5 Special Emphasis Panel  
2003 - 2007 Department of Veterans Affairs Central Office, R & D Service, Renal Study Section member  
2004 - 2007 National Institutes of Health NINDS, MNPS Study section member, Chair(2005-2007)  
2004 National Institutes of Health Center for Scientific Review/NIDDK, ZRG1 RUSD (04) Special Emphasis panel, Calcitropic Hormones & Renal Transport  
2004 National Institutes of Health Center for Scientific Review/NIDDK, Co-Chair ZRG4 UROL Special Emphasis Panel, Roadmap T-90 Grants  
2004 National Institutes of Health NIDDK, ZDK GRB-3 Special Emphasis Panel, Loan Repayment Program  
2004 National Institutes of Health NIDDK, ZDK GRB-3 Special Emphasis Panel, Loan Repayment Program  
2004 National Institutes of Health NIDDK - Emory and Colorado PPGs, ZDK1 GRB-1 (02) Special Emphasis Panel, PPG Review  
2004 National Institutes of Health NIDDK, Chair, ZDK GRB-R (J1) Special, Emphasis Panel, Training grants  
2004 National Institutes of Health Center for Scientific Review/NIDDK, ZRG3 UROL Special Emphasis Panel; Emphasis Panel, Novel Technologies  
2005 National Institutes of Health NIDDK, ZDK GRB-C (M1) Special Emphasis Panel, Neph. Ancillary Clinical Trials  
2005 National Institutes of Health NIDDK, Chair, ZDK GRB-R (02) Special Emphasis Panel, Nephrology K awards  
2005 National Institutes of Health NIDDK, ZRG1 ZRG1 F10-H 20L Special Emphasis Panel, F31 and F32 proposals  
2005 National Institutes of Health NINDS, ZNS1 SRB-G (01) Special Emphasis Panel, High Throughput Screening  
2005 National Institutes of Health NIDDK, ZRG1 RUS-D (02) (M) Special Emphasis Panel, Collaborative R01 proposals  
2005 National Institutes of Health NIDDK, ZDK GRB-4 (01) Angiogenesis in Diabetes, Special Emphasis

Panel

2006 National Institutes of Health NINDS, ZNS1 SRB-G (01) Special Emphasis Panel, High Throughput Screening - Roadmap

2006 National Institutes of Health NIDDK, Chair, ZDK1 GRB-R (02) Special Emphasis Panel, Nephrology Ancillary Clinical Trials

2006 National Institutes of Health NIDDK, ZRG1 F10-H 21L-2 Special Emphasis Panel, F31 and F32 proposals

2006 National Institutes of Health NIDDK, ZRG1 ZRG1 F10-H 21L-1, Special Emphasis Panel, F31 and F32 proposals

2006 National Institutes of Health NIDDK, ZDK GRB-5 Special Emphasis Panel, Loan Repayment Program

2007 National Institutes of Health NIMH, ZMH1 ERB-Y (06) S, Special Emphasis Panel, Molecular Libraries Screening Assays

2007 National Institutes of Health NIMH, Chair, ZMH1 ERB-Y (07) S, Special Emphasis Panel, Molecular Libraries Screening Assays

2007 National Institutes of Health NIDDK, ZDK GRB-6 Special Emphasis Panel, Loan Repayment Program

2007 National Institutes of Health NIDDK, ZRG1 F10-H 22 Special Emphasis Panel, F31 and F32 proposals

2007 National Institutes of Health NIDDK, ZDK GRB- W (M1) Special Emphasis Panel, Research Centers of Excellence in Pediatric Nephrology

2007 National Institutes of Health NCRR, 2007/10 ZRR1 CR-1 (01) CTSA Special Emphasis Panel 2007 (#1)

2007 National Institutes of Health NIDDK, ZDK GRB-9 M2 1 Special Emphasis Panel, Clinical Research Studies

02/2008 National Institutes of Health NIDDK, PBKD Study Section, ad hoc reviewer

03/2008 National Institutes of Health NIDDK, ZRG1 F10-H 20L Special Emphasis Panel, F31 and F32 proposals

06/2008 National Institutes of Health NIDDK, PBKD Study Section, ad hoc reviewer

10/2008 National Institutes of Health NIDDK, Chair, ZRG1 F10-H 20 Special Emphasis Panel, F31 and F32 proposals

2008 National Institutes of Health NIDDK, ZDK GRB-7 Special Emphasis Panel, Loan Repayment Program

2008 National Institutes of Health NIDDK, Kidney, Urologic and Hematologic Diseases Sub-Committee D, ad hoc

2008 Institute of Medicine Workshop on Safety Biomarkers, Member

2008 National Institutes of Health NIDDK, Prospective Study of Chronic Kidney Disease (CRIC) Special Emphasis Panel

2008 National Institutes of Health NIDDK/NHLBI, Chair, ZDK GRB-6 (J2) 1; Ancillary Studies to Major Ongoing NIDDK and NHLBI Clinical Research Studies Special Emphasis Panel

2008 National Institutes of Health NIDDK, RUS-C 02M Special Emphasis Panel, CMBK Member Conflicts

2008 National Institutes of Health NIDDK, ZRG1 F10-H 23 Special Emphasis Panel, F31 and F32 proposals

2009 - Present National Institutes of Health NIDDK, Chair, ZDK1 GRB-G (M1) L KUH F30/32 award Study Section

2009 National Institutes of Health Center for Scientific Review, Chair, ZRG1 EMNR-H (52) R ARRA AREA Award Review SEP

2009 National Institutes of Health NIDDK, Chair, ZDK1 GRB-G (M4) 1 Special Emphasis Panel, CMBK Member, Conflicts Study Section

2009 National Institutes of Health NIDDK, ZDK GRB-N (M1) Special Emphasis Panel, Loan Repayment Program

2009 National Institutes of Health NIDDK, Chair, ZRG1 DKUS-B02M DKUS (PBKD and UKGD) Member, Conflicts Special Emphasis Panel

2009 National Institutes of Health Special Center for Scientific Review, ZRG1 MDCN-A (58) R ARRA Special Emphasis Panel for NIH Challenge Grants - Stage 1

2009 National Institutes of Health Center for Scientific Review, ZRG1 BST-J (51) S Roadmap HTS Assay Development

2009 National Institutes of Health NIDDK, ZDK1 GRB-S (O2) 2 Emory Physiology, PPG Special Emphasis Panel

2009 National Institutes of Health Center for Scientific Review, ZRG1 DKUS A 58 (R) ARRA Special Emphasis Panel for NIH Challenge

2009 National Institutes of Health Center for Scientific Review, ZRG1 BDAL A 58 (E) ARRA Special Emphasis Panel for NIH Challenge Grants - Stage 2

2009 - 2013 National Institutes of Health NIDDK, Member, PBKD Study Section Chair (2011-2013)  
 2009 National Institutes of Health NIDDK, ZDK1 GRB-S (O4) 2 NIDDK-P50 PKD ARRA Supplement review  
 2009 National Institutes of Health Center for Scientific Review, ZRG1 BST-J (50) R Roadmap HTS Assay for MLPCN  
 2009 National Institutes of Health NIDDK, ZDK1 GRB-G (J2) 1 HUKD SEP Training and Mentored Awards  
 2009 National Institutes of Health NIDDK, Chair, ZDK1 GRB-G (J1) 1, KUH Fellowship Review Committee  
 2009 National Institutes of Health Center for Scientific Review, ZRG1 BST-J (51) R Roadmap HTS Assay Development  
 02/23/2010 U.S. House of Representatives Committee on Science and Technology. Subcommittee on Research and Science Education. Invited testimony  
 2010 National Institutes of Health Chair NIDDK, ZDK1 GRB-G (M1) 1 KUH Fellowship Review Committee  
 2010 National Institutes of Health NIDDK, Chair, ZDK1 GRB-G (M2) 1, K-Award SEP for conflicts  
 2010 - 2013 National Institutes of Health Center for Scientific Review, Inaugural Cohort, College of Scientific Reviewers  
 2010 National Institutes of Health NIDDK, Chair, ZDK1 GRB-G (O1) L, KUH-Fellowship Review  
 2010 National Institutes of Health NIDDK, ZDK1 GRB-9 (O1), Cellular Signaling and Kidney Function  
 2010 National Institutes of Health NIDDK, ZDK1 GRB-N (M3), Loan Repayment Program  
 2010 National Institutes of Health NIDDK, Chair, ZDK1 GRB-G (J1), KUH-Fellowship Review  
 2010 National Institutes of Health Center for Scientific Review, Review Committee, Marcy Speer Outstanding Reviewer Award  
 2010 National Institutes of Health NIDDK, Chair, ZDK1 GRB-G (J2) 1, KUH-Fellowship Review (conflicts SEP)  
 2010 National Institutes of Health Center for Scientific Review, ZRG1 BST-J (50) R Roadmap HTS Assay for MLPC  
 2010 National Institutes of Health NIDDK, Chair, ZDK1 GRB-G (O2) 1, KUH-Fellowship Review (conflicts)  
 2011 National Institutes of Health NIDDK, Chair, ZDK1 GRB-G (M1) 1, KUH-Fellowship Review  
 2011 National Institutes of Health NIDDK, ZRR1 CR-3 (01), CTSA Review  
 2011 - 2014 American Society of Nephrology, Finance Committee  
 2011 - 2013 National Institutes of Health Center for Scientific Review, Chair, PBKD Pathobiology of Kidney Disease Study Section  
 2011 National Institutes of Health NIDDK, ZDK1 GRB-N (M6) Loan Repayment Program

