

CURRICULUM VITAE

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EDUCATION

1974	B.Sc.	Chemistry/Biology	The University of Mysore, India.
1978	M.Sc.	Biochemistry	The University of Mysore, India.
1987	Ph.D.	Biochemistry	The M. S. University of Baroda, India.

Pre- and post-doctoral training:

1984-1987	<u>Predoctoral Fellow:</u>	University of Arizona, Department of Pediatrics, Tucson, AZ.
1987-1991	<u>Research Associate:</u>	University of Arizona, Department of Pediatrics, Tucson, AZ.

ACADEMIC APPOINTMENTS

1991-1994	Res. Assistant Professor	University of Arizona, Department of Pharmacology
1995-1999	Assistant Professor	Med. Univ. South Carolina, Departments of Pediatrics and Cell Biology, Charleston, SC.
1999-2000	Associate Professor	Med. Univ. South Carolina, Departments of Pediatrics and Cell Biology, Charleston, SC.
2000-2004	Assoc Professor (Tenured)	University of Tennessee, Department of Physiology, Memphis, TN.
2004-present	Professor (Tenured)	University of Tennessee, Department of Physiology, Memphis, TN.

ADMINISTRATIVE APPOINTMENTS

1995-2000	Director, Gastroenterology Research Laboratories, Med. Univ. South Carolina
2000-2004	Graduate Course Director (Cell Biology, Biochem 826), University of Tennessee
2004-present	Graduate Course Director (Cell and Molecular Biology-IP843, Interdisciplinary graduate course for Integrated Program in Biomedical Sciences), University of Tennessee, Memphis, TN.
2005-present	Graduate Course Director (Essentials of Biochemistry and Molecular Biology-IP803), University of Tennessee, Memphis, TN.

PROFESSIONAL AFFILIATIONS

American Gastroenterological Association
American Society for Cell Biology
Gastroenterology Research Group
American Physiological Society
Society of Experimental Biology and Medicine
American Association for Advancement of Science

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Research Society for Alcoholism

International Society for Biomedical Research on Alcoholism

Editorial Activities: *Reviewer for scientific journals:* Plasmid, Gastroenterology, American Journal of Physiology, European Journal of Biochemistry, Journal of Pharmacology and Experimental Therapeutics, Life Sciences, Nutrition, Biology of the Neonate, Peptides, European Journal of Pharmacology, Cell and Molecular Life Sci., Gut, Medical Science Monitor.
International Review Panel member: Medical Science Monitor

RESEARCH FUNDING

Current:

2004-2009 NIH (R01 DK55532-07) -Principal Investigator
"Intestinal Mucosal Protection by Epidermal Growth Factor"
Direct cost: \$968,000

2005-2010 NIH (R01 AA12307-06) -Principal Investigator
"Mechanism of Endotoxin Absorption in Alcoholism"
Direct cost: \$1,000,000

2005-2008 Mussette and Allen Morgan Jr. Research Foundation -Principal Investigator
"Bile Duct Epithelial Barrier Disruption by Inflammatory Mediators"
Direct cost: \$225,000

Previous:

1991-1994 Arizona Disease Control Research Commission -Principal Investigator
"Role of epidermal growth factor in gastrointestinal secretions"
Amount: \$71,000

1996-1997 University Research Committee -Principal Investigator
"Oxidant induced disruption of the intestinal epithelium".
Amount: \$15,000

1998-2004 NIH (R01 DK55532-01) -Principal Investigator
"Intestinal Mucosal Protection by Epidermal Growth Factor"
Total amount: \$612,000

2000-2004 NIH (R01 AA12307) -Principal Investigator
"Mechanism of Endotoxin Absorption in Alcoholism"
Total cost: \$870,000

2002-2004 NIH (RO3 HD32465-01) -Principal Investigator
"Mucosal Protective Factors in Human Milk"
Total amount: \$144,000

AWARDS AND HONORS

Mitchell I. Rubin Research Award for distinguished scientific contributions to the advancement of medical science in the field of child health care.

AGA travel award from American Gastroenterological Association.

International Travel Award from the University of Arizona.

Senior Research Fellowship from University Grants Commission of India.

