

## CURRICULUM VITAE

### PERSONAL INFORMATION:

Name: Raphael Jay Witorsch  
Born: December 12, 1941; New York City  
Marital Status: Married; two children; two grandchildren

### Contact Information:

Department of Physiology and Biophysics  
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[www.jurispro.com/RaphaelWitorsch](http://www.jurispro.com/RaphaelWitorsch)

### EDUCATION:

Yale University, New Haven, Conn., Ph.D. (Physiology), 1968  
(Thesis: "Evidence for acute ACTH release by extrahypothalamic mechanisms")  
Yale University, New Haven, Conn., M.S. (Physiology), 1965  
New York University, New York, N.Y., A.B. (Biology), 1963

### POSTDOCTORAL TRAINING:

Postdoctoral Fellow in Physiology, 1968 - 1970  
University of Virginia  
Charlottesville, Virginia

### ACADEMIC APPOINTMENTS:

Professor Emeritus of Physiology and Biophysics, 2010-present  
School of Medicine  
Medical College of Virginia  
Virginia Commonwealth University  
Richmond Virginia

Professor of Physiology and Biophysics, 1988-2009  
School of Medicine  
Medical College of Virginia (MCV)  
Virginia Commonwealth University (VCU)  
Richmond, Virginia

Affiliate Professor of Dentistry (MCV\VCU), 1988-2009  
Associate Professor of Physiology (MCV\VCU), 1979 - 1988  
Assistant Professor of Physiology (MCV\VCU), 1970 - 1979

#### MEMBERSHIP - SCIENTIFIC, HONORARY AND PROFESSIONAL SOCIETIES:

Society of Toxicology  
The Endocrine Society  
American Physiological Society  
Society for Experimental Biology and Medicine  
American Association for the Advancement of Science  
International Society for Regulatory Toxicology and Pharmacology (ISRTP)  
Virginia Academy of Science  
American Society of Andrology (inactive)  
Histochemical Society (inactive)  
Society of the Sigma Xi (inactive)

#### SPECIAL AWARDS, FELLOWSHIPS, AND OTHER HONORS:

##### Awards

Horace V. Stunkard Prize in Biology, New York University, 1963.  
Beta Lambda Sigma, Biological Honor Society, New York University, 1963.  
Delta Phi Alpha, National Honor Society for German Scholarship, 1963.  
Zeta Beta Tau Fraternity, Gamma Chapter Award for Academic Achievement, New York University, 1963.  
Society of the Sigma Xi, University of Virginia, 1969.  
NIH Postdoctoral Fellowship, 1969-1970.  
Award for Excellence in Teaching by First Year Medical Class, MCV, 1971.  
Award for Excellence in Teaching by Deans of Professional Schools, MCV, 1973.  
Honorable Mention: Dr. Heinz Karger Prize Competition for an original research paper in the area of "Cytological and histochemical approaches to the diagnosis of tumours," 1978.  
Award for "Outstanding Contributions to Medical Education", First Year Medical Class, MCV, 1979.  
Award for Teaching in Endocrine Course, First Year Medical Class, MCV, 1984.  
Award for Best Professor of Reproduction, First Year Medical Class, MCV, 1985.  
Award for Best Syllabus of the Year, First Year Medical Class, MCV, 1985.  
Award for Best Professor of Endocrinology/Reproduction, First Year Medical Class, MCV, 1986.  
Certificate of Appreciation in Recognition of Outstanding Service Given to the 1988 Metro Richmond State Employees Combined Charitable Campaign, 1988.

Acknowledgment from Endocrine Society for extra assistance with presentation of the 1989 Program and Meeting of the Society.

Faculty Member of the Year, Recognition Day Award, Physiology Graduate Student Association, 1992-1993.

Outstanding Teacher Award for High Evaluation in M-1 Physiology Course (2001-2002), School of Medicine, Medical College of Virginia of Virginia Commonwealth University.

Third Annual Stephen and Mary Krop Lectureship in Pharmacology, Georgetown University Medical Center, Washington, D.C., 2002.

Outstanding Teacher Award in the Department of Physiology (2003), School of Medicine, Medical College of Virginia of Virginia Commonwealth University.

Outstanding Teacher Award for High Evaluation in M-1 Physiology Course (2004-2005), School of Medicine, Medical College of Virginia of Virginia Commonwealth University.

