Executive Summary

Fredric Edward Wondisford, M.D., M.S., M.B.A.

Valley of the Sun Endowed Professor of Medicine and Dean, University of Arizona College of Medicine–Phoenix

Distinguished physician-scientist and academic leader with over 30 years of experience in academic medicine, clinical innovation, and strategic institutional transformation. Proven track record of driving growth in research funding, faculty recruitment, clinical service, philanthropy, and operational excellence across leading academic health centers, including Harvard University, the University of Chicago, Johns Hopkins University, Rutgers University, and the University of Arizona.

Leadership & Strategic Vision

- Founded the first NIH-funded Diabetes Research and Training Center at Johns Hopkins University in collaboration with the University of Maryland.
- Spearheaded transformative growth at Rutgers Medical School, expanding faculty from 53 to 154 and increasing NIH funding 15-fold.
- As Dean of the University of Arizona COM–Phoenix, led the planning and development of the 2025–2030 Strategic Plan focused on clinical integration, translational research, rural medical education, philanthropy, and operational efficiency.
- Established Arizona's first rural regional medical campus in Yuma, opening in 2026, and the first allopathic regional medical campus on tribal land at Gila River, planned to open in 2027.

Research & Innovation

- Authored over **190 peer-reviewed publications** (H-index: 79) in endocrinology, diabetes, and metabolism.
- Principal Investigator on **$41.5M+ in NIH funding**, including multiple R01, T32, and P60 grants.
- Inventor of **Thyrogen®**, a recombinant TSH that transformed thyroid cancer care and became one of the NIH's top commercial successes.
- Holds multiple patents, including recent innovations in metabolic disease therapies; founded biotech startup Hetrel Technologies.

Education & Mentorship

- Mentored **77+ trainees**, with 57% advancing to academic leadership roles.
- Directed NIH training grants and developed curricula at Harvard, Johns Hopkins, Rutgers, and international programs in Malaysia and Australia.
- Recruited over 250 faculty scientists and clinicians in my capacities as section chief, division chief, institute director, department chair, and dean, including 11 division chiefs and five department chairs.
- Recipient of prestigious teaching awards, including the **Sidney H. Ingbar Distinguished Lectureship** and **W. Barry Wood Jr. Award**.

Financial & Operational Excellence

- Eliminated $8.5M departmental deficit at Rutgers; increased outpatient visits by 160% and added $15M to reserves.
- At COM–Phoenix, grew revenues from $155M to $200M and reserves from $123M to $150M through strategic partnerships and administrative restructuring.
- Raised **$90M+ in philanthropy** from individuals and institutions, supporting diabetes research, transplant programs, and regional campus development.

Partnerships & Community Engagement

- Built strategic alliances with major health systems, including RWJBarnabas Health and Banner Health.
- Member of the Academic Management Council and Phoenix Biosciences Core Advisory Council.
- Advocated for inclusive medical education and community-based care, including student-run clinics and Federally Qualified Health Center partnerships.

Governance & Culture Transformation

- Led cultural and operational turnaround at COM-P, transitioning from remote to flexible in-office work, improving stakeholder satisfaction, and reducing costs.
- Fostered collaborative governance through town halls, stakeholder interviews, and shared strategic planning.

Strategic Vision

Dr. Wondisford's career reflects a commitment to advancing academic medicine through strategic growth, translational research, inclusive mentorship, and community. His leadership has consistently aligned institutional missions with measurable outcomes in education, research, and clinical excellence.

October 17, 2025

CURRICULUM VITAE

Fredric Edward Wondisford, M.D., M.S., M.B.A.