**RESEARCH GRANTS/AWARDS/CONTRACTS/PROJECTS:**

**Active**

**Peer Review**

|                |   |
|----------------|---|
| Title:         | G Protein-Regulation of NHE Activity                          |
| Source:        | National Institutes of Health R01<br>DK52448-11               |
| Role & Effort: | Principal Investigator (2008-2013)                            |
| Dates:         | 1996 - 2013   |
| Direct Funds:  | \$1,175,000   |
| Title:         | G Protein-Regulation of NHE Activity<br>(ARRA supplement)     |
| Source:        | National Institutes of Health R01<br>DK52448-11               |
| Role & Effort: | Principal Investigator  |
| Dates:         | 2009 - 2011   |
| Direct Funds:  | \$100,000   |
| Title:         | Roles for Cbl and ESCRT Proteins in<br>5-HT Receptor Function |
| Source:        | Veterans Affairs Merit Award                                  |
| Role & Effort: | Principal Investigator  |

Dates: 2009 - 2013  
Direct Funds: \$623,000 (Transfer to Zablocki VA Medical Center has been requested)

**Prior**

**Peer Review**

Title: Regulation of Phosphate Transport in Transfected Cells  
Source: American Heart Association (National Grant-In-Aid 900767)  
Role & Effort: Principal Investigator  
Dates: 1990 - 1993  
Direct Funds: \$105,000

Title: Cell Biology and Biochemistry of the Human 5-HT1A Receptor  
Source: Veterans Administration Merit Award  
Role & Effort: Principal Investigator  
Dates: 1990 - 1993  
Direct Funds: \$123,000

Title: Electron Paramagnetic Spin Resonance Facility  
Source: Shared Equipment Grant NIH S10 RR13656  
Role & Effort: Principal Investigator  
Dates: 1991  
Direct Funds: \$306,000

Title: Regulation of Signaling of the Human 5-HT1A Receptor  
Source: National Institutes of Health R01 NS30927  
Role & Effort: Principal Investigator  
Dates: 1992 - 1995  
Direct Funds: \$351,000

Title: Heterologous Expression, Purification and Reconstitution of the 5-HT1A Receptor  
Source: Veterans Administration Merit Award  
Role & Effort: Principal Investigator  
Dates: 1993 - 1998  
Direct Funds: \$367,000

Title: Characterization of Novel Derivatives of (S) UH-301 for the Study of the 5-HT1A Receptor  
Source: National Institutes of Health SBIR Grant  
Role & Effort: Co-investigator (subcontract)  
PI: Yigong Gao, Research Biochemicals International  
Dates: 1994 - 1995  
Direct Funds: \$12,000

Title: Determinants of Polarity in Type IIIb

|                |   |
|----------------|---|
| Source:        | Membrane Proteins<br>American Heart Association (National)<br>Grant-In-Aid 940507           |
| Role & Effort: | Principal Investigator  |
| Dates:         | 1994 - 1997   |
| Direct Funds:  | \$120,000   |
| Title:         | Cytosensor® Microphysiometer  |
| Source:        | Department of Veterans Affairs<br>Equipment Grants Program                                  |
| Role & Effort: | Ombudsman   |
| Dates:         | 1995  |
| Direct Funds:  | \$50,000  |
| Title:         | Cytosensor® Microphysiometer<br>Academic Grant  |
| Source:        | Molecular Devices Corporation   |
| Role & Effort: | Ombudsman   |
| Dates:         | 1995  |
| Direct Funds:  | \$47,500  |
| Title:         | Gi Regulation of NHE Activity in Renal<br>and Fibroblast Cells                              |
| Source:        | National Institutes of Health R01<br>DK52448  |
| Role & Effort: | Principal Investigator  |
| Dates:         | 1996 - 2001   |
| Direct Funds:  | \$650,000   |
| Title:         | Role of Aldosterone in Renal<br>Glomerular Cell Growth and Matrix<br>Production             |
| Source:        | Mentored NIH K01 HL96012  |
| Role & Effort: | Sponsor   |
| PI:            | Eddie L. Greene   |
| Dates:         | 1997 - 2002   |
| Direct Funds:  | \$450,000   |
| Title:         | Charleston Inflammatory Mediators of<br>Glomerular Diseases REAP Award                      |
| Source:        | Veterans Affairs Research Enhancement<br>Award Program                                      |
| Role & Effort: | Program Director (Relinquished to new<br>PI Dr. Gary Gilkeson upon move to<br>MCW 7/1/2010) |
| Dates:         | 1998 - 2010   |
| Direct Funds:  | \$3,100,000   |
| Title:         | Differential Signaling of Serotonin<br>Receptors  |
| Source:        | Veterans Administration Merit Award   |
| Role & Effort: | Principal Invest  |
| Dates:         | 1998 - 2003   |
| Direct Funds:  | \$533,000   |
| Title:         | MUSC Multidisciplinary Training Grant<br>in Glomerular Function and Disease                 |

|                |  |
|----------------|--|
| Source:        | Training Grant in Glomerular Function and Disease NIH T32 DK07752-11                 |
| Role & Effort: | Program Director (Relinquished to new PI Dr.P.Darwin Bell upon move to MCW 7/1/2010) |
| Dates:         | 1998 - 2014  |
| Direct Funds:  | \$1,880,000  |
| Title:         | Pathways of Hypertonic Activation of Sodium-Proton Exchange                          |
| Source:        | Mentored Department of Veterans Affairs Merit Award (MREP)                           |
| Role & Effort: | Sponsor  |
| PI:            | Maria N. Garnovskaya PhD   |
| Dates:         | 1998 - 2001  |
| Direct Funds:  | \$300,000  |
| Title:         | Live Cell Fluorescence Microscopy Facility   |
| Source:        | Department of Veterans Affairs Equipment Grants Program                              |
| Role & Effort: | Principal Investigator   |
| Dates:         | 1998   |
| Direct Funds:  | \$209,000  |
| Title:         | MUSC Integrated Cellular Fluorescence Facility                                       |
| Source:        | Shared Equipment Grant NIH S10 RR13005   |
| Role & Effort: | Principal Investigator (effort N/A)  |
| Dates:         | 1998   |
| Direct Funds:  | \$281,000  |
| Title:         | Minority Faculty Development Award   |
| Source:        | Mentored Robert Wood Johnson Minority Faculty Development Award                      |
| Role & Effort: | Sponsor  |
| PI:            | Eddie L. Greene  |
| Dates:         | 1998 - 2002  |
| Direct Funds:  | \$325,000  |
| Title:         | NAD(P)H Oxidase & Mesangial Cell Proliferation and Fibrosis                          |
| Source:        | National Institutes of Health R01 DK54720-04   |
| Role & Effort: | Principal Investigator   |
| Dates:         | 2000 - 2005  |
| Direct Funds:  | \$700,000  |
| Title:         | Bradykinin Regulation of Inner Medullary Collecting Duct Proton Flux                 |
| Source:        | Mentored NIH K01 DK02694-02  |
| Role & Effort: | Sponsor  |
| PI:            | Yurii V. Mukhin PhD  |
| Dates:         | 2000 - 2003  |
| Direct Funds:  | \$210,000  |

Title: Cellular Actions of Indoxyl Sulfate - a Uremic Toxin  
Source: Mentored NIH K25 DK59950-05  
Role & Effort: Sponsor  
PI: Andrew Gelasco PhD  
Dates: 2001 - 2007  
Direct Funds: \$675,000

Title: Down-regulation of EGF Receptors by GPCR Activation  
Source: National Institutes of Health R01 GM-63909-04  
Role & Effort: Principal Investigator  
Dates: 2001 - 2007  
Direct Funds: \$700,000

Title: Homocysteinemia in Chronic Renal Failure- Cooperative Trial  
Source: CSP #453 Department of Veterans Affairs  
Role & Effort: Local Principal Investigator  
Dates: 2001 - 2005  
Direct Funds: \$250,000

Title: Gi Regulation of NHE Activity in Renal and Fibroblast Cells  
Source: Supplement National Institutes of Health R01 DK52448-06  
Role & Effort: Principal Investigator  
Dates: 2001 - 2002  
Direct Funds: \$25,000

Title: Research Security Enhancement Award  
Source: Veterans Affairs RFA  
Role & Effort: Program Director  
Dates: 2002  
Direct Funds: \$20,000

Title: Angiotensin Receptor Interacting Proteins  
Source: Mentored K01 DK063252-02  
Role & Effort: Sponsor  
PI: Qing Yang MD  
Dates: 2002 - 2006  
Direct Funds: \$250,000

Title: Human Subjects Research Enhancement Program at MUSC  
Source: National Institutes of Health 1 S07 RR018244  
Role & Effort: Principal Investigator  
Dates: 2002 - 2004  
Direct Funds: \$300,000