Outstanding Teacher Award for High Evaluation in M-1 Physiology Course (2006-2007), School of Medicine, Medical College of Virginia of Virginia Commonwealth University.

Outstanding Teacher Award for High Evaluation in M-1 Physiology Course (2007-2008), School of Medicine, Medical College of Virginia of Virginia Commonwealth University.

Outstanding Teacher Award for High Evaluation in M-1 Physiology Course (2008-2009), School of Medicine, Medical College of Virginia of Virginia Commonwealth University.

Faculty Teaching Excellence Award, Virginia Commonwealth University School of Medicine, 2009. (School of Medicine's highest recognition for teaching).

Recognized for teaching accomplishments by the American Physiological Society as noted in the following article: Tipton, CM: A section devoted to profiles of renown teachers and to the recognition and accomplishments of physiology teachers within the society, *Adv Physiol Educ* 34: 163-166, 2010.

### Grants

Co-Investigator, "Biochemical Correlates with Human Breast Cancer"; NIH Grant CA-17116, May, 1975 to April 30, 1978, \$145,377.

Travel Grant from Endocrine Society to attend 58th Annual Meeting of Society in San Francisco, June, 1976.

Travel Grant from Endocrine Society to attend VI International Congress of Endocrinology, Melbourne, Australia, February 1980.

Principal Investigator, "Prolactin Binding in Human Breast and Prostate Cancers", Developmental Grant from NIH to MCV Cancer Center, March 1, 1979 to March 30, 1980, \$3,000.

Principal Investigator, "Prolactin Binding in Normal and Neoplastic Prostate", NIH Grant CA-23653, August 1, 1978 to July 31, 1981, \$73,245 (Direct Costs).

Principal Investigator, "Prolactin Binding in Normal and Neoplastic Prostate", NIH Grant CA-23653, August 1, 1981 to Dec. 30, 1985, \$167,732 (Direct Costs).

Principal Investigator, "Effects of oral erythrosine (FDC Red Dye No. 3) on thyroid function in man and rats." Contract sponsored by Tri-Valley Growers of California. September 1, 1984 to December 1, 1987, \$44,714.

Principal Investigator, "The role of placental lactogen in alcohol-induced intrauterine growth retardation." Grant from the Butler Fund of the Medical College of Virginia Foundation, January 1, 1989 to December 31, 1989, \$4,053.

Principal Investigator, "The role of placental lactogen in alcohol-induced intrauterine growth

retardation," Jeffress Research Grant, Thomas F. Jeffress and Kate Miller Jeffress Memorial Trust, Sovran Bank, N.A., January 1, 1989 to December 31, 1990, \$52,750.

Principal Investigator, "Elucidation of the antilympholytic effect of prolactin," Gustavus and Louise Pfeiffer Research Foundation, April 1, 1991 to March 31, 1992, \$33,186.

Principal Investigator, "Structure-function studies of prolactin proliferative and anticytolytic actions," Virginia Commonwealth University Grants-in-Aid, July 1, 1992 to June 30, 1993, \$7,000.

Principal Investigator, "The role of p53, bcl-2, and bax in the control of apoptosis of Nb2 lymphoma cells," Grant from the A.D. Williams Fund of the Medical College of Virginia, April 1, 1996 to December 31, 1997, \$10,000.

Principal Investigator, "Mechanisms of apoptosis and anti-apoptosis," Center for Alternatives to Animal Testing (CAAT), Johns Hopkins University School of Hygiene and Public Health, February 1, 1998 to January 30, 1999, \$5,000.

Principal Investigator, "Hormonal modulation of p53, bcl-2, and bax and apoptosis control in Nb2 lymphoma cells," Grant from Thomas F. Jeffress and Kate Miller Jeffress Memorial Trust, NationsBank, N.A., July 1, 1996 to June 30, 2002, \$30,000.

Principal Investigator, "G-screen microassay for the identification of xenogluocorticoids, Grant from the Thomas F. Jeffress and Kate Miller Jeffress Memorial Trust, Bank of America, July 1, 2003 to June 30, 2011, \$45,000.

Recipient, grant associated with 2009 Faculty Teaching Excellence Award for scholarship and education development, \$3,000.

#### Invited Seminars and Papers, Session Chairs

Invited speaker: Symposium on Hormone Receptor Immunocytochemistry, Twenty-ninth annual meeting of the Histochemical Society, Vancouver, B.C., April, 1978.