DEMOGRAPHIC AND PERSONAL INFORMATION

Current Appointment:

Valley of the Sun Endowed Professor of Medicine and Dean
University of Arizona College of Medicine-Phoenix

Address:

The University of Arizona College of Medicine-Phoenix
Dean's Suite 1060
475 N. 5th Street
Phoenix, AZ
Tel 602-827-2066 (office); Cell 773-307-5416
E-mail: fwondisford@arizona.edu; fwondis1@gmail.com

Education and Training:

Undergraduate:

1977-1979 B.S. (summa cum laude), Youngstown State University, Biology, and Chemistry Major

Graduate:

1979-1983 M.D. (Alpha Omega Alpha), Northeastern Ohio College of Medicine
2020-2022 M.S. (with distinction) in Health Policy Research, Weill Medical College, Cornell University
2020-2022 M.B.A. (with distinction) in Healthcare Management and Leadership, Johnson College of Business, Cornell University

Postgraduate:

1983-1984 Department of Medicine, University Hospitals of Cleveland and Case Western Reserve University Medical School, Cleveland, OH, internship in internal medicine
1984-1986 Department of Medicine, University Hospitals of Cleveland and Case Western Reserve University, Cleveland, OH, residency in internal medicine
1986-1988 Medical Staff Fellow, MCNEB, NIDDK, NIH, Bethesda, MD, endocrinology research Fellowship
1988-1990 Senior Staff Fellow, MCNEB, NIDDK, NIH, Bethesda, MD, endocrinology research Fellowship

Professional Experience:

1985-1987 Adjunct Instructor, Department of Biochemistry, Northeastern Ohio Universities College of Medicine
1990-1992 Assistant Professor of Medicine, Case Western Reserve University Medical School, Cleveland, OH
1992-1996 Assistant Professor of Medicine, Harvard Medical School, Boston, MA
1996-2000 Associate Professor of Medicine, Harvard Medical School, Boston, MA
2000-2005 Professor of Medicine (with tenure), Pritzker School of Medicine, The University of Chicago, Chicago, IL
2004-2005 Fredrick H. Rawson Professor of Medicine, The University of Chicago, Chicago, IL
2005-2015 Professor of Medicine, Pediatrics, and Physiology (with tenure), Johns Hopkins University School of Medicine, Baltimore, MD
2009-2015 Director, Diabetes Institute, Johns Hopkins University School of Medicine, Baltimore, MD
2015- Adjunct Professor, Johns Hopkins University School of Medicine, Baltimore, MD
2015-2023 Professor of Medicine (with tenure) and Chancellor Scholar, Rutgers-Robert Wood Johnson Medical School, New Brunswick, NJ
2017-2023 Henry Rutgers Endowed Chair, Rutgers University
2023- Professor of Medicine (with tenure), University of Arizona College of Medicine-Phoenix
2025- Valley of the Sun Endowed Professor of Medicine

CLINICAL ACTIVITIES

Certification

1983 National Board of Medical Examiners
1983 Federal DEA Registration #BW2434809
1983 Ohio Medical License Registration, #35-05-1948
1986 American Board of Internal Medicine, Certificate #108082, 9/10/86
1989 American Board of Internal Medicine, Endocrinology and Metabolism Subspecialty, Certificate #108082, 11/7/89
1992 Massachusetts Medical License Registration, #75944
1999 Illinois Medical License Registration, #036-102817
2005 Maryland Medical License Registration #D0063464
2005 Maryland CDS Registration #M60007
2015 New Jersey Medical License Registration #25MA09726700
2015 New Jersey CDS #D10669700
2024 Arizona Medical License #72111

Clinical (Service) Responsibilities

1990-1992 Staff Physician, Department of Medicine and Division of Endocrinology and Hypertension, University Hospitals of Cleveland
1992-2000 Associate in Medicine, Beth Israel Deaconess Medical Center, Boston
1994-2000 Staff Physician, Brigham and Women's Hospital, Boston
1994-2000 Clinical Endocrinologist, Harvard Community Health Plan

2000-2005	Attending Endocrinologist, Endocrinology Fellows Clinic, University of Chicago School of Medicine
2005-2015	Attending Endocrinologist, Endocrinology Fellows Clinic, Johns Hopkins University School of Medicine
2006-2009	Director, Johns Hopkins University Diabetes Center of Excellence
2015-2023	Chief of Medicine, Robert Wood Johnson University Hospital
2015-2018	Chief, RWJUH Hospitalist Service
2016-2018	Chair, Quality Champion Program for RWJMS
2021-2023	Director of Super Team Hospitalist Program
2021-2023	Director of the Medical Service Line, RWJBarnabas Health
2023-	Member of the Banner-UA Academic Management Council
2023-	Member of the University of Arizona Deans Council