Title: Sensory Neuroscience Facility Renovation  
Source: NIH/NCRR 1C06RR014516

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| Role & Effort: | Principal Investigator (as institutional official)   |
| Dates:         | 2002 - 2003  |
| Direct Funds:  | \$1,000,000  |
| Title:         | NHE-1 Interacting Proteins   |
| Source:        | Mentored Minority supplement to NIH R01 DK52448-07   |
| Role & Effort: | Sponsor  |
| PI:            | Henry Ayiku MD   |
| Dates:         | 2002 - 2005  |
| Direct Funds:  | \$200,000  |
| Title:         | Proteomics of NHE-1 Activation   |
| Source:        | Mentored Minority supplement to NIH R01 DK52448-07   |
| Role & Effort: | Sponsor  |
| PI:            | Sonya Coaxum PhD   |
| Dates:         | 2003 - 2005  |
| Direct Funds:  | \$115,000  |
| Title:         | Children's Research Institute Animal Facility  |
| Source:        | NIH/NCRR 1C06 RR015455-01A1  |
| Role & Effort: | Principal Investigator (as institutional official)   |
| Dates:         | 2003 - 2005  |
| Direct Funds:  | \$2,000,000  |
| Title:         | Children's Research Institute Developmental Neurogenetics And Cardiovascular Biology Floors                                    |
| Source:        | NIH/NCRR 1C06 RR018823   |
| Role & Effort: | Principal Investigator (as institutional official)   |
| Dates:         | 2003 - 2005  |
| Direct Funds:  | \$2,854,000  |
| Title:         | Role of Calmodulin in 5-HT Receptor Function   |
| Source:        | NIH R01 NS049515   |
| Role & Effort: | Principal Investigator (Declined in lieu of VA Merit Award)  |
| Dates:         | 2004 - 2009  |
| Direct Funds:  | \$1,125,000  |
| Title:         | Novel 5-HT Receptor-interacting Proteins   |
| Source:        | Veterans Affairs Merit Award   |
| Role & Effort: | Principal Investigator   |
| Dates:         | 2004 - 2009  |
| Direct Funds:  | \$715,000  |
| Title:         | MUSC Multidisciplinary Training Grant in Glomerular Function and Disease Minority Training Supplement for Keidre Corbett, M.D. |

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| Source:        | Training Grant in Glomerular Function and Disease NIH T32 DK07752-07S1  |
| Role & Effort: | Program Director  |
| Dates:         | 2005 - 2007   |
| Direct Funds:  | \$125,000   |
| Title:         | Crosstalk Among Growth Factors, ADAMs and Integrins   |
| Source:        | Mentored NIH 1 K01 DK070054   |
| Role & Effort: | Sponsor   |
| PI:            | Monika Gooz MD PhD  |
| Dates:         | 2005 - 2010   |
| Direct Funds:  | \$520,000   |
| Title:         | G Protein-Regulation of NHE Activity  |
| Source:        | National Institutes of Health R56 DK052448-10A1 (Shannon Award)   |
| Role & Effort: | Principal Investigator  |
| Dates:         | 2007 - 2008   |
| Direct Funds:  | \$283,500   |
| Title:         | MUSC Multidisciplinary Training Grant in Glomerular Function and Disease Minority Training Supplement for Evelyn Lewis M.D. |
| Source:        | Training Grant in Glomerular Function and Disease NIH T32 DK07752-09S1  |
| Role & Effort: | Program Director  |
| Dates:         | 2007 - 2009   |
| Direct Funds:  | \$126,000   |
| Title:         | Role of c-Cbl in Trafficking and Signaling of EGF Receptors Induced by Various Growth Factors                               |
| Source:        | American Heart Association Mid-Atlantic Affiliate 0725358U  |
| Role & Effort: | Mentor  |
| PI:            | Alex Baldys PhD(Fellowship)   |
| Dates:         | 2007 - 2010   |
| Direct Funds:  | \$105,000   |
| Title:         | Implications in Glomerular Injury   |
| Source:        | Mentored NIH 1 K08 DK080944-01  |
| Role & Effort: | Sponsor (relinquished to Dr.P.Darwin Bell upon move to MCW 7/1/2010-Dr. Raymond remains member of mentorship committee)     |
| PI:            | Juan Carlos Velez MD  |
| Dates:         | 2008 - 2013   |
| Direct Funds:  | \$646,920   |
| Title:         | Renal Biomarkers Center of Excellence   |
| Source:        | South Carolina Centers of Economic Development  |
| Role & Effort: | Principal Investigator (Relinquished to Dr. John M. Arthur upon move to MCW 7/1/2010)                                       |

Dates: 2008 - 2013  
Direct Funds: \$5,000,000

Title: Role of Ceramide in Aging-related Diseases  
Source: Mentored VA Career Development-2 Award  
Role & Effort: Co-sponsor (relinquished upon move to MCW 7/1/2010-Dr. Raymond remains member of mentorship committee-Lina Obeid is primary sponsor)  
PI: Leah Siskind, PhD  
Dates: 2008 - 2011  
Direct Funds: \$400,000 (\$35,000 first year)

Title: Regulation of 5-HT1A Receptor by Calmodulin  
Source: Mentored NIH 1 K01 HL  
Role & Effort: Sponsor (relinquished to Dr.Louis Luttrell upon move to MCW 7/1/2010-Dr. Raymond remains member of mentorship committee)  
PI: Sonya Coaxum PhD  
Dates: 2008 - 2013  
Direct Funds: \$567,867

Title: Discovery of Urine Biomarkers in Patients with Glomerular Disease  
Source: Mentored VA Career Development-2 Award  
Role & Effort: Sponsor (relinquished to Dr.John M.Arthur upon move to MCW 7/1/2010-Dr. Raymond remains member of mentorship committee)  
PI: Michael Janech PhD  
Dates: 2008 - 2011  
Direct Funds: \$350,000

Title: Basic Science Building  
Source: NIH/NCRR 1C06 RR020609  
Role & Effort: Principal Investigator  
Dates: 2010 - 2012  
Direct Funds: \$6,616,774

**Non-Peer Review**

Title: National Kidney Foundation Fellowship, Frank J. Albers MD  
Dates: 1991 - 1993  
Direct Funds: \$50,000

Title: National Kidney Foundation Fellowship, John M. Arthur MD PhD  
Dates: 1995 - 1996  
Direct Funds: \$25,000

Title: American Heart Association(SC Affiliate) Yurii Mukhin PhD

Dates: 1997 - 1999  
Direct Funds: \$40,000

Title: National Kidney Foundation  
Fellowship(SC Affiliate), John C. Andy  
MD

Dates: 1998 - 1999  
Direct Funds: \$25,000

Title: National Kidney Foundation  
Fellowship(National), John C. Andy MD

Dates: 1998 - 1999  
Direct Funds: \$12,500

Title: American Heart Association(SC  
Affiliate), Jasjit Grewal PhD

Dates: 1998 - 2000  
Direct Funds: \$50,000

Title: Department of Veterans Affairs  
Associate Investigator, Andrew Gelasco  
PhD

Dates: 2000 - 2001  
Direct Funds: \$60,000

Title: Department of Veterans Affairs  
Associate Investigator, David Lefler DO

Dates: 2000 - 2001  
Direct Funds: \$50,000

Title: American Heart Association Pre-  
doctoral fellowship, Justin Turner(MSTP  
student)

Dates: 2002 - 2004  
Direct Funds: \$17,000

Title: NIH Minority Supplement for post-  
doctoral fellowship, Henry Ayiku MD

Dates: 2003 - 2005  
Direct Funds: \$100,000

Title: NIH Minority Supplement for post-  
doctoral fellowship, Sonya Coaxum PhD

Dates: 2004 - 2006  
Direct Funds: \$110,000

Title: American Heart Association Mid-  
Atlantic Affiliate Post-doctoral  
fellowship, Aleksander Baldys PhD

Dates: 2005 - 2010  
Direct Funds: \$120,000

Title: NIH Minority Supplement for post-  
doctoral fellowship, Keidre Jenkins  
Corbett MD

Dates: 2005 - 2007  
Direct Funds: \$105,000

Title: Department of Veterans Affairs  
Associate Investigator, Juan Carlos  
Velez MD  
Dates: 2005 - 2007  
Direct Funds: \$120,000

Title: NIH Minority Supplement for post-  
doctoral fellowship, Evelyn Lewis MD  
Dates: 2005 - 2007  
Direct Funds: \$62,000

#### **INVITED LECTURES/WORKSHOPS/PRESENTATIONS:**

##### **International**

The Study of Orphan Receptors Using Microphysiometry. British Pharmacological Society Symposium on Microphysiometry, London, England, 1995  
Signal Transduction Session (Session Chair) 1st International Symposium on Microphysiometry and FLIPR Technology, Paris, France, 1997  
The Study of G Protein Function using Microphysiometry. 1st International Symposium on Microphysiometry and FLIPR Technology, Paris, France, 1997  
Unusual Signal Transduction Pathways of Serotonin Receptors. Invited Symposium Speaker and Session Chair, International Union of Pharmacologists Meeting, Rotterdam, the Netherlands, 1998  
Free Radicals as Second Messengers in Chronic Renal Failure. Invited Speaker, International Society of Free Radical Biologists, Kyoto, Japan, 2000  
Free Radical Scavengers as Possible Therapeutics for Chronic Renal Failure. Invited Speaker, Nippon Zoki Pharma, Osaka, Japan, 2000  
Proteomic Methods in Signal Transduction. Invited Speaker, P. Universidad Católica de Chile, Santiago, Chile, 2001  
Reactive Oxygen Intermediates as Signals in Kidney Cells. Invited Speaker, FONDAPE Center for Cell Regulation and Physiology, Pucón, Chile, 2001  
Regulation of 5-HT Function by Receptor Accessory Proteins. Serotonin Club Meeting, Kyoto, Japan, 2006