Invited author: September, 1979 symposium issue on genitourinary disease in the journal, "Human Pathology".

Invited speaker: Columbia University Reproductive Endocrinology Lecture Series, June, 1980.

Invited speaker: National Prostatic Cancer Project Workshop on the Prostatic Cell. Roswell Park Memorial Institute, Buffalo, New York, March, 1981.

Invited speaker: National Prostatic Cancer Project Conference on Prostate Cancer. A Decade of Progress and New Horizons. Bethesda, Maryland, January, 1984.

Invited speaker: Department of Anatomy, University of Minnesota, Minneapolis, Minnesota, February 1984.

Invited speaker: Symposium on Male Reproductive Toxicology, "Use of gonadotropic hormones and sex steroids in assessing male reproduction". Annual Meeting of the American College of Toxicology, November, 1985.

Invited speaker: "The use of gonadotropic hormone and gonadal steroids in the assessment of male reproduction." Biology Department, James Madison University, Harrisonburg, Virginia, January, 1986.

Invited author: "Prolactin Receptors". In Peptide Receptors, M. Kalimi and J. Hubbard, editors, Walter de Gruyter & Co., 1987.

Invited speaker: "Environmental tobacco smoke and pulmonary function in children", Indoor Air Pollution Advisory Group, Center for Environmental Health and Human Toxicology, Washington, D.C., January 14, 1988.

Invited author: "Immunohistochemical and biochemical studies of the prolactin-prostate

- interrelationship.” In: Prolactin and Lesions in the Breast, Prostate and Uterus, H. Nagasawa, editor, CRC Press, 1989.
- Invited author: Review article entitled, "A critical analysis of the relationship between parental smoking and pulmonary performance in children." *Zeitschrift fur Das Offentliche Gesundheitswesen*, 1989.
- Invited speaker: "Effects of environmental tobacco smoke on respiratory and cardiovascular systems," Association for Research on Indoor Air, September 2, 1989, Hong Kong.
- Invited speaker: "Parental smoking and respiratory health and pulmonary function in children: A review of the literature and suggestions for future research," International Symposium on Environmental Tobacco Smoke, McGill University, Montreal, Canada, November 4, 1989.
- Invited author: "Receptors, receptor regulation, membrane fluidity, and prolactin processing." The Prostate as an Endocrine Gland. W.E. Farnsworth and R. Ablin, editors, CRC Press, Inc. 1989.
- Invited speaker: "Prolactin studies in prostate, mammary gland, and Nb2 lymphoma cells," Prolactin Gordon Conference, Oxnard, California, February 1, 1990.
- Invited speaker: "Prolactin-glucocorticoid interactions on Nb2 lymphoma cells," R.W. Johnson Pharmaceutical Research Institute, Raritan, New Jersey, November 30, 1990.
- Invited speaker: "Prolactin-glucocorticoid interactions on Nb2 lymphoma cells," Neuropharmacology Branch, Department of Medical Neurosciences, Walter Reed Army Institute of Research, Walter Reed Army Medical Center, Washington, D.C., March 15, 1991.
- Invited speaker: "Apoptosis: Hormonal control and role in chemotherapeutic agent mediated cytotoxicity," Population Council, Rockefeller University, New York, New York, February 3, 1994.
- Invited speaker: "Mechanisms of apoptosis and anti-apoptosis", Center for Alternatives to Animal Testing (CAAT), Johns Hopkins University School of Hygiene and Public Health, Baltimore, Maryland, February 25, 1998.
- Session Chair, Apoptosis II, 37th Annual Meeting of the Society of Toxicology, Seattle, Washington, March 3, 1998.
- Invited speaker: "Endocrine disruption - history, fact and fantasy of gender bending chemicals." Third Annual Stephen and Mary Krop Lectureship in Pharmacology, Georgetown University Medical Center, Washington, D.C., November 22, 2002.
- Invited speaker: "Physiological role and toxicological effects of glucocorticoids on reproduction." Continuing Education Course "The effects of non-reproductive hormones on the reproductive system, and the implications for toxicology." Society of Toxicology Annual Meeting, Salt Lake City, Utah, March 9, 2003.
- Session Chair, Endocrine Disruptors, 45<sup>th</sup> Annual Meeting of the Society of Toxicology, San Diego, California, March 8, 2006.
- Invited speaker: "Is There a Place for a Physiologist in Toxicology." Student Day Symposium: "Life After Graduation: Stretching Your Degree to the Max." National Capital Area Chapter, Society of Toxicology, Virginia Bio-Technology Research Park, Virginia Commonwealth University, January 23, 2008.
- Invited speaker: Keynote Presentation - "The Endocrine System: Overview and Some Issues to Consider in Endocrine Disruption." Workshop: "Conducting and Assessing the Results of Endocrine Screening." International Society of Regulatory Toxicology and Pharmacology (ISRTP), National Institutes of Health, Bethesda, Maryland, February 20,

2008.