Clinical Program Building / Leadership

1992-2000	Chief, Thyroid Unit, Department of Medicine, Beth Israel Deaconess Medical Center, Boston
1992-2000	Director, Thyroid Center, Department of Medicine, Beth Israel Deaconess Medical Center, Boston
2005-2005	Executive Committee, Department of Medicine, The University of Chicago
2000-2005	Chief, Section of Endocrinology and Metabolism, University of Chicago Hospitals, Chicago, Illinois
2005-2015	Chief, Division of Metabolism, Departments of Medicine and Pediatrics, Johns Hopkins University School of Medicine, Baltimore, MD
2009-2015	Director, Johns Hopkins Diabetes Institute
2012	Co-Chair Diabetes Task Force, charged with integrating all aspects of diabetes care, research, and teaching throughout the Hopkins healthcare system
2015	Clinical Executive Committee member, Rutgers-Robert Wood Johnson Medical School
2016	Established new services in outpatient bone densitometry and echocardiography
2016	Established a Rutgers-wide Metabolomics Core with Princeton University for testing clinical samples
2016	Reorganized and closed the MICU to improve quality, safety, and resident/fellow education
2016	Negotiated the return of medicine, pediatrics, and OB/GYN residents to Chandler Health Clinic, an FQHC
2017-2021	Member, Rutgers Health Group (RHG) Board, and RHG Executive Committee
2019-2021	Chair representative, RWJBH Clinical Mission Committee
2019	Reorganized and closed the CCU to improve quality, safety, and resident/fellow education
2021-2023	Member, Medical Group Chairs' Committee
2021-2023	Member, Medical Group Operation Committee
2021-2023	Member, Hospital Executive Committee
2021-2023	Initiated the development of cardiac, pulmonary, geriatric, and GI service lines for the eleven acute care adult hospitals in the RWJBH system.

2022-2023 Steering Committee Member, Rutgers Biomedical and Health Sciences (RBHS) Implementation Monitoring and Assessment Team (IMAT)
2022-2023 Chair, RBHS IMAT Clinical Implementation Subcommittee

Department of Medicine Improvements- RWJUH and RWJMS 2015-2023

1. Senior leadership positions were filled, and nine new division chiefs named
2. The total DOM faculty census increased from 53 to 154 (33 research, 71 clinical scholars/educators, and 50 professional practice)
3. Hired 8 senior and 5 junior administrative staff members (7 are URM).
4. Established divisional finances and implemented strict financial controls
5. Eliminated the Departmental budget deficit of 8.5M, the first time in its history that the DOM is profitable
6. Developed and implemented a metric-driven evaluation of clinical activities
7. Developed a tactical plan around the DOM tripartite mission
8. Expanded outpatient DOM clinical space and efficiency, resulting in a 160% increase in outpatient visits
9. Increased inpatient consults by 175%
10. Established a new 340B program for blood factor infusions
11. Established a new outpatient infusion center
12. Established a new outpatient echocardiography unit
13. Established a new outpatient DXA scan unit
14. Strategic Plan developed: the DOM **LEADS**. **L**eadership development, **E**ducational enhancement, **A**cademic patient care, **D**iscovery, and **S**ervice
15. Reorganized the Hospitalist Service to reduce the length of stay, mortality, and readmission indices