Junior Research Fellowship from University Grants Commission of India.

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Honored for general proficiency performance in B.Sc. degree examination, University of Mysore, India.

Merit Scholarship for undergraduate studies.

GRANT REVIEW STUDY SECTIONS

NIH, AA-1 Study section - (Ad Hoc 2006).

American Institute of Biological Sciences – U.S. Army Medical Research Funds (2005)

NIH, XNDA study section (2005).

NIH, NIAAA Special Emphasis Panel (2005)

Medical Research Council, London, England (2005)

U.S. Army Biomedical research Funds (2005)

NIH, NIDDK Special Emphasis Panel (2004)

American Institute of Biological Sciences – U.S. Army Medical Research Funds (2004)

American Institute of Biological Sciences – U.S. Army Medical Research Funds (2003)

NIH, AA-1 Study section - (Ad Hoc 2002).

American Institute of Biological Sciences – U.S. Army medical Research Funds (1999)

Israel Science Foundation (1998)

Israel Science Foundation (2000)

ACADEMIC AND PROFESSIONAL COMMITTEES

National and International

1. 2000-present: Tennessee Delegate for Growth, Development and Aging (GDA) section of American Gastroenterological Association (AGA)
2. 2000-present: Abstract Review Committee, Intestinal Disorders, American Gastroenterological Association (AGA).
3. 2001-present: Abstract Review Committee, Growth, Development and Aging, American Gastroenterological Association (AGA).
4. 2003-2004: International Advisory Committee, Comed Biotech Limited, Baroda, India.
5. 2005: Chairman, Research forum session on “Regulation of Tight Junctions”. Annual meeting of American Gastroenterological Association meeting in Chicago,
6. 2004: Chair, Scientific session, 25th Annual meeting of Society of Toxicologists, Trivandrum, India.
7. 2004-present: Scientific Advisory Board member, Morgan Foundation for Research on Primary Sclerosing Cholangitis, Memphis, TN.
8. 2004-present: Scientific Advisory Board, Kemin Nutraceuticals, Chennai, India.

Institutional

1. 2005-present: Finance Resource Committee, UT-Memphis.
2. 2005-present: Strategic plan committee, Department of Physiology, University of Tennessee.
3. 2004-present: Promotion and Tenure Committee, Department of Physiology.
4. 2004-present: Chairman, Course Steering committee Cell and Molecular Biology course for Interdisciplinary graduate course in Integrated Program in Biomedical Sciences, University of Tennessee.
5. 2004-present: Chairman of Course steering committee. Essentials of Biochemistry and Molecular Biology for Pharmaceutical science graduate course, University of Tennessee.
6. Curriculum committee member for the Core Interdisciplinary Course for Interdisciplinary Program in Biomedical Sciences. (2002-present)

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7. 2000-2004: Course Director, Cell Biology-Bioc826 graduate course, University of Tennessee.
8. 2000-present: Education Committee, Department of Physiology, University of Tennessee, Memphis, TN.
9. 1995-2000: Member of Committee for Graduate Studies, Med. Univ. South Carolina.
10. 1999: Chair, Judging Committee for Mitchell I. Rubin Research Award,
11. 2000: Judge, for "Student Research Day" paper presentation competition.
12. 1990-19995: Member of Committee for Graduate Studies, University of Arizona, Department of Pharmacology.

TRAINING GRADUATE STUDENTS

Advisor for graduate students:

- 1) Immediate advisor for M.S. Student, Ms. Anjali Deo: M.S. program in Biochemistry – Department of Biochemistry, M. S. University of Baroda, Baroda, India. 1981.
- 2) Immediate advisor for M.S. Student, Mr. M.G. Muralidhar: M.S. program in Biochemistry – Department of Biochemistry, M. S. University of Baroda, Baroda, India. 1982.
- 3) Immediate advisor for M.S. Student, Ms. Merilyn Serrao: M.S. program in Biochemistry – Department of Biochemistry, M. S. University of Baroda, Baroda, India. 1983.
- 4) Immediate advisor for M.S. Student, Mr. Parimal Seth: M.S. program in Biochemistry – Department of Biochemistry, M. S. University of Baroda, Baroda, India. 1983.
- 5) Co-Advisor: Ph.D. student (Wuyi Kong): Ph.D. Program in Physiological Sciences – Department of Physiology, University of Arizona, Tucson, AZ. 1986-1990.
- 6) Co-Advisor: Ph.D. student (Mary Oakes): Ph.D. Program in Pharmacology – Department of Pharmacology, University of Arizona, Tucson, AZ. 1992-1994.
- 7) Advisor: Ph.D. student (Jaya Vaidyanathan): Ph.D. Program in Pharmaceutical Sciences, Medical University of South Carolina, Charleston, SC. 1998-2000.
- 8) Advisor: Ph.D. student (Gautam Kale): Graduate Program in Biomedical Engineering, University of Tennessee 2002-2004.
- 9) Advisor: Ph.D. student (Ankur Seth): Graduate Program in Biomedical Engineering, University of Tennessee (2002-2005).
- 10) Advisor: Ph.D. student (Suneet Jain): Interdisciplinary Graduate Program in Biomedical Sciences, University of Tennessee (2005-present).
- 11) Advisor: Ph.D. student (Sudhir Aggarwal): Interdisciplinary Graduate Program in Biomedical Sciences, University of Tennessee (2005-present).

Graduate Advisory and Examination Committees:

- 1) Served as Graduate College representative and chairman for 8 final PhD examinations, University of Arizona (1990-1994).
- 2) Examination committee member for a doctoral student (Ms. Wuyi Kong) in Physiological sciences program, University of Arizona, Department of Physiology (1990).
- 3) Examination committee member for a M.S. student, University of Arizona, Department of Pharmacology (1993).
- 4) Examination committee member for a doctoral student (Ms. Mary Oakes) in Pharmacology and Toxicology program, University of Arizona, Department of Pharmacology (1994).
- 5) Examiner for Ph.D. theses submitted to Manipal Academy for Higher Studies, India (Majula Shantaram, 1997).
- 6) Examiner for Ph.D. theses submitted to Manipal Academy for Higher Studies, India (Mr. Naik, 1999).
- 7) Examiner for Ph.D. theses submitted to Manipal Academy for Higher Studies, India (, Mr. Udupa, 2001).

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- 8) Examiner for Ph.D. theses submitted to M. S. University of Baroda, India (Ms. Mintoo Patel, 2002).
- 9) Chairman, Graduate examination committee for Ph.D. degree. Jaya Vaidyanathan (1999-present)
- 10) Chairman, Graduate advisory and examination committee. Gautam Kale (UT-Biomedical Engineering; 2001-present).
- 11) Chairman, Graduate advisory and examination committee. Ankur Seth (UT-Biomedical Engineering; 2001-present).
- 12) Graduate advisory and examination committee for Qinghang Liu (UT-Physiology; 2001-present).
- 13) Graduate advisory and examination committee for Tarun Gheyi (U. of Memphis, Chemistry, 2003-present).
- 14) Graduate advisory and examination committee for Aloksingh Tomar (UT-Interdisciplinary; 2003-present).
- 15) Graduate advisory and examination committee for Chunying Li (UT-Physiology; 2003-present).
- 16) Advisory committee for Ajit Narang (Pharmaceutical Sciences, UT-MEM)
- 17) Examiner for PhD thesis by Mr. Vihas T. Vasu, M.S. University of Baroda, India.
- 18) Graduate advisory and examination committee for Michael Liu (UT-Vascular Biology; 2004-present).
- 19) Chairman, Graduate advisory and examination committee. Suneet Jain (IPBS; 2005-present).
- 20) Chairman, Graduate advisory and examination committee. Sudhir Aggarwal (IPBS; 2005-present).

Mentor for postdoctoral trainees and Junior faculty

Dr. Yvan Lopez: Department of Pharmacology, University of Arizona, Tucson, AZ. 1993-1995.

Dr. Swapan K. Das: Department of Physiology, University of Tennessee, Memphis, TN. 2000-2001.

Dr. Madhumita Das: Department of Physiology, University of Tennessee, Memphis, TN. 2000-2001.