Visiting Professor of Physiology (13 lectures on endocrine/reproduction to first year medical students), American University of the Caribbean (AUC), Cupecoy, St. Maarten, Netherland Antilles, August 28 to September 19, 2009.

Invited speaker: Keynote Presentation - "The Endocrine System. Overview and Its Relevance to EDSP Screening." (video presentation). Workshop: "The Endocrine Disruptor Screening Program: What Can Screening Results Tell Us About Potential Adverse Endocrine Effects?" International Society of Regulatory Toxicology and Pharmacology (IS RTP), National Institutes of Health, Bethesda, Maryland, September 9, 2009.

Invited speaker: "Endocrine Disruption and Personal Care Products", Environmental Workshop, 2009 Sciences Symposium. "Environmental Assessment for Personal Care Products", Personal Care Products Council, Airport Marriott Hotel, Newark, New Jersey, October 29, 2009

Invited speaker: "Endocrine Disruption and Personal Care Products", Workshop: Current Issues in Safety Assessment, 2009 Sciences Symposium. "Environmental Assessment for Personal Care Products", Personal Care Products Council, Airport Marriott Hotel, Newark, New Jersey, October 29, 2009.

Invited speaker: "Can Tier 1 Test Data Inform Priority Setting for Human Health Risk Assessment", Workshop on Scientific Methods for Evaluating EDSP Screening Data & Estimating Dose-Response for Endocrine Disruption, Annual Meeting of the Society for Risk Assessment, Renaissance Baltimore Harborplace Hotel, Baltimore, Maryland, December 6, 2009.

Visiting Professor of Physiology (10 lectures on endocrine/reproduction to first year medical students), Trinity University School of Medicine, St. Vincent, British West Indies, January 25 to February 5, 2010.

Invited speaker: "Endocrine Disruption and Personal Care Products", Webinar: "Endocrine Disruption and Personal Care Products-Science and Regulatory Developments," Personal Care Products Council, July 21, 2010.

## MAJOR COMMITTEES:

### University

M-I Endocrine Curriculum, 1970-1972, 1984-1987.

M-II Endocrine Curriculum, 1970-1971.

M-II Reproduction Curriculum, 1971-1972.

Biological Seminar, Physiology Department Representative, 1971-1972.

Faculty Senate Student Affairs Committee, 1971-1972.

Physiology Department Animal Care, 1971-1972.

Dental Physiology Course, Chairman, 1972-1974, 1980.

Adrenal Section, M-I Endocrine Curriculum, Chairman, 1972-1973.

Adrenal Section, Endocrine-Reproduction Curriculum, Chairman, 1973-1974.

Graduate Committees for several Ph.D. and M.S. candidates in Physiology, Pharmacology, Biochemistry, Anatomy, Microbiology, 1970-present.

Physiology Department Promotions and Tenure Committee, 1975-1976.

Coordinator Medical School Orientation Program for Virginia State College premedical students, 1975-1976.