##### **National**

Pathways of Signal Initiation and Termination through a Prototypical Gi-linked Receptor. Research Conference, University of Florida Division of Nephrology, Hypertension and Transplantation, Gainesville, Florida, 1994  
Acquired and Genetic Diseases of G proteins and their Receptors. Clinical Conference, University of Florida Division of Nephrology, Hypertension and Transplantation, Gainesville, Florida, 1994  
Promiscuous Signal Initiation and Termination through a Prototypical Gi-linked Receptor. University of Cincinnati Division of Pulmonary Medicine, Cincinnati, OH, 1994  
Microphysiometry as a Tool to Study Receptors and Sodium-Proton Antiporters. Satellite Conference, FASEB Meeting, Atlanta, Georgia, 1994  
Multiple Pathways of Signal Initiation and Termination through a Prototypical Gi-linked Receptor. Research Conference, University of Louisville Kidney Disease Program, 1994  
Acquired and Genetic Diseases of G proteins and their Receptors. Clinical Conference, University of Louisville Kidney Disease Program, 1994  
Microphysiometry, a New Tool for the Study of Signal Transduction. University of Florida Division of Nephrology, Hypertension and Transplantation, and Department of Pharmacology, Gainesville, Florida, 1995  
Strategies to Slow the Progression of Diabetic Renal Disease. Medical Grand Rounds, Marshall University, Huntington, W.Va, 1995  
Acquired and Hereditary Diseases of G Proteins and their Receptors. Medical Grand Rounds, Duke University Medical Center, 1995  
Microphysiometry, a New Tool for the Study of Signal Transduction. The Society for Neuroscience Annual Meeting, San Diego, CA, 1995  
Microphysiometry to Study Orphan Receptors and Signal Transduction. Pathways Satellite Symposium,

Society for Neuroscience Annual Meeting, San Diego, CA, 1995

Strategies to Slow the Progression of Diabetic Renal Disease. Medical Grand Rounds, Duke University Medical Center, 1995

Chair, Signal Transduction Session. American Society of Nephrology Meeting, San Antonio, Texas, 1997

Signal Transduction Session (Session Chair) 2nd International Symposium on Microphysiometry and FLIPR Technology, Hilton Head, SC, 1998

The Study of Sodium-Proton Exchange using Microphysiometry. 2nd International Symposium on Microphysiometry and FLIPR Technology, Hilton Head, SC, 1998

Probing Cellular Metabolic Pathways with Noninvasive Methods. 3rd International Symposium on Microphysiometry and FLIPR Technology, Monterey, California, 1999

Molecular and Clinical Aspects of Diabetes Insipidus. Clinical Conference, University of Louisville Kidney Disease Program, 1999

Signal Transduction Session (Session Chair) 3rd International Symposium on Microphysiometry and FLIPR Technology, Monterey, California, 1999

Reactive Oxygen Species as Second Messengers in the Kidney. Case Western Reserve University-Metro Health Medical Center, Division of Nephrology and Department of Physiology, 1999

G protein Signaling in Polarized Epithelial Cells. Invited Speaker, American Society of Nephrology Meeting, Miami Beach, Fla, 1999

Redox Signaling in the Kidney. University of Pittsburgh, Departments of Medicine and Physiology, 1999

Redox Signaling in the Kidney. Research Conference, The University of Louisville Kidney Disease Program, 1999

Role of Glomerular Mesangial Cells in Chronic Renal Failure. Invited Speaker, American Society of Nephrology Meeting, Montreal, Canada, 2000

Molecular and Clinical Aspects of Diabetes Insipidus. Case Western Reserve University-University Hospital Medical Center, Division of Nephrology and Department of Physiology, 2000

Role of Reactive Oxygen Species as Second Messengers. Symposium Organizer, American Society of Pharmacology and Experimental Therapeutics Meeting, Orlando, Florida, 2001

Unusual Signal Transduction Linkages of Serotonin Receptors. Vanderbilt University Department of Pharmacology, 2001

A Novel Pathway of Activation for Type I Sodium-Proton Exchangers. University of Minnesota Departments of Pharmacology and Psychiatry, 2002

CaM is a Modulator of GPCR Function. Case Western Reserve University Department of Biochemistry, 2005

Unexpected Roles for ESCRT Proteins in Receptor Recycling. Northwestern University Department of Pathology, 2011

#### **PEER REVIEWED WORKSHOPS/PRESENTATIONS:**

##### **International**

Regan, J.W., RAYMOND, J.R., Li, J. et al. (1986). Covalent labeling of alpha2-adrenergic receptors with the photoaffinity ligand [3H]-SKF102229. Proceedings of the Congress on Biosynthesis and Regulation of Membrane-Bound Receptors. Cap d'Gade, France., 09/1986

Caron, M.G., Fargin, A., RAYMOND, J.R., et al. (1989) Structure and function of G protein coupled receptors. Presented at the International Symposium on Serotonin: from Cell Biology to Pharmacology and Therapeutics, Florence, Italy, 03/1989

Nebigil, C.G., Garnovskaya, M.N., Casañas, S.J., Parker, E., RAYMOND, J.R. (1994) Agonist-induced phosphorylation and desensitization of 5-HT1A receptors expressed in baculovirus-infected insect cells. Presented at the International Congress of Pharmacology meeting, Montreal, Canada, 07/1994

RAYMOND, J.R., Garnovskaya, M.N. (1996) Regulation of NHE-1 activity via Gi proteins. Presented at the First Annual Meeting of Microphysiometer and FLIPR Users Group, Paris, France, 04/1997

Garnovskaya, M.N., Mukhin, Y., RAYMOND, J.R. (1997), Shrinkage induced activation of Na<sup>+</sup>/H<sup>+</sup> exchange: in search of signaling intermediates involved in regulatory volume increases in fibroblasts., Presented at the Annual Meeting of the International Union of Physical Scientists, St. Petersburg, Russia, 07/1997

Mukhin Y.V., Bell J., Collinsworth G.P., RAYMOND J.R., Ploth, D.W., Garnovskaya M.N. (1999) Bradykinin B2 receptor activation induces multiple cellular responses in M-1 cortical collecting duct cells. Presented at the International Society of Nephrology Meeting, Buenos Aires, Argentina, Kidney Int., 05/1999

- Foster, S. Fitzgibbon, W. Hazen-Martin, D. Gore, E. Grotendorst, G. Trojanowska, M., RAYMOND, J.R., Greene, E.L.(2000) Angiotensin II antagonism reduces CTGF immunostaining in the UUO model of chronic nephropathy. Presented at 33rd annual meeting of the American Society of Nephrology, Toronto, Canada, JASN 11:618A (A3260), 10/10/2000 - 10/16/2000
- Gooz, M., RAYMOND, J.R, Garnovskaya, M.N.(2003), Cross talk between serotonin(5HT<sub>2A</sub>)and epidermal growth factor receptors (EGFR) involves heparin-binding EGF-like growth factor(HB-EGF)and activation of metalloproteinase-like enzyme(s), in rat mesangial cells. Presented at the World Congress of Nephrology, Berlin, Germany., 06/2003
- Garnovskaya, M.N., Mukhin, Y.V., Gooz, M., RAYMOND, J.R. (2003) Matrix metalloproteinases are involved in bradykinin B2 receptor-induced epidermal growth factor receptor transactivation in kidney cells. Presented at the HUPO 2nd Annual&IUBMB XIX Joint World Congress, Montreal, Canada; Mol & Cell Proteomics 2, #9, p.910 (87.10), 10/2003
- Gööz, M., RAYMOND, J.R, Garnovskaya, M.N.(2004) Cross-talk between Gq-coupled 5-HT<sub>2A</sub> and EGF receptor involves HB-EGF, ADAM17 and integrin activation in human mesangial cells. 12th International Conference on Second Messengers and Phosphoproteins, Montreal, Canada, 08/03/2004 - 08/07/2004
- Turner, J.H., RAYMOND, J.R.(2004) G protein regulation of NHE-1 through Jak2 and calmodulin. 12th International Conference on Second Messengers and Phosphoproteins, Montreal, Canada, 08/03/2004 - 08/07/2004
- Garnovskaya, M.N. , Mukhin, Y.V., Gooz, M., RAYMOND, J.R.(2004), Matrix metalloproteinases 8 and 13 mediate epidermal growth factor receptor transactivation by bradykinin B2 receptor in kidney cells., Presented at 12th International Conference on Second Messengers and Phosphoproteins, Montreal, Canada; Book of Abstracts 2004, p.128 (THP037), 08/2004
- Gööz, M., Gööz, P., RAYMOND, J.R.(2005) Serotonin-induced ERK phosphorylation involves ADAM-17(TACE) activation in mesangial cells. 30th FEBS Congress- 9th IUBMB Conference, Budapest, Hungary, 07/02/2005 - 07/07/2005
- Baldys, A., Gööz, M., Raymond, J.R. Jr., RAYMOND, J.R.(2007), Role of c-Cbl in trafficking and signaling of epidermal growth factor receptor (EGFR) induced by various EGFR ligands., Presented at the 58th Mosbacher Kolloquium on Protein and Lipid Sorting in Health and Disease. Mosbach/Baden Germany, 03/29/2007 - 03/31/2007
- Idkowiak-Baldys, J., Baldys, A., RAYMOND, J.R., Hannun, Y.A.(2007), Agonist-induced G protein-coupled receptors (GPCRs) trafficking and signaling is regulated by PKC-dependent sequestration of recycling components., Presented at 58th Mosbacher Kolloquium on Protein and Lipid Sorting in Health and Disease. Mosbach/Baden Germany, 03/29/2007 - 03/31/2007
- Visconti, R., LaRue, A., Gooz, RAYMOND, J.R., Gooz, M.(2008) Bone marrow cells develop into podocyte in unilateral ureteral obstruction model of kidney fibrosis. Presented at the International Podocyte Meeting, Toronto, 06/04/2008 - 06/06/2008
- Coaxum, S.D., Garnovskaya, M.N., Gooz, M., Baldys, A., RAYMOND, J.R.(2008) Epidermal growth factor activates Na<sup>+</sup>/H<sup>+</sup> exchange in podocytes through a mechanism that involves janus kinase and calmodulin. Presented at the International Podocyte Meeting, Toronto, 06/04/2008 - 06/06/2008
- Gooz, M., Baldys, A., Morinelli, T.A, Gooz, P, RAYMOND, J.R.(2008) Bradykinin induces permeability changes possibly through matrix metalloenzyme activation and EGFR crosstalk in glomerular podocytes. Presented at the International Podocyte Meeting, Toronto, 06/04/2008 - 06/06/2008