Dr. Hanan Tosson, M.D., Department of Endocrinology, UT-Memphis. 2001-2002.

Dr. Shyamali Basuroy: Department of Physiology, University of Tennessee, Memphis, TN. 2001-2004.

Dr. Parimal Seth: Department of Physiology, University of Tennessee, Memphis, TN. 2001-present.

Dr. Ankur Seth: Department of Physiology, University of Tennessee, Memphis, TN, 2004-present.

Dr. Thangavel: Department of Physiology, University of Tennessee, Memphis, TN. 2001-2002.

Dr. Bertha Elias: Department of Physiology, University of Tennessee, Memphis, TN 2004-present.

Dr. Takuya Suzuki, Department of Physiology, University of Tennessee, TN 2004-present.

Dr. Shailaja Raju, Department of Physiology, University of Tennessee, TN 2004-present.

Tarun Gheyi, Chemistry graduate student, University of Memphis, 2004-present.

Ajit Narang, Pharmaceutical Science graduate student, University of Tennessee, 2005-present.

Dr. Geetha Samak, University of Tennessee, 2006-present.

Dr. Noel Delos Santos, Pediatrics, University of Tennessee.

Hae-Jong Kim, Pediatrics University of Tennessee.

High school/undergraduate/medical students

Nikita Jones, 2006.

Clint Stanfil, 2006.

Jeralyn Powell, 2005

Treva, 2005

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Nichole Barnhart: Department of Physiology, University of Tennessee, Memphis, TN. 2004.

Ankita Baxi: Department of Physiology, University of Tennessee, Memphis, TN. 2000-2002.

Angelique White: Department of Physiology, University of Tennessee, Memphis, TN. 2001.

Pierre Carter: Department of Physiology, University of Tennessee, Memphis, TN. 2002-2003.

Andrew Shull: Department of Physiology, University of Tennessee, Memphis, TN. 2003.

Katie Atkinson, Department of Pediatrics, Medical University of South Carolina, Charleston, SC.

1998-2000.

Lewis W. Clayton, Department of Pediatrics, Medical University of South Carolina, Charleston, SC.

1999-2000.

Warris Mohammed, Department of Pediatrics, Medical University of South Carolina, Charleston, SC.

1999.

Karen Kracker, Department of Pediatrics, Medical University of South Carolina, Charleston, SC.

1999-2000.

Vijay Rao, Department of Pediatrics, Medical University of South Carolina, Charleston, SC. 1997.

Akshay Gupta, Department of Pediatrics, Medical University of South Carolina, Charleston, SC. 1997-

1998.

TEACHING RESPONSIBILITIES (during last eight years)

Medical Education

2000-present Physiology course for Dental students, University of Tennessee.

1996-2000 Course director: Biochemistry course, "Biochemistry of Reactive Oxygen Species and Antioxidants in Health and Disease", MUSC, Charleston, SC.

1998-2000 Faculty/Facilitator: Parallel curriculum/Problem-based Learning. MUSC, Charleston, SC.

Graduate Education

2004-present Lecturer and Course Director: Cell and Molecular Biology course (IP:843) for Interdisciplinary graduate students in Integrated Program in Biomedical Sciences, University of Tennessee, Memphis.

2005-present Lecturer and Course Director: Cell and Molecular Biology course (IP:803) for Pharmaceutical Science Graduate Program, University of Tennessee, Memphis.

2000-2005 Advanced Physiology (GI physiology), University of Tennessee, Memphis.

2000-present Dental physiology (Membranes and their electrical properties), University of Tennessee, Memphis, TN.

2000-2004 Lecturer and Course Director: Cell Biology – Bioc826, University of Tennessee, Memphis.

1996-2000 Graduate Teaching Faculty for graduate program in "Molecular Cell Biology and Pathobiology", Medical University of South Carolina, Charleston, SC.

1998-2000 Advanced Cell Biology (MCBP 723). Medical University of South Carolina, Charleston, SC.

1995-2000 Advisor and mentor: Research training of Graduate and Undergraduate students. Medical University of South Carolina, Charleston, SC.