Steering Committee, School of Medicine Self-Study, MCV, 1976.  
 Physiology Department Professional Education Committee, 1975-1977.  
 Medical School Promotions Committee (non-voting member), 1974-1977.  
 M-I Reproduction Curriculum, 1977-1987.  
 School of Basic Sciences Committee on Committees, 1979-1982.  
 School of Dentistry Admissions Committee, 1979-1982.  
 School of Dentistry Class Committee, 1979-1980.  
 Tenure and/or Promotions Committees for several faculty members, 1978-present.  
 School of Basic Sciences Faculty Committee For Self Study, 1982-1983.  
 Graduate Course in Endocrine Physiology, Director, 1982, 1987, 1992.  
 Faculty Senate, 1983-1986.  
 Faculty Senate Committee on Academic Programs and Research, Chairman, 1983-1985.  
 University Radiation Safety Committee, Subcommittee on Research Use of  
     Radioisotopes, 1983-1984.  
 Search Committee for Chairman, Department of Physiology & Biophysics, MCV, 1985.  
 Judging Committee, 13th Annual John C. Forbes Graduate Students Honors Day, 1985.  
 University Grievance and Appeals Panel, 1985-1988.  
 Department of Physiology Committee on Core Curriculum, 1986-1989.  
 Department of Physiology Committee on Affiliate Appointments, 1986-1989.  
 American Cancer Society Institutional Grant Review Committee, 1986-1990.  
 Reproduction Subject Matter Committee, MI to MIV, 1987.  
 School of Basic Health Sciences Committee on Dental Curriculum, 1987-1995.  
 School of Basic Health Sciences, School Grievance and Appeals Board, 1989-1992 (acting chair,  
     1990).  
 Judging Committee, Kinloch Nelson Honors Day, School of Medicine, 1989.  
 School of Medicine Student Research Committee, Medical Class of 1993, 1989-1993.  
 School of Medicine Appeals Committee for Students, 1990-1993, Acting Chairman, 1991-1992.  
 Physiology Department Graduate Student Steering Committee, 1992-1994.  
 Physiology Department, Faculty Liaison with Chair, 1994-1996.  
 Physiology Department, Graduate Admissions Committee, 1974-1986, 1994-2008.  
 Physiology Department Seminar Series, Chairman, 1979; 1983-1984, 1991-1992, 1994-1995.  
 School of Medicine, Committee on Curriculum Renewal, Subcommittee on Women's Health,  
     1997.  
 School of Dentistry, Implementation Committee for Basic Science Curriculum for Dental  
     Residents, 1999-2009.  
 School of Medicine, Internal Review Committee, Department of Otolaryngology Residents  
     Programs, 2002.  
 School of Dentistry, D1 Class Committee, 2002-2009.  
 School of Dentistry, Academic Performance Committee, 2004-2009.  
 Department of Physiology and Biophysics, Executive Education Committee, 2008-2009.  
 Department of Physiology and Biophysics, Teaching Leadership Committee, 2008-2009.  
 School of Medicine Teaching Excellence Awards Selection Committee, 2010-2012.

### Professional

*Ad Hoc* Consultant, National Heart and Lung Institute Institutional Research Fellowship Grant  
 Application Review Committee, 1976.

*Ad Hoc* manuscript reviewer for Endocrinology, Endocrine Journal, Journal of the National Cancer Institute, The Prostate, Journal of Histochemistry and Cytochemistry, Cancer Research, Proceedings of the Society for Experimental Biology and Medicine, Science, Journal of Andrology, Neuroendocrinology, Life Sciences, Food and Chemical Toxicology., Experimental Cell Research, Hormone and Metabolic Research, Archives of Biochemistry and Biophysics, Cellular and Molecular Biological Research, American Journal of Respiratory Cell and Molecular Biology, Immunotoxicology, Agency for Toxic Substances and Disease Registry (ATSDR). Molecular Carcinogenesis, Journal of Toxicology and Environmental Health, Science World.

*Ad Hoc* book proposal reviewer for CRC Press, Wiley.

*Ad Hoc* Grant reviewer for National Science Foundation, National Prostatic Cancer Project, National Institutes of Health, American Osteopathic Association, North Dakota Experimental Program to Stimulate Competitive Research (EPSCoR), NationsBank (Jeffress Memorial Trust), Department of Veterans Affairs, Agency for Toxic Substances and Disease Registry (ATSDR) for Association of Minority Health Professions Schools, Ohio Cancer Research Associates.

Special Study Section, National Institutes of Health, March 29, 1982.

Member, Indoor Air Pollution Advisory Group, Center for Environmental Health and Human Toxicology, Washington, D.C., 1985-1988.

External Reviewer of Peer Review Panel Report entitled, "An Inquiry Into the Mechanism of Action of FD&C Red No.3", submitted to the Commissioner of Food and Drug, December, 1986.

Public Relations Committee, American Society of Andrology, 1985-1988.

Liason Committee, American Society of Andrology, 1987-1988.

Development Committee, Endocrine Society, 1987-1992.

Panel Member (Grant reviewer), Special Emphasis Panel (SEP), Role of Hormones and Growth Factors in Prostate Cancer, RFA: DK-01-008, National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health, August 23, 2001.

Editorial Board, PROCEEDINGS OF THE SOCIETY FOR EXPERIMENTAL BIOLOGY AND MEDICINE, 1990-1996.