### **National**

- RAYMOND, J.R., Regan, J.W., Beach, R.E., et al. (1987) Enrichment of alpha<sub>2</sub>-adrenergic receptors of rabbit proximal tubule basolateral membranes. Presented at the 19th Annual Meeting of the American Society of Nephrology, Kidney Int. 31:160, 12/1986
- Beach, R.E., RAYMOND, J.R., Dennis V.W. (1987), Mechanisms for adrenergic receptor stimulation of Na<sup>+</sup>-K<sup>+</sup>-ATPase activity in renal basolateral membranes. Presented at the 19th Annual Meeting of the American Society of Nephrology, Kidney Int. 31:178., 12/1986
- RAYMOND, J.R., Saeed, M., Schwab, S.J. (1988) Enhancement of hemodialysis fistula patency: role of elective transluminal angioplasty. Proceedings of the 17th Scientific Session of the National Kidney Foundation, Washington D.C., 13A, 12/1987
- RAYMOND, J.R., Saeed, M, Schwab, S.J. (1988), Prospective detection and early treatment of venous stenoses in hemodialysis fistulas: a method of improving fistula patency., Proceedings of the 18th Scientific Session of the National Kidney Foundation, Washington D.C., 18A, 12/1987

- O'Connor, C.M., RAYMOND, J.R. (1988) Whipple's disease presenting as pulmonary hypertension: resolution of echocardiographic abnormalities with antibiotic therapy. Winning Clinical Vignette, Session of the American College of Physicians, New York, NY, 03/1988
- RAYMOND, J.R., Fargin, A., Lohse, M., et al. (1989) The genomic clone G-21 encodes the human 5-HT<sub>1A</sub> receptor. Presented at the 21st Annual Meeting of the American Society of Nephrology, Dec. 1988. *Kidney Int.* 35:163, 12/1988
- RAYMOND, J.R., Fargin, A.F., Caron, M.G., et al. (1989) Human 5-HT<sub>1A</sub> receptor stimulates Na<sup>+</sup>-PO<sub>4</sub> transport in transfected HeLa cells. Presented at the Annual Meeting of the American Society for Clinical Investigation, Washington, D.C. *Clin. Res.* 37:584A, 04/1989
- Fargin, A., RAYMOND, J.R., Regan, J.W., et al. (1989) Effector coupling mechanisms of the serotonin (5-HT<sub>1A</sub>) receptor. Presented at the Annual Meeting of the Association of American Physicians, Washington, D.C. *Clin. Res.* 37:586A, 04/1989
- Dennis, V.W., Albers, F.J., Middleton, J.P., RAYMOND, J.R., (1990) PKA and PKC have opposite effects on phosphate transport in HeLa cells. Presented at the 22nd Annual Meeting of the American Society of Nephrology, Washington D.C., *Kidney Int.* 37:456, 12/1989
- Albers, F.J., Dennis, V.W., Middleton, J.P., RAYMOND J.R. (1990), Histamine H<sub>1</sub> and serotonin 5-HT<sub>1A</sub> receptors expressed in HeLa cells stimulate phosphatidylinositol hydrolysis and phosphate uptake through distinct G proteins., Presented at the 22nd Annual Meeting of the American Society of Nephrology, Washington D.C., *Kidney Int.* 37:453, 12/1989
- Middleton, J.P., RAYMOND, J.R., Fargin, A., et al. (1990) Recombinant 5-HT<sub>1A</sub> receptors stimulate Na<sup>+</sup>/K<sup>+</sup>-ATPase by a Ca<sup>2+</sup>-dependent pathway in HeLa cells. Presented at the 22nd Annual Meeting of the American Society of Nephrology, Washington D.C., *Kidney Int.* 37:567, 12/1989
- RAYMOND, J.R., Fargin, A., Middleton, J.P. et al. (1990), The cloned human 5-HT<sub>1A</sub> receptor expressed in HeLa cells stimulates sodium-dependent phosphate transport via protein kinase C. Presented at 22nd Annual Meeting of the American Society of Nephrology, Washington D.C., *Kidney Int.* 37:202, 12/1989
- Albers, F.J., Middleton, J.P., Dennis, V.W., RAYMOND, J.R. (1990), Somatostatin stimulates sodium-dependent phosphate uptake in HeLa cells: Evidence for a regulatory pathway independent of the inhibition of adenylate cyclase., Presented at the Annual meeting of the American Federation for Clinical Research, Washington, D.C. *Clin. Res.* 38:370A, 05/1990
- RAYMOND, J.R., Middleton, J.P., Albers, F.J., Dennis, V.W. (1990) Thapsigargin stimulates sodium-dependent phosphate uptake in HeLa cells: evidence for a role of Ca<sup>2+</sup>, which is independent of PKC. Presented at the Annual meeting of the American Federation for Clinical Research, Washington, D.C. *Clin. Res.* 38:244A, 05/1990
- Middleton, J.P., RAYMOND, J.R., Whorton, A.R., Dennis V.W. (1990), The cloned human 5-HT<sub>1A</sub> receptor stimulates Na<sup>+</sup>/K<sup>+</sup>-ATPase via activation of voltage sensitive calcium channels. Presented at the Annual meeting of the American Federation for Clinical Research, Washington, D.C. *Clin. Res.* 38:442A, 05/1990
- Bates, M.D., Caron, M.G., RAYMOND, J.R. (1990), Characterization and regulation of DA<sub>1</sub> dopamine receptors in opossum kidney (OK) cells., Presented at the 20th Annual Meeting of the Society for Neuroscience, St. Louis. *Proceedings of the Society for Neuroscience* 20:1., 11/1990
- Albers, F.J., RAYMOND, J.R. (1990), Serotonin "5-HT<sub>1D</sub>-like" Receptors inhibit cAMP generation in MDCK cells through a pertussis toxin-sensitive G protein. Presented at the 23rd Annual Meeting of the American Society of Nephrology, Washington D.C., *J. Am. Soc. Nephrol.* 1:465A, 12/1990
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- Varghese, S.A., Powell, T.B., Budisavljevic, M.N., Oates, J.C., RAYMOND, J.R., Almeida, J.S., Arthur, J.M.(2006) Identification of Glomerular Diseases Based on the Pattern of Charge and Size of Urinary Proteins. Presented at US HUPO meeting, Boston, MA, 03/13/2006
- Baldys, A., RAYMOND, J.R.(2006) Role of protein kinase C in epidermal growth factor receptor trafficking in HEK293 cells. Presented at the annual FASEB Meeting, San Francisco; FASEB J 20:A115 (102.13), 04/2006
- Coaxum, S.D., Gooz, M., Baldys, A., Garnovskaya, M.N., RAYMOND, J.R.(2006) Epidermal growth factor activates Na<sup>+</sup>/H<sup>+</sup> exchanger in podocytes through a mechanism that involves janus kinase 2 and calmodulin. Presented at the annual FASEB Meeting, San Francisco; FASEB J 20: A764, (472.25), 04/2006
- Gooz, M., Gooz, P., RAYMOND, J.R.(2006) Crosstalk between 5-HT<sub>2A</sub> receptor and EGFR involves integrins. Presented at the annual FASEB Meeting, San Francisco; FASEB J 20:A247 (171.7), 04/2006
- Gööz M, Gööz P, RAYMOND, J.R., Luttrell L.M.(2006) alpha-V and beta-1 integrins mediate 5-HT<sub>2A</sub> receptor-EGFR cross-talk. Presented at the American Society for Matrix Biology Biennial National Meeting, Nashville, Tennessee, 11/01/2006 - 11/04/2006