Previous Teaching Activities:

1981 Enzyme chemistry (graduate course), Department of Biochemistry, M.S. University, India.

1981-83 Graduate Seminar Lecture Series, Department of Biochemistry, M.S. University, India.

1982 Physiology of the reproductive system (graduate course), Department of Biochemistry, M.S. University, India.

Enzyme chemistry: Laboratory course (graduate level), Department of Biochemistry, M.S. University, India.

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1993 Neuropharmacology (PCOL/PHCL 653)..

1992-1995 Graduate Teaching Faculty, "Graduate program in Pharmacology and Toxicology",
University of Arizona, AZ.

RESEARCH TRAINING OF FELLOWS, STUDENTS AND TECHNICIANS

1980-present

M.G. Murlidhar (Graduate student), M.S. University, India

Anjali Deo (Graduate student), M.S. University, India

Parimal Sheth (Graduate student), M.S. University, India

Merilyn Seroo (Graduate student), M.S. University, India

Cathy Williams (Research tech), University of Arizona, Tucson, AZ

Diana Davis (Research tech), University of Arizona, Tucson, AZ

Wuyi Kong (Graduate student), University of Arizona, Tucson, AZ

Huey-Huey Chang (Research tech), University of Arizona, Tucson, AZ

Stefanie Pepperl (Research tech), University of Arizona, Tucson, AZ

Yvan Lopez (Postdoctoral Fellow), University of Arizona, Tucson, AZ

David McCracken (Research Tech), University of Arizona, Tucson, AZ.

Vikram Cheeti (Undergraduate student), University of Arizona, Tucson, AZ

Ivan Molano (Research Specialist), Medical University of South Carolina

Melissa Holycross (Research Specialist), Medical University of South Carolina

Akshay Gupta (Medical Student), Medical University of South Carolina

Vijay Rao (Medical student), Medical University of South Carolina

John Engler (Student), Medical University of South Carolina

Katie Atkinson (Student), Medical University of South Carolina

Warren Clayton (Student), Medical University of South Carolina

Li Li (Research Specialist) MUSC, Charleston, SC

Jaya Vaidyanathan (Ph.D. student) MUSC, Charleston, SC

Quiwani Cox (Teacher Fellow, APS Frontiers in Physiology), Medical University of South Carolina.

Swapan K. Das (PDF), University of Tennessee, Memphis.

Madumita Das (PDF), University of Tennessee, Memphis.

Shyamali Basuroy (PDF), University of Tennessee, Memphis.

Hanan Tosson, (PDF), University of Tennessee, Memphis.

Parimal Sheth (PDF), University of Tennessee, Memphis.

Ankur Seth (Graduate student), University of Tennessee, Memphis.

Gautam Kale (Graduate student), University of Tennessee, Memphis.

Tarun Gheyi (Graduate student), University of Tennessee, Memphis.

Ajit Narang (Graduate student), University of Tennessee, Memphis.

Bertha Elias (PDF), University of Tennessee, Memphis.

Takuya Suzuki (PDF), University of Tennessee, Memphis.

Shailaja Raju (PDF), University of Tennessee, Memphis.

Noel Delos Santos (Assistant Professor

Geetha Samak (PDF)

Sudhir Aggarwal (Graduate student)

Suneet Jain (Graduate student)

Hae-Jong Kim (PDF)

INVITED LECTURES

(last 8 years)

1) Harvard University, Massachusetts General Hospital, Boston, MA. (Topic Molecular