Editorial Board, THE PROSTATE, 1986-2000.

Editorial Board, TOXIC SUBSTANCE MECHANISMS, 1996-2002.

Editorial Board, TOXIC MECHANISMS AND METHODS, 2002-present.

Allocations Committee, Jeffress and Gwathmey Memorial Trusts, Virginia Academy of Science Representative, 2008-present, Chair (2009).

Principal Editor, The Science World (TSW), Terrestrial Environmental Toxicology and TSW Toxicology Cluster, 2009-present.

#### OTHER SIGNIFICANT SCHOLARLY RESEARCH OR ADMINISTRATIVE EXPERIENCE:

##### Graduate Students Trained

J. Travers Edwards, Jr., M.S., 1972

(Thesis: "The effects of prolactin and growth hormone on adrenal 5 $\alpha$ -reductase in the rat.").

Jeanne P. Smith, M.S., 1977

(Thesis: "An immunohistochemical localization of prolactin binding sites in rat ventral

- prostate epithelia.”).
- Robert S. Vick, Ph.D., 1986  
(Thesis: “Isolation and characterization of cleaved prolactin generated by target tissue.”).
- Vicky Lien Ying Wong, Ph.D., 1986  
(Thesis: “Proteolytic cleavage of prolactin by target tissues with special emphasis on rat mammary gland.”).
- Susan E. Fletcher, Ph.D., 1991  
(Thesis: “Prolactin-glucocorticoid interactions in Nb2 lymphoma cells.”).
- Neda Hashemi, M.S., 1993  
(Thesis: “The role of apoptosis in mediation of antineoplastic agent-induced cytotoxicity.”).
- Holly Lavoie, Ph.D., 1994  
(Thesis: “Investigation of intracellular signals mediating the anti-apoptotic action of prolactin in Nb2 lymphoma cells.”).
- Angelo Guanzon, M.S., 1998  
(Thesis: “Immunocytochemical study of apoptosis signaling in Nb2 lymphoma cells.”).
- Suhas Badarinath, M.S., 1999  
(Thesis: “Examination of signals involved in dexamethasone induced apoptosis in Nb2 lymphoma cells.”).
- Devang Patel, M.S., 1999  
(Thesis: “Correlation of visualized glucocorticoid receptor and apoptosis in individual clones of Nb2 cells.”).
- Rhodaine Rebano, M.S., 2000  
(Thesis: “Hormonal control of apoptosis and signal expression in sublines of Nb2 lymphoma cells.”).
- Charlotte Cockrell, M.S., 2000  
(Thesis: “Functional characterization of mitogen-dependent and self perpetuating Nb2 lymphoma cell lines.”).
- Elizabeth Gannon, M.S., 2001  
(Thesis: “Modification and analysis of prolactin dependent and glucocorticoid sensitive Nb2 lymphoma cells.”).
- Gennifer Wiltshire, M.S. 2001  
(Thesis: “A comparative study of signal expression in Nb2 lymphoma sublines using immunocytochemistry.”).
- John Shurm, Jr. Ph.D. 2002  
(Thesis: “Identification of glucocorticoid receptor mediated interactions with non-steroidal environmental chemicals”).
- Christopher Jones, M.S., 2004  
(Thesis: “A microassay for the detection of glucocorticoid receptor activity in non-steroidal chemicals”).

#### Postdoctoral Trainees

- Mark M. Compton, Ph.D., December, 1979 to August, 1983  
Jitendra R. Dave, Ph.D., December, 1981 to October, 1983

## Major Teaching Assignments

MI Endocrine-Reproduction, 1970-present

Physiology 502, Dental Physiology, 1970-2001 (Course Director 1972-1974, 1980).

Physiology 607 (617), Graduate Endocrine Physiology/Cell Signaling, 1982 - present (taught Fall semester of alternate years), Course Director 1984, 1988, 1992, 1996, 2000.

Physiology 361, Nursing Pathophysiology, 1985-1990 (Director, 1987).

Physiology 461, Physiology for Physical Therapists, 1989-1993..

Physiology 505, Physiology for Industrial Hygienists 1988-1993.

Associate Coordinator, First Year Medical Curriculum, MCV, 1974-1975.

Coordinator, First Year Medical Curriculum, MCV, 1975-1977.

Member of Ad Hoc Medical Curriculum Steering Committee acting in lieu of Dean of Curriculum, MCV, 1975-1976.