- Velez, J.C.Q., Bland, A.M., RAYMOND, J.R., Janech, M.G.(2006) Differential pattern of peptide generation from Angiotensin substrates in resident glomerular cells. American Society of Nephrology Renal Week, San Diego. JASN 17:SA-PO783, 11/2006
- Idkowiak-Baldys, J., Baldys, A., RAYMOND, J.R., Hannun, Y.A.(2006), Agonist activation of G-protein coupled Receptors (GPCRs) induces formation of the protein kinase C (PKC)-dependent pericentron. 41st Annual Southeastern Regional Lipid Conference. Cashier NC, 11/2006
- Gooz, M, Gooz, P, Twal, W.O., Rocha, C.L., Luttrell, L.M., RAYMOND, J.R.(2007) Fibronectin activates ADAM17/TACE by competing with alpha-5-beta-1 integrin binding. 3rd Annual GPCR Colloquium, Washington DC, 04/27/2007 - 04/28/2007
- Morinelli, T.A., Baldys, A, RAYMOND, J.R. and Ullian M.E.(2007), The role of angiotensin II (AII) AT1AR internalization in the angiotensin II-induced expression of cyclooxygenase 2 COX-2) in rat aortic vascular smooth muscle cells., 3rd Annual GPCR Colloquium, Washington DC, 04/27/2007 - 04/28/2007
- Gooz, M, Gooz, P, Twal, W.O., Luttrell, L.M., RAYMOND, J.R.(2007) 5-HT induces disassembly of TACE/beta-one integrin complex and promotes co-immunoprecipitation of EGFR/beta3?integrin during 5-HT2A receptor-EGFR cross-talk. FASEB Meeting, Washington, DC, 04/28/2007 - 05/02/2007
- Rocha, C.L., RAYMOND, J.R., Gooz, M.B.(2007) ADAM-17-dependent transactivation of EGFR by 5-HT2 is mediated by Src and PI3K in rat mesangial cells. FASEB Meeting, Washington DC, 04/28/2007 - 05/02/2007
- Kramarenko, I., Bunni, M., RAYMOND, J.R., Garnovskaya M.N. (2007), Bradykinin B2 receptor interacts with integrin alpha-5/beta-1 to transactivate epidermal growth factor receptor in kidney cells., Presented at the Scientific Session of the American Heart Association, Orlando FL, 11/04/2007 - 11/07/2007
- Bunni, M., Kramarenko, I., RAYMOND, J.R., Garnovskaya M.N.(2007) Role of integrins in angiotensin II-induced proliferation of vascular smooth muscle cells. Presented at the Scientific Session of the American Heart Association, Orlando FL, 11/04/2007 - 11/07/2007
- Velez, J.C.Q., Bunni, M, Janech, M.G., RAYMOND, J.R.(2007) Angiotensin-(1-7) and angiotensin-(1-9) oppose angiotensin-II effects in human mesangial cells. Presented at the American Society of Nephrology Renal Week, San Francisco, 11/2007
- Velez, J.C.Q., Arthur, J.M., Bland, A., Budisavljevic, M., Fitzgibbon, W.R., Amani, Z., RAYMOND, J.R., Janech, M.G.(2007) Angiotensin metabolite formation identified by mass spectrometry in isolated glomeruli. Presented at the American Society of Nephrology Renal Week, San Francisco, 11/2007
- Idkowiak-Baldys, J., Baldys, A., Chu, W., Zhang, Z.-R., Bell, P.D., RAYMOND, J.R., Hannun, Y.A. (2007) Serotonin induces classical protein kinase C (cPKC)-dependent formation of pericentron. Presented at 42nd Annual Southeastern Regional Lipid Conference, Cashiers NC, 11/2007
- Garnovskaya, M.N., Bunni, M., Kramarenko, I., RAYMOND, J.R., Morinelli, T.A.(2008) Bradykinin B2 receptor induces multiple cellular responses leading to proliferation of renal carcinoma cells. Presented at the Experimental Biology Meeting, San Diego, 04/05/2008 - 04/09/2008
- Kramarenko, I., Bunni, M., RAYMOND, J.R., Garnovskaya, M.N.(2008) Identification of a functional bradykinin B2 receptor expressed in HEK293 cells. Presented at the Experimental Biology Meeting, San Diego, 04/05/2008 - 04/09/2008
- Coaxum, S.D., RAYMOND, J.R.(2008) Mutations in the i3N loop calmodulin-binding of the 5-HT1A receptor attenuates Erk activation. Presented at the Experimental Biology Meeting, San Diego, 04/05/2008 - 04/09/2008
- Zhang, Z-R., Chu, W.-F., Komlosi, P., Baldys, A., Haycraft, C.J., RAYMOND, J.R., Bell, P.D. (2008) Altered regulation of ion channel activity by EGF in polycystic kidney disease. Presented at the Experimental Biology Meeting, San Diego, 04/05/2008 - 04/09/2008
- Gooz, M., Rocha, C.L., Bell, L.H., Gooz, P., Luttrell, L., RAYMOND, J.R.(2008) 5-HT induces threonine (T735) phosphorylation of ADAM17/TACE cytoplasmic tail. FASEB Meeting, San Diego, 04/05/2008 - 04/09/2008
- Gooz, M., Gooz, P., Twal, W.O., Luttrell, L.M., RAYMOND, J.R.(2007) 5-HT induces disassembly of TACE/?integrin complex and promotes co-immunoprecipitation of EGFR/beta3-integrin during 5-HT2A receptor-EGFR cross-talk. Presented at NIDDK symposium:, "Career Development Symposium: Life after K", Washington DC, 06/2008
- Velez, J.C., Ryan, K., Bland, A., Budisavljevic, M.N., Fitzgibbon, W.R., RAYMOND, J.R., Arthur, J.A., Janech, M.G. (2008) Generation of Angiotensin-(1-7) and Angiotensin-(2-10)in Intact Rat glomeruli

- analyzed by MALDI-TOF MS. Presented at 62nd High Blood Pressure Research Conference, Atlanta, 09/17/2008 - 09/20/2008
- Velez, J.C., Morinelli, T.A., Walker, L.A., Bunni, M., Arthur, J.M., RAYMOND, J.R., Ullian, M.E., Janech, M.G.(2008)Angiotensin-(2-10) is actively formed by glomerular cells and signals through the AT1a receptor. Presented at the American Society of Nephrology Renal Week, Philadelphia, 11/04/2008 - 11/09/2008
- Dey, M., RAYMOND, J.R., Gooz, M.(2009) Role of ADAM17 in bradykinin-induced EGF receptor activation in glomerular podocytes. Presented at the Experimental Biology Meeting, New Orleans, 04/18/2009 - 04/22/2009
- Zhang, Z.-R., Chu, W.-F., Song, B., Gooz, M., Baldys, A., Kolb, R.J., Steele, S., Houston, A., Haycraft, C.J., Owsianik, G., Nilius, B., RAYMOND, J.R., Komlosi, P., Bell, P.D.(2009) EGFR augments cell proliferation in polycystic kidney disease through activation of a novel ion channel. Presented at Experimental Biology Meeting, New Orleans, 04/18/2009 - 04/22/2009
- Zhang, Z.-R., Chu, W.-F., Song, B., Gooz, M., Baldys, A., Kolb, R.J., Steele, S., Houston, A., Haycraft, C.J., Owsianik, G., Nilius, B., RAYMOND, J.R., Komlosi, P., Bell, P.D.(2009) EGFR augments cell proliferation in polycystic kidney disease through activation of a novel ion channel. Presented at the Experimental Biology Meeting, New Orleans, 04/18/2009 - 04/22/2009
- Bunni, M.A., Morinelli, T.A., Bell, P.D., RAYMOND, J.R.Sr., and Garnovskaya, M.B. (2010) Bradykinin B2 receptor activates extracellular signal regulated kinase in renal cells from a mouse model of polycystic kidney disease. Presented at the Experimental Biology Meeting, Anaheim CA, FASEB J April 6, 2010 24:1b703, 04/24/2010 - 04/28/2010
- Liu, M., Idkowiak-Baldys, J., Roddy, P., RAYMOND, J.R.Sr., and Hannun, Y.A.(2011) Sustained treatment of PMA affects trafficking and signaling of EGFR. Presented at the Experimental Biology Meeting, Washington DC.FASEB J March 17, 2011 25:549.7, 04/09/2011 - 04/13/2011
- Garnovskaya, M.N., Bunni, M.A., Bell, P.D., RAYMOND, J.R.Sr, and Coaxum, S.D. (2011) Different signaling mechanisms are involved in vasopressin-induced proliferation of orpk cilia(+)and orpk cilia(-)renal cells derived from a mouse model of polycystic kidney disease. Presented at the Experimental Biology Meeting, Washington, DC, FASEB J March 17, 2011 25:1b503, 04/09/2011 - 04/13/2011
- Coaxum, S.D., Blanton, M.G., Bunni, M.A., Akter, T., Bell, P.D., RAYMOND, J.R.Sr. and Garnovskaya, M.N. (2011), Epidermal growth factor-induced proliferation of renal cells from a mouse model of polycystic kidney disease involves multiple signaling pathways. Presented at the Experimental Biology Meeting, Washington DC. FASEB J March 17, 2011 25:1b505, 04/09/2011 - 04/13/2011
- Velez, J.C.Q., Janech, M.G., Arthur J.M.and RAYMOND J.R.Sr. (2011), Cultured Human Glomerular Endothelial Cells Display ACE-Mediated Angiotensin-II-Generating Capacity and Limited Angiotensin-II-Degrading Activity., Presented at the American Society of Nephrology Renal Week, Denver, CO, 11/16/2011 - 11/21/2011