- Organization of Epithelial Junctions). 1997
- 2) M. S. University of Baroda, India. (Role of GSH oxidation and Inhibition of Protein Tyrosine Phosphatase in Organization of Epithelial Junctions). 1999
- 3) Manipal Academy for Higher Studies, Manipal, India. (Molecular Organization of Epithelial Junctions). 1997
- 4) Harvard Medical School, Beth Israel Hospital, Boston, MA. (Topic: EGF mediated protection of the intestinal epithelium from oxidant injury). 1997
- 5) ROSS Products Division, ABBOTT Laboratories, Columbus, OH (topic: Milk-borne protection of the intestinal epithelium from oxidant-induced injury). 1998.
- 6) Invited lecturer for GI research Grand Rounds series, Digestive Disease Center, Medical University of South Carolina, Charleston, SC. -1998
- 7) Manipal Academy for Higher Studies, Manipal, India. (Role of Protein Phosphorylation in Organization of Epithelial Junctions). 1999.
- 8) M. S. University of Baroda, India. (Role of GSH oxidation and Inhibition of Protein Tyrosine Phosphatase in Organization of Epithelial Junctions). 1999
- 9) M. S. University of Baroda, India. (Mechanism of endotoxin absorption in alcoholism). 1999.
- 10) Baylor College of Medicine, Department of Medicine. (Role of protein tyrosine phosphorylation in regulation of epithelial tight junctions). July, 1999.
- 11) Department of Physiology, UT-MEM. (Role of protein tyrosine phosphorylation in regulation of epithelial tight junctions). December, 1999.
- 12) Invited speaker for Minisymposium on Permeability, Gene Delivery and Multi drug Transporters. MUSC, May 2000.
- 13) Sun Pharma research Centre, June, 2000. (Tight Junction Regulation in Alcoholism).
- 14) Sun Pharma research Centre, June, 2000. (Oral protein drug Delivery; role of tight junctions).
- 15) Sun Pharma pharmaceuticals, Baroda, India, 2002
- 16) Department of Biochemistry, M.S. University of Baroda, India, 2002.
- 17) Department of Biochemistry, Bangalore University, India, 2002.
- 18) Vascular Biology, University of Tennessee, Memphis, 2003.
- 19) Department of Pediatrics, Le Bonheur Children's Research Center, Memphis, 2003.
- 20) Department of Pharmacology, University of Arizona, Tucson, AZ, 2003.
- 21) "Regulation of Epithelial Tight Junctions by Signal Transduction" Sun Pharma Pharmaceuticals Advanced research Centre, Baroda, India, 2003.
- 22) "Intestinal Permeability and Endotoxemia in Alcoholic Liver Disease" Sun Pharma Pharmaceuticals Advanced research Centre, Baroda, India, 2003.
- 23) "Tools and techniques in study of cell biology" Sun Pharma Pharmaceuticals Advanced Research Centre, Baroda, India, 2003.
- 24) "Regulation of Epithelial Tight Junctions by Signal Transduction" Department of Biochemistry, M.S. University of Baroda, India, 2003.
- 25) "Tools and techniques in study of cell biology" Department of Biochemistry, M.S. University of Baroda, India, 2003.
- 26) "Regulation of Epithelial Tight Junctions by Signal Transduction" Biotechnology Centre, Indian Institute of Technology, Bombay, India, 2003.
- 27) "Intestinal Permeability and Endotoxemia in Alcoholic Liver Disease" Department of Biochemistry, Bangalore University (KIMS medical center, India, 2003.
- 28) Invited speaker, International Conference in Molecular Medicine, Baroda, India, 2004.
- 29) Invited guest speaker, 25th Annual Meeting of the Association of Toxicologists of India Trivandrum, India, 2004.

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- 30) University of Rochester, Rochester, NY. "Intestinal permeability and endotoxemia in alcoholic liver disease". 2004.
- 31) Seminar series, Department of Physiology, UT-Memphis, 2005.
- 32) University of Chicago, Chicago, IL. "Tight junctions, permeability, and Protein Phosphorylation". 2005.
- 33) International conference on Molecular Medicine, October, Baroda, India., 2006.
- 34) Visiting scientist speaker, Chitra Institute of Medical Technology, November, Trivandrum, India, 2006.