University of Arizona College of Medicine-Phoenix (COM-P) Improvements 2023-

1. Nine senior leadership positions were named (eight vice deans and two senior associate deans), and a new chair of Basic Medical Sciences was recruited.
2. The COM-P faculty census grew 7.0%/year from FY2023-FY2025, while faculty census in public AAMC medical schools decreased by an average of 2.0%/year in the same period.
3. Six senior and four junior administrative staff members were hired.
4. Twenty basic and translational research scientists were recruited to COM-P.
5. COM-P's NIH grant portfolio increased 9.6-fold from $3.6 million in 2023 to $34.4 million in 2025.
6. Increased mission support payments from our clinical partners (Banner, Phoenix Children, Dignity Health, Honor Health, and Yuma Regional Medical Center) were obtained through negotiation.
7. Consistent with rapid growth, our School's expenses increased from $156 million in FY2024 to $174 million in FY2025. However, during this same period, revenues increased from $155 million to $200 million, allowing reserve funds to increase from $123 million to $150 million. The increase in revenues was due to a significant increase in clinical and GME activity at our five clinical partners (see #6).
8. Reserve funds at the COM-P are now the largest among any college at the U of A.

9. New clinical departments in Urology, Otolaryngology, and Anesthesiology were formed at COM-P.
10. The Departments of Biomedical Informatics and Basic Medical Sciences at COM-P are being rebuilt.
11. Medical school enrollment grew from 24 in 2007 to 130 in 2024, making the University of Arizona College of Medicine-Phoenix the largest public allopathic medical school in AZ.
12. A new Associate Dean of Graduate Studies was named.
13. A new strategic plan (2025-2030) for the COM-P was developed, focused on clinical integration and research development with five priority areas: 1. Leading Medicine in Phoenix; 2. Powered by Partnership; 3. Driving Discovery; 4. Distinctly Arizona; and 5. Fueling our Future
14. COM-P will sponsor 225 new GME positions across Phoenix and rural communities, including Yuma, Flagstaff, Payson, and Gila River.
15. Developing a rural regional medical school campus in Yuma, AZ, LCME approval pending. This would be the first regional medical school campus in AZ.
16. Developing a regional medical school campus on the Gila River Indian Reservation. This would be the first, allopathic regional medical school campus on native land in the US.

ORGANIZATIONAL ACTIVITIES

Editorial Activities

Associate Editor:

2004-2010	*Journal of Molecular Endocrinology*
2008-2015	*Trends in Endocrinology and Metabolism*
2014-2016	*Diabetes*
2023-	*Frontiers in Endocrinology*

Editorial Board:

1997-2000	*Endocrinology*
1997-2000	*Thyroid*
2000-2006	*The Journal of Clinical Endocrinology & Metabolism*

Peer Review Activities (last 3 years): *Biotechnology, Cell Metabolism, Endocrinology, Molecular and Cellular Biology, New England Journal of Medicine, Molecular Endocrinology, Journal of Biological Chemistry, Journal of Clinical Investigation, Journal of Clinical Endocrinology & Metabolism, Nature, Nature Medicine, Proceedings of the National Academy of Sciences, and Science*

Advisory Committees, Review Groups/Study Sections

1993-1995	Membership Committee, American Thyroid Association
1993	Program Committee, American Thyroid Association
1995	Chairman, Membership Committee, American Thyroid Association
1995-1998	Program Steering Committee, The Endocrine Society