Seminar in Physiology (Director, 1979, 1983-84, 1991-92, 1994).

Review for Medical Board Examinations, National Medical School Review, University of South Florida, Tampa, Florida, May, 1994.

Physiology 502/506, Dental and Pharmacy Physiology, Course Director, 2002-2008.

Physiology 502, Dental Physiology, Course Director, 2009.

## BIBLIOGRAPHY:

### Papers published (in peer reviewed journals)

Witorsch, R.J. and A. Brodish: Conditions for the reliable use of lesioned rats for the assay of CRF in tissue extracts. *Endocrinology* 90:552-557, 1972.

Witorsch, R.J. and A. Brodish: Evidence for acute ACTH release by extra-hypothalamic mechanisms. *Endocrinology* 90:1160-1167, 1972.

Witorsch, R.J. and J.I. Kitay: Influence of the ovary, pituitary and age on adrenal 5 alpha-reductase activity in the rat. *Endocrinology* 90:1374-1379, 1972.

Witorsch, R.J. and J.I. Kitay: Pituitary hormones affecting adrenal 5 alpha-reductase activity: ACTH, prolactin and growth hormone. *Endocrinology* 91:764-769, 1972.

Leftwich, E.I., R.J. Witorsch and P. Witorsch: A critical evaluation of positive end-expiratory pressure in refractory hypoxemia. *Annals of Internal Medicine* 79:187-193, 1973.

Colby, H.D., R.J. Witorsch, J.L. Caffrey and J.I. Kitay: Effects of steroid suppression and gonadectomy on adrenal 5 alpha-reductase activity and corticosterone production in rats. *Acta Endocrinologica* 74:568-575, 1973.

Poland, J.L., T.D. Myers, R.J. Witorsch and R.B. Brandt: Steroid influence on cardiac glycogen. *Proc Soc Exp Biol Med* 150:148-150, 1975.

Witorsch, R.J. and J.T. Edwards: Comparison of effects of prolactin and growth hormone on adrenal 5 alpha-reductase in hypophysectomized rats. *Proc Soc Exp Biol Med* 151:689-693, 1976.

Nolin, J.M. and R.J. Witorsch: Detection of endogenous immunoreactive prolactin and rat mammary epithelial cells during lactation. *Endocrinology* 99:949-958, 1976.

Brown, P.W., R.J. Witorsch, W.L. Banks, Jr., and W. Lawrence: A convenient method for freezing and storage of breast cancer tissue for estrogen receptor protein assay. *Arch Surg* 112:183-185, 1977.

Witorsch, R.J. and J.P. Smith: Evidence for androgen-dependent intracellular binding of