Invited Lectures (previous):

- 1) Nutritional sciences seminar series, University of Arizona Committee (topic: "Gastrointestinal processing and absorption of epidermal growth factor" 1989.
- 2) Cancer Research Institute, Bombay, India (topic: Role of gastrointestinal epidermal growth factor"). 1990
- 3) M.S. University of Baroda, India (topic: Role of gastrointestinal epidermal growth factor"). 1990
- 4) Mangalore University, India (topic: Role of gastrointestinal epidermal growth factor"). 1990
- 5) Kasturba Medical College, Manipal, India (topic: Role of gastrointestinal epidermal growth factor"). 1990
- 6) Miami valley laboratories, Proctor & Gamble, Cincinnati, OH (topic: "Biologically active peptides in the gastrointestinal lumen"). 1990
- 7) Pharmacology Guest Seminars, University of Arizona College of Medicine (topic: "Biologically active peptides in the gastrointestinal lumen"). 1991
- 8) Neonatal Nutrition Symposium (spon: Mead Johnson/ Bristol-Myers) (topic: "Presence of specific peptidase inhibitors in rat milk"). 1991
- 9) Central Drug Research Institute, Lucknow (topic: Gastrointestinal actions of epidermal growth factor). 1993
- 10) Christian Medical College, Vellore (topic: Gastrointestinal actions of epidermal growth factor). 1993
- 11) Kasturba Medical College, Manipal (topic: Gastrointestinal actions of epidermal growth factor). 1993
- 12) Indian Institute of Technology, Bombay, India (topic: Gastrointestinal actions of epidermal growth factor). 1993
- 13) Children's Hospital Los Angeles, University of Southern California, Los Angeles, CA (topic: Potential physiological significance of gastrointestinal luminal epidermal growth factor: Role in mucosal protection?). 1994
- 14) Physiology Guest Seminars, Department of Physiology, University of Arizona, Tucson, AZ (topic: Gastrointestinal actions of Epidermal Growth Factor). 1995
- 15) Research presentations, Gastroenterology/Medicine, Medical University of South Carolina, SC (topic: Role of epidermal growth factor in carcinogenesis). 1995
- 16) Seminars in Biochemistry and Molecular Biology. Department of Biochemistry and Molecular Biology, MUSC. (Topic: Regulation of the epithelial barrier function by tyrosine phosphorylation: role of epidermal growth factor receptor). 1996

PUBLICATIONS

Standard Peer-reviewed Journal Articles

- 1) Nayak R, **Rao R**, Pattabhiraman, TN: Studies on plant gums. I. Isolation and characterization of major polysaccharide from neem gum (*Azadirachta Indica*). Proc Indian Acad Sci 1978; 878: 261-9.
- 2) **Rao RK**, Ramakrishnan CV: Studies on inositol phosphatase in rat small intestine. Enzyme 1985; 33: 205-15.
- 3) **Rao RK**, Ramakrishnan, CV: Effects of neonatal undernutrition and subsequent nutritional rehabilitation or administration of thyroxine and hydrocortisone on the inositol phosphatase activities in rat intestine. J Pediatr Gastroenterol Nutr 1986; 5: 787-92.
- 4) **Rao RK**, Ramakrishnan CV: Inositol phosphatase activity in developing rat duodenum, jejunum and ileum. Biology of the Neonate 1986; 50: 165-70.
- 5) **Rao RK**, Thornburg, W, Korc M, Matrisian LM, Magun BE, Koldovsky O: Processing of epidermal growth factor by suckling and adult rat intestinal cells. Am J Physiol 1986; 250: G850-8.
- 6) Thornburg, W, **Rao RK**, Matrisian LM, Magun BE, Koldovsky O: Effect of maturation on gastrointestinal absorption of ¹²⁵I-epidermal growth factor in rats. Am J Physiol 1987; 253: G68-71.
- 7) Schaudies RP, Grimes J, Davis D, **Rao RK**, Koldovsky O: Epidermal growth factor content in the gastrointestinal tract of rats: effects of age and fasting/feeding. Am J Physiol 1988; 256: G858-61.
- 8) Koldovsky O, Bedrick A, **Rao RK**: Physiological functions of human milk hormones. Acta Paediatric Scandinavia 1989; 351: 94-6.
- 9) **Rao RK**, Koldovsky O, Davis TP: Inhibition of intestinal degradation of somatostatin by rat milk. Am J Physiol 1990; 258: G426-31.
- 10) **Rao RK**, Ramakrishnan CV: Effects of postweaning protein deficiency on inositol phosphatase activities in rat intestinal segments. J Pediatr Gastroenterol Nutr 1990; 11: 96-100.
- 11) **Rao RK**, Koldovsky O, Korc M, Pollack P, Davis TP: Processing and transfer of ¹²⁵I-epidermal growth factor in developing rat jejunum and ileum. Peptides 1990; 11: 1093-102.
- 12) Koldovsky O, Bedrick, A, **Rao RK**: Role of milk-borne prostaglandins and epidermal growth factor for the suckling mammal. J Am Coll Nutr 1991; 10: 17-23.
- 13) **Rao RK**: Biologically active peptides in the gastrointestinal lumen. Life Sciences 1991; 48: 1685-704.
- 14) **Rao RK**, Koldovsky O, Grimes J, Williams C, Davis TP: Regional differences in the gastrointestinal processing and absorption of epidermal growth factor in suckling rats. Am J Physiol 1991; 261: G790-8.
- 15) Kong W, Koldovsky O, **Rao RK**: Appearance of exogenous EGF in liver, bile, and small intestinal lumen of suckling rats. Gastroenterology 1992; 102: 661-8.
- 16) Koldovsky O, Philipps AF, **Rao RK**, Schaudies RP: Possible role of milk-borne peptide growth factors for the breast-fed infant. Front Gastrointestinal Res 1992; 21: 150-69.
- 17) Riviere P, **Rao RK**, Pascaud X, Junien JL, Porreca F: Neuropeptide Y, PYY and sigma ligands effects on intestinal ion transport *in vitro*. J Pharmacol Exp Ther 1993; 264: 1268-74.
- 18) **Rao RK**, Chang H-H, Levenson S, Brannon P, Davis TP, Koldovsky O: Ontogenic differences in the inhibition of gastric acid secretion by epidermal growth factor in rats. J Pharmacol Exp Ther 1993; 266: 647-54.
- 19) **Rao RK**, Koldovsky O, Davis TP: Metabolism of somatostatin in the rat duodenal lumen. Peptides 1993; 14:1199-204.
- 20) **Rao RK**, Lam K, Philipps AF, Koldovsky O: Presence of multiple forms of peptidase inhibitors in rat milk. J Pediatr Gastroenterol Nutr 1993; 17: 414-20.