1995-1997	Program Committee, American Thyroid Association
1995	Endocrinology and Reproductive Sciences Study Section, National Institutes of Health, ad hoc
1998-2002	Executive Council, American Thyroid Association
1998-2002	Bylaws Committee, American Thyroid Association
1998	Endocrinology Study Section, National Institutes of Health, ad hoc
1998-2002	National Institute of Diabetes, Digestive, and Kidney Diseases, Subcommittee B study section-Diabetes, Endocrinology and Metabolism
1998	Member, Intramural Review Committee, National Cancer Institute, Laboratory of Metabolism
1999	Member, Intramural Review Committee, National Cancer Institute, Laboratory of Biochemistry
2001-2002	Member, Thyroid Research Advisory Council
2002	Chair, National Institute of Diabetes, Digestive, and Kidney Diseases, Special Emphasis Panel (ZDK1) - Endocrinology Training Grants (T32)
2002	Chair, National Institute of Diabetes, Digestive, and Kidney Diseases, Special Emphasis Panel (ZDK1) - Mentored Research Scientist Awards (K01)
2003	Endocrinology Study Section -ad hoc
2003	Member Review Panel, Charles Harkin Award for Research in Thyroid Cancer, National Cancer Institute
2003	Member, National Institute of Diabetes, Digestive, and Kidney Diseases, Special Emphasis Panel (ZDK1) – Loan Repayment Program
2003	Endocrinology Study Section -ad hoc
2002-2008	Standing Member, Molecular and Cellular Endocrinology Study Section
2004	Member, National Institute of Diabetes, Digestive, and Kidney Diseases, Special Emphasis Panel (ZDK1) – Loan Repayment Program
2004	Member, National Institute of Diabetes, Digestive, and Kidney Diseases, RFA Study Section - Pilot and Feasibility in Human Islet Biology
2004	Co-Chair, National Institute of Diabetes, Digestive, and Kidney Diseases, ZDK1 Study Section - Diabetes and Endocrinology Training Centers
2005	Chair, National Institute of Diabetes, Digestive, and Kidney Diseases, ZDK1 Study Section - K23 funding
2006	National Institute of Diabetes, Digestive, and Kidney Diseases, ZDK1 Study Section - T32 Training Grants
2006	Co-Chair, National Institute of Diabetes, Digestive, and Kidney Diseases, ZDK1 Study Section - Diabetes and Endocrinology Training Centers
2007	National Cancer Institute-Intramural Review of the Laboratory of Molecular Biology
2008	Chair, Executive Council of Diabetes Centers, National Institute of Diabetes, Digestive, and Kidney Diseases

2008	Member, Endocrine Society Annual Meeting Steering Committee
2008	Member, Faculty 1000 Biology
2009	Chair, National Institute of Diabetes, Digestive, and Kidney Diseases, ZDK1 Study Section - Diabetes Research Center (P30 and P60)
2011	Chair, National Institute of Diabetes, Digestive, and Kidney Diseases, ZDK1 Study Section - Diabetes Research Center (P30)
2014	Chair, Annual Scientific Meeting of the American Thyroid Association
2018-2023	Program Committee, Alliance for Academic Internal Medicine, American Professors of Medicine
2020	Member, Special Emphasis Panel, NIH, ZRG1 EMNR-V
2021	Member, Special Emphasis Panel, ZRG1 EMNR-G
2022	Member, Special Emphasis Panel, ZRG1 EMNR-K
2023	Member, Dean's Council, Arizona Medical Association
2023	Member, Arizona's Bioscience Roadmap Steering Committee (Flinn Foundation)
2025	Member (ad hoc), Basic Mechanisms of Diabetes and Metabolism Study Section
2025	Member, Special Emphasis Panel, ZRG1 EMS-J

Professional Societies

Non-elected

1990-	American Federation for Clinical Research
1990-	Endocrine Society
1991-	American Thyroid Association
2002-	American Diabetes Association

Elected

1995-	American Society for Clinical Investigation (ASCI)
2000-	Association of Professors of Medicine (APM)
2002-	Association of American Physicians (AAP)

RECOGNITION

Awards, Honors

1975	National Honor Society
1977	Bausch and Lomb Honorary Science Award for science excellence in the State of Ohio
1979-1981	Medical school class representative to the Liaison Committee for Medical Education
1982	Alpha Omega Alpha
1983	Clarence P. Gould Honorary Academic Society
1983-1986	Medical House staff representative, Case Western Reserve University
1985	Research Award, Department of Medicine, Case Western Reserve University
1986	Award for outstanding senior resident, Case Western Reserve University-University Hospitals
1989	Fellowship Trainee Award, American Federation for Clinical Research

1990	Henry Christian Memorial Award, American Federation for Clinical Research
1990	Young Investigator's Award, Central Society for Clinical Research
1993	Knoll Award Finalist, The Endocrine Society (for excellence in thyroid research)
1994	Richard E. Weitzman Memorial Award, The Endocrine Society
1997	Knoll Award, The Endocrine Society (for excellence in thyroid research)
1998	Van Meter Award, The American Thyroid Association
1999	13th Annual Farahe Maloof