- prolactin in rat ventral prostate gland. *Endocrinology* 101:929-928, 1977.
- Witorsch, R.J.: Immunohistochemical studies of prolactin binding in sex accessory organs of the male rat. *J Histochem Cytochem* 26:565-580, 1978.
- Witorsch, R.J.: Immunohistochemical demonstration of intracellular prolactin binding sites (IPBS) in R3327 rat prostatic carcinomas. *Hormone Res* 10:268-281, 1979.
- Witorsch, R.J.: The application of immunoperoxidase methodology for the visualization of prolactin binding sites in human prostate tissue. *Human Pathology* 10:521-532, 1979.
- Cohen, I.K., C.W. Moncure, R.J. Witorsch and R.F. Diegelmann: Collagen synthesis in capsules surrounding dimethylbenzanthracene-induced rat breast tumors and the effect of pretreatment with beta-aminopropionitrile. *Cancer Research* 39:2923-2927, 1979.
- Witorsch, R.J.: Evidence for human placental lactogen immunoreactivity in rat pars distalis. *J Histochem Cytochem* 28:1-9, 1980.
- Witorsch, R.J.: Evaluation of immunoperoxidase stained tissue sections with an electrophoresis densitometer. *J. Histochem Cytochem* 30:179-182, 1982.
- Witorsch, R.J.: Regional variations in the testicular dependence of prolactin binding and its possible relationship to castration-induced involution in rat prostate gland. *The Prostate* 3:459-473, 1982.
- Dave, J.R. and R.J. Witorsch: Increased detection of prolactin binding of rat ventral prostate after treatment with dextran-coated charcoal: Evidence for a direct dihydrotestosterone-prolactin interaction. *Endocrinology*. 111:2144-2146, 1982.
- Dave, J.R. and R.J. Witorsch: Indomethacin decreases both prolactin binding and membrane fluidity of ventral and dorso-lateral lobes of rat prostate gland. *The Prostate*, 4:119-128, 1983.
- Compton, M.M. and R.J. Witorsch: Proteolytic fragmentation of rat prolactin by the ventral prostate gland. *The Prostate* 4: 231-246, 1983.
- Dave J.R. and R.J. Witorsch: Modulation of prolactin binding sites in vitro membrane fluidizers. I. Effects on adult rat ventral prostatic membranes. *Biochem Biophys Res Communications* 113:220-228, 1983.
- Dave J.R. and R.J. Witorsch: Indomethacin decreases both luteinizing hormone binding and fluidity of testicular microsomal membranes in rat. *Prostaglandins, Leukotrienes and Medicine* 12:371-380, 1983.
- Dave, J.R. and R.J. Witorsch: Modulation of prolactin binding sites in vitro by membrane fluidizers. II. Age-dependent effects in rat ventral prostatic membranes. *Biochim. Biophys. Acta*, 772:321-327, 1984.
- Abbey, L.M. and R.J. Witorsch: Prolactin binding in normal minor salivary gland tissue. An immunohistochemical study. *Oral Surgery, Oral Medicine, and Oral Pathology*. 58:682-687, 1984.
- Compton, M.M. and R.J. Witorsch: Proteolytic degradation and modification of rat prolactin by subcellular fractions of the rat ventral prostate gland. *Endocrinology*, 115:476-484, 1984.
- Dave, J.R. and R.J. Witorsch: Prolactin increases serum lipid fluidity and prolactin binding and lipid fluidity of rat prostatic membranes. *American J Physiol* 248 (Endocrinol. Metab. 11): E687-E693, 1985.
- Abbey, L.M. and R.J. Witorsch, Prolactin binding in minor salivary gland tumors. *Oral Surgery, Oral Medicine, and Oral Pathology* 60:44-49, 1985.
- Dave, J.R., R.J. Witorsch and M.Y. Kalimi: Endocrine mediated parallel changes in hepatic glucocorticoid and prolactin receptors. *Biochim Biophys Acta* 845:276-282, 1985.
- Dave, J.R., R.J. Krieg, Jr., and R.J. Witorsch: Modulation of prolactin binding sites in vitro by

- membrane fluidizers. III. Effects on male prostatic and female hepatic membrane in alcohol-fed rats. *Biochim Biophys Acta* 816: 313-320, 1985.
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#### Technical reports

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- Witorsch, R.J., D.F. Gardner, L.E. Braverman, S.L. Schwartz: Supplemental report on studies of the effects of erythrosine on thyroid function in normal men: Effect of low doses of iodide on thyroid function in normal men. Submitted to FDA, July, 1985.

#### Other

- My immunohistochemical approach to the study of hormone receptors was discussed (including photomicrographs) in the second and third editions of "Immunocytochemistry" by L.A. Sternberger, John Wiley and Sons, New York, 1979, 1986.
- Participant: Training Workshop on Hybridomas and Monoclonal Antibodies, Medical College of Virginia, April 6-7, 1984.
- Panelist: Panel discussion by outstanding lecturers on "The Faculty as Teachers"; Orientation for New Faculty, MCV/VCU School of Medicine, September 18, 1984.
- Member: MCV Cancer Center, 1986-1990.
- Organizing committee: Prolactin and Immune Function Working Group, February, 1990.
- Consultant/expert witness on general and endocrine physiologic and reproductive abnormalities that may result from potential environment health hazards. Consultation has been given with regard to the following issues: effects of agent orange, trichloroethylene, polychlorobiphenyls (PCBs) and related compounds, perflourocarbons (PFCs), ethylene oxide, formaldehyde, environmental tobacco smoke, alcohol; Red Dye No. 3 and thyroid function; polydimethylsiloxanes (silicones) and breast cancer; oral contraceptives and cerebrovascular effects; estrogens, alcohol, and breast cancer; bisphenol A and endocrine disruption; arsenic toxicity, statins, anabolic steroids.

I have been quoted with regard to endocrine disruption in the following articles:

“Tea bone stakes.” David Adam. 7 April 2000. Nature. Science Update.  
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“BPA Addendum: Witorsch questions human relevance of low dose research on mice.  
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