- 21) Koldovsky O, Kong W, Philipps, AF, **Rao RK**: Studies on milk-borne insulin-like growth factor-1 and 2 (IGF-1 and IGF-2) and epidermal growth factor (EGF) in suckling rats. Endocrine Regulations. 1993; 27: 145-50.
- 22) **Rao RK**, Levenson S, Fang S-N, Hruba VJ, Yamamura HI, Porreca F: Characterization of SNF 9007, a novel CCK/opioid ligand, in mouse ileum *in vitro*: Evidence for involvement of CCK_A and CCK_B receptors in regulation of ion transport. J Pharmacol Exp Ther 1994; 268: 1003-9.
- 23) **Rao RK**, S. Levenson, Fang S-N, Hruba VJ, Yamamura HI, Porreca F: Role of substance P in CCK_A and CCK_B receptor mediated regulation of ion transport in mouse ileum. Ann New York Acad Sci 1994; 713: 420-1.
- 24) **Rao RK**, Riviere P, Pascaud X, Junien JL, Porreca F: Tonic regulation of mouse ileal intestinal ion transport by nitric oxide. J Pharmacol Exp Ther 1994; 269: 626-31.
- 25) **Rao RK**: Luminal processing of epidermal growth factor in gastrointestinal lumen *in vivo*. Peptides 1995; 16: 505-13.
- 26) Philipps AF, **Rao RK**, McCracken D, Lake M, Koldovsky O: Fate of oral insulin-like growth factors 1 and 2 in suckling rats. Pediatr Res 1995; 37: 586-92.
- 27) **Rao RK**, Pepperl S, Porreca F: Tonic suppression of gastric acid secretion by endogenous peptides in neonatal rats. Am J Physiol 1995; 369: G721-8.
- 28) **Rao RK**, Lopez Y, Lai J, Porreca F: Attenuation of gastrin-induced gastric acid secretion by treatment with antisense oligonucleotide to the CCK_B receptor. NeuroReport 1995; 6: 2373-7.
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