#### **COMMITTEE SERVICE:**

##### **Medical College of Wisconsin**

- 1996 - 2010 Medical University of South Carolina, Nephrology Fellowship Training Committee
- 1996 - 1997 MUSC Search Committee for Chairman of Physiology
- 1997 - 1998 MUSC University Planning Committee, Working Group for Research Issues
- 1997 - 1998 MUSC Search Committee for University, Chief Information Officer
- 1997 - 2003 MUSC Medical Student Training Program, Steering Committee
- 1997 - 1998 MUSC, Cost Accounting Standards Working Group on Indirect Costs
- 1997 - 1999 MUSC University Research Committee
- 1998 - 1999 MUSC Provost's Office Review Committee on the Dean of College of Dental Medicine
- 1998 - Present MUSC Member, Oversight Committee, Monoclonal Antibody Facility
- 1998 - Present MUSC Member, Oversight Committee, Flow Cytometry Facility
- 1999 - 2002 MUSC University Research Council
- 1999 - 2002 MUSC Interim Funding Committee
- 1999 - 2006 MUSC College of Health Professions Member, Diversity Advisory Board
- 1999 - 2000 MUSC Department of Medicine, Chairman, Committee to Draft Strategic Research Plan, 2001-2006
- 1999 - 2002 MUSC Department of Biochemistry Member, Faculty Search Committee

2000 MUSC College of Medicine, Member, Search Committee for the Chair, Department of Pharmacology  
 2000 - 2010 MUSC Hollings Cancer Center, Member, Scientific Advisory Committee  
 2000 - 2001 MUSC, Member, Search Committee for the Dean, College of Medicine  
 2000 MUSC College of Medicine, Member, Search Committee for the Chair, Department of Microbiology and Immunology  
 2001 MUSC Department of Medicine, Chairman, Search Committee for the Director, Division of Cardiology  
 2001 MUSC College of Graduate Studies Member, Strategic Planning Committee  
 2001 - 2010 MUSC, Member, Steering Committee, Children's Research Institute  
 2001 - 2010 MUSC, Chair, Executive Research Council  
 2001 - 2010 MUSC, Chair, Executive Research Council  
 2001 - 2003 MUSC, Member, CIO Search Committee  
 2001 - 2010 MUSC College of Dental Medicine, Member, Steering Committee for Training grant titled "Comprehensive Training in Oral and Craniofacial Research"  
 2001 - Present MUSC Department of Biochemistry, Member, Oversight Committee for PPG  
 2001 - 2003 MUSC, Member, Information Management Council  
 2001 - 2003 MUSC, Member, Clinical Information Management Committee  
 2002 - 2010 MUSC, Member, Steering Committee, James B. Edwards College of Dental Medicine Dental School Planning and Construction project  
 2002 - 2010 MUSC, Member, Academic Compliance Assurance Council  
 2002 - 2010 MUSC, Member, University Medical Associates, Board of Directors  
 2002 - 2010 MUSC, Member, Internal Advisory Committee for NIH PPG titled "Molecular Mechanisms of Cardiac Hypertrophy"

### **Hospital**

1996 - 2004 Veterans Affairs Medical Center, Research and Development Committee, Charleston, S.C.  
 1998 - Present Department of Veterans Affairs Research Space Committee  
 1999 - 2000 Department of Veterans Affairs, Laboratory Panic Values Committee  
 1999 - 2010 Dept. of Veterans Affairs and MUSC, Academic Partnership Council  
 2000 Ralph H. Johnson VA Medical Center Chairman, Search Committee for Chief of Staff  
 2000 - 2002 Ralph H. Johnson VA Medical Center, Member, Foreign Travel Subcommittee of the Education Committee  
 2000 - 2005 Ralph H. Johnson VA Medical Center, Chairman, Advisory Committee for the Charleston Heart Failure Research Enhancement Award Program  
 2001 Ralph H. Johnson VA Medical Center Member, Search Committee for the Chief, Specialty Services  
 2001 - 2008 Ralph H. Johnson VA Medical Center, Member, Resource Allocation Board

### **EXTRAMURAL TEACHING:**

#### **Medical Student Education**

1996 - 2010 MUSC, Teaching: College of Pharmacy, College of Health Professions, College of Dental Medicine  
 05/1997 - 08/1997 MUSC, Supervised Medical Students  
 05/1998 - 2004 MSTP, Superv: Ronald Feldman, Justin Turner  
 1998 - 2007 MUSC, Pharmacology Departmental Research Conferences  
 1998 - 2007 MUSC, Medicine Chair rounds at VAMC several times per month  
 1998 - 2007 MUSC, Endocrinology and Medical Genetics Seminars  
 1998 - 2007 MUSC, Medical Grand Rounds  
 1998 - 2007 MUSC, Miscellaneous divisional research conferences, clinical conferences and journal clubs  
 1998 - 2007 MUSC, Nephrology Ward Lectures-every other month  
 1998 - 2007 MUSC, Wednesday VA Nephrology Clinic- every week for 7 years  
 1998 - 2007 MUSC, Digestive Diseases Center Grand Rounds  
 1998 - 2007 MUSC, Biochemistry Seminars  
 1998 - 2007 MUSC, Molecular And Cellular Biology Program Seminars  
 1998 - 1999 Wake Forest University, Suprv. Pregraduate Scholar Preston Wendell  
 05/1999 - 06/2001 MUSC, Suprv: Anthony Joseph

### **Graduate Student Education**

05/1998 - 06/2001 MUSC, Suprv Pharmacology Grad Student Tobiah Pettus

### **Resident and Fellow Education**

1996 - 2000 MUSC, Suprv. Pre-Doctoral Fellows: Mark Reploeg, DeKisha Pendergrass, Oddette Houghton, Steven Pinckney

### **Postdoctoral Fellow Education**

1991 - 2010 MUSC, Suprv Nephrology fellows: Frank J. Albers, Bryan N. Becker, John M. Arthur, Jasjit Grewal, Jack Andy, David Lefler, S. Steven Foster, Khurram Nazeer, Henry Ayiku, Sanju Varghese, Sonya Coaxum, Jeffrey Smith

1991 - 2010 MUSC, Suprv. Biochemistry Fellows: Maria N. Garnovskaya, Aleksander Baldys

1991 - 2010 MUSC, Suprv. Biophysics Fellow: Yurii Mukhin

1991 - 2010 MUSC, Suprv. Pharmacology Fellows: Kurt Chuprun, Canan Nebigil, Monika Gööz

### **Continuing Medical Education**

1996 - 2010 South Carolina College of Pharmacy

1996 - 2005 MUSC, Fluid and Electrolyte and/or Acid Base Lecture(s)

1997 - 2002 MUSC, One lecture per term in the Research Instrumentation Graduate Course (Department of Cell Biology)

1997 - 1999 MUSC, 1997-1999 Two lectures per term in the Advanced Signal Transduction (Department of Pharmacology)

1998 - 2006 MUSC, Chairman's teaching rounds. Round with long-call team at VA on Mondays for didactic teaching

### **Community/Lay Public**

1996 - 2010 University of South Carolina College of Medicine

1996 - 2001 The South Carolina Bioengineering Alliance

1996 - 2001 Charleston School of Law

1996 - 2010 Governor's School for Science and Mathematics

1996 - 2010 College of Charleston

1996 - 2010 Clemson-MUSC Bioengineering Program

## **MCW STUDENTS, FACULTY, RESIDENTS AND CLINICAL/RESEARCH FELLOWS MENTORED:**

### **Faculty**

2010 - Present Dr. Frank Park, Mentorship Committee, MCW

2010 - Present Dr. Kevin Regner, Mentorship Committee, MCW

## **EXTRAMURAL STUDENTS, FACULTY, RESIDENTS, AND CLINICAL/RESEARCH FELLOWS MENTORED:**

### **Graduate Students**

#### **PhD Committees**

1992 - 1994 Margaret Eason, Duke University Medical Center

1992 - 1995 Russell Nash, Duke University Medical Center

1996 - 1997 Padla M.C. Lembo, McGill University

1997 - 1999 Kenda L. Jameson Evans, University of Texas, San Antonio

1997 - 1999 Ben Pender, MUSC

1998 - 2005 John Yordy, MUSC

1998 - 2000 Scott Commins, MUSC

1998 - 2000 John Cleator, MUSC

1999 - 2003 Lauren Ball, MUSC

1999 - 2006 Steven Jones, MUSC

1999 - 2005 Jeannie Chapman, Structural Biology Program of the Ernest Hollings Cancer Center

2000 - 2004 Justin Turner, Committee Chair, MUSC

2000 - 2003 Vijay Rao, MUSC

2001 - 2003 Kevin Becker, MUSC

Committees

1997 - 1998 Scott Commins, Masters Degree, MUSC

MS Committees

1998 - 2000 Tobiah Pettus, MUSC

Faculty

Bryan N. Becker, M.D.; Professor of Medicine and Associate Dean, College of Medicine at UIC. Dr.

Becker is former Director for the Division of Nephrology at the University of Wisconsin., Mentor

Juan Carlos Q. Velez, M.D.; Associate Professor of Medicine at MUSC., Mentor

Monika Gooz, M.D., Ph.D.; Associate Professor of Medicine at MUSC., Mentor

Maria Garnovskaya, Ph.D.; Associate Professor of Medicine at MUSC., Mentor

Michael Janech, Ph.D.; Associate Professor of Medicine at MUSC., Mentor

Eddie L. Greene, M.D.; Associate Professor of Medicine and Director of the Office of Diversity, Mayo Clinic Rochester., Mentor

John M. Arthur, MD, PhD; DCI Professor of Medicine and Director of the South Carolina Center of Excellence in Renal Biomarkers at MUSC., Mentor

Sonya D. Coaxum, Ph.D.; Assistant Professor of Medicine at MUSC., Mentor

Canan Nebigil Desaubry, Ph.D.; Director of Research, CRNS - University of Strasbourg, France, Mentor

Hirendra Nath Banerjee, MBBS, PhD.; Associate Professor of Biology, Elizabeth City State University., Mentor

Odette Houghton, M.D.; Assistant Professor of Ophthalmology, UNC-Chapel Hill., Mentor

**PROGRAMMATIC DEVELOPMENTS:**

Educational Programs

**Student**

2003 - 2010 MUSC Provost and Deans' Scholarship Program

**Faculty**

2002 - 2010 MUSC Women Scholars Initiative

2005 - 2010 MUSC Trustee Leadership Academy

Research Programs

1998 - 2010 NIH T32 Training Grant and VA REAP Award

2002 - 2010 SC Centers of Economic Excellence Program

2005 - 2010 Research Project Grant Retreats

**COMMUNITY SERVICE ACTIVITIES:**

Dr. Raymond is a 6-gallon blood donor

**BIBLIOGRAPHY**

Refereed Journal Publications/Original Papers

1. RAYMOND, J.R. (1984) Nephrotoxicities of antineoplastic and immunosuppressive agents. *Current Problems in Cancer* 8:2-32.
2. Regan, J.W., RAYMOND, J.R., Lefkowitz, R.J., DeMarinis, R.M. (1986) Photoaffinity labeling of human platelet and rabbit kidney  $\alpha_2$ -adrenergic receptors with [3H]-SKF 102229. *Biochem. Biophys. Res. Comm.* 137:606-613.
3. RAYMOND, J.R. (1988) Amphotericin B nephrotoxicity. *Am. Family Physician* 38: 199-203.
4. RAYMOND, J.R., Raymond, P.A. (1988) Post-lumbar puncture headache. *West. J. Med.* 148: 551- 554.
5. RAYMOND, J.R., Yarger, W.E. (1988) Abnormal urine color; differential diagnosis. *South. Med. J.* 81:837-841.
6. RAYMOND, J.R., van den Berg, E.K. Jr., Knapp, M. (1988) Nontraumatic prehospital sudden death in young

- adults. *Arch. Intern. Med.* 148:303-308.
7. Fargin, A., RAYMOND, J.R., Lohse, M., Kobilka, B.K., Caron, M.G., Lefkowitz, R.J. (1988) A genomic clone which resembles a  $\beta$ -adrenergic receptor encodes the 5-HT<sub>1A</sub> receptor. *Nature* 335:358-360.
  8. Schwab, S.J., RAYMOND, J.R., Saeed, M., Dennis, P., Bollinger, R. (1989) Prevention of hemodialysis fistula thrombosis; early detection and elective treatment of venous stenoses. *Kidney Int.* 36:707-711.
  9. RAYMOND, J.R., Fargin, A., Lohse, M.J., Regan, J.W., Senogles, S., Lefkowitz, R.J., Caron, M.G. (1989) Identification of the ligand binding subunit of the 5-HT<sub>1A</sub> receptor with a radioiodinated probe. *Mol. Pharmacol.* 36:15-21.
  10. Fargin, A., RAYMOND, J.R., Regan, J.W., Cotecchia, S., Lefkowitz, R.J., Caron, M.G. (1989) Effector coupling mechanisms of the cloned 5-HT<sub>1A</sub> receptor. *J. Biol. Chem.* 264:14848-14852.
  11. RAYMOND, J.R., Fargin, A., Middleton, J.P., Graff, J.M., Haupt, D.M., Caron, M.G., Lefkowitz, R.J., Dennis, V.W. (1989) The human 5-HT<sub>1A</sub> receptor expressed in HeLa cells stimulates sodium-dependent phosphate transport via protein kinase C. *J. Biol. Chem.* 264:21943-21950.
  12. Thevaniau, M., RAYMOND, J.R., Rougon, G.N. (1989) Antipeptide antibodies to the beta<sub>2</sub>-adrenergic receptor confirm the extracellular orientation of the amino terminus and the putative first extracellular loop. *J. Membr. Biol.* 111:141-153.
  13. RAYMOND, J.R., Hnatowich, M.R., Lefkowitz, R.J., Caron, M.G. (1990) Adrenergic receptors: proto-types for the study of structure and function of G-protein-coupled receptors. *Hypertension* 15:119-131.
  14. RAYMOND, J.R., Middleton, J.P., Dennis, V.W. (1990) HeLa cells express cAMP-inhibitable sodium-dependent phosphate uptake. *Am. J. Physiol* 258: (Renal Fluid Electrolyte Physiol. 27) F433-F437.
  15. Middleton, J.P., Albers, F.J., Dennis, V.W., RAYMOND, J.R. (1990) Thapsigargin provides evidence for Ca<sup>2+</sup>-mediated increases in sodium-dependent phosphate uptake in HeLa cells. *Am. J. Physiol* 259: (Renal Fluid Electrolyte Physiol. 28) F727-F731.
  16. Middleton, J.P., RAYMOND, J.R., Whorton, A.R., Dennis, V.W. (1990) Recombinant 5-HT<sub>1A</sub> receptors stimulate Na<sup>+</sup>/K<sup>+</sup>-ATPase by a Ca<sup>2+</sup>-dependent pathway in HeLa cells. *J. Clin. Invest.* 86:1799-1805.
  17. RAYMOND, J.R., Albers, F.J., Middleton, J.P., Caron, M.G., Lefkowitz, R.J., Dennis, V.W. (1991) Serotonin 5-HT<sub>1A</sub> and histamine H<sub>1</sub> receptors expressed in HeLa cells stimulate phosphatidylinositol hydrolysis and phosphate uptake through distinct G protein pools. *J. Biol. Chem.* 266:372-379.
  18. Bates, M.D., Caron, M.G., RAYMOND, J.R. (1991) Desensitization of DA<sub>1</sub> dopamine receptors coupled to adenylate cyclase in opossum kidney (OK) cells. *Am. J. Physiol* 260: (Renal Fluid Electrolyte Physiol. 29) F937-F945.
  19. RAYMOND, J.R. (1991) Protein kinase C induces phosphorylation and desensitization of the human 5-HT<sub>1A</sub> receptor. *J. Biol. Chem.* 266:14747-14753.
  20. El Mestikawy, S., Fargin, A., RAYMOND, J.R., Gozlan, H., Hnatowich, M. (1991) The 5-HT<sub>1A</sub> receptor: an overview of recent advances. *Neurochemical Res.* 16:1-10.
  21. Jose, P.A., RAYMOND, J.R., Bates, M.D., Aperia, A., Felder, R.A., Carey, R.M. (1992) The renal dopamine receptors. *J. Am. Soc. Nephrol.* 2:1265-1278.
  22. Liggett, S.B., Ostrowski, J., Chesnut, L.C., Kurose, H., RAYMOND, J.R., Caron, M.G., Lefkowitz, R.J. (1992) Sites in the third intracellular loop of the alpha<sub>2</sub>-adrenergic receptor confer short-term agonist-promoted desensitization: evidence for a receptor kinase mediated mechanism. *J. Biol. Chem.* 267:4740-4746.
  23. Boddeke, H.W.G.M., Fargin, A., RAYMOND, J.R., Schoeffter, P., Hoyer, D. (1992) Agonist/antagonist interactions with cloned human 5-HT<sub>1A</sub> receptors: variations in intrinsic activity in HeLa cells. *Naunyn-Schmied. Arch. Pharmacol.* 345:257-263.
  24. Ho, B.Y., Karschin, A., RAYMOND, J.R., Branchek, T., Lester, H.A., Davidson, N. (1992) Expression in animal cells of the 5-HT<sub>1A</sub> receptor by a vaccinia virus vector system. *FEBS Lett.* 301:303-306.
  25. Mangel, A.W., Basavappa, S., Gabriel, S., RAYMOND, J.R., Stutts, M.J., Fitz, J.G. (1992) cAMP-regulated chloride currents in CHO cells. *Biochem. Biophys. Res. Commun.* 186:251-255.
  26. Eason, M., Kurose, H., Holt, B., RAYMOND, J.R., Liggett, S.B. (1992) Simultaneous coupling of alpha<sub>2</sub>-adrenergic receptors to two G-proteins with opposing effects. *J. Biol. Chem.* 267:15795-15801.
  27. RAYMOND, J.R., Albers, F.J., Middleton, J.P. (1992) Functional expression of human 5-HT<sub>1A</sub> receptors and differential coupling in CHO cells. *Naunyn-Schmied. Arch. Pharmacol.* 346:127-137.
  28. Becker, B.B., Gettys, T.W., Albers, F.J., Middleton, J.P., Lee, S.-L., Fanburg, B., RAYMOND, J.R. (1992) 8-OH-DPAT-responsive 5-HT<sub>4</sub>-like receptor expressed in bovine pulmonary artery smooth muscle cells. *Mol. Pharmacol.* 42:817-825.
  29. RAYMOND, J.R., Kim, J.L., Beach, R.E., and Tisher, C.C. (1993) Immunohistochemical mapping of the cellular & subcellular distribution of 5-HT<sub>1A</sub> receptors in rat and human kidney. *Am. J. Physiol.* 264:

- (Renal Fluid Electrolyte Physiol. 33) F9-F19.
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#### **Editorials, Letters To Editor, Other**

1. Inglese, J, and RAYMOND, J.R (2003) Robert J. Lefkowitz, M.D., Mentor extraordinaire. *Assay Drug Devel.*

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2. RAYMOND, J.R (2011) Institute for Health and Society provides framework, resources for community-engaged activities. Wisconsin Medical Journal 110:45-46. PMID 21473514

**Abstracts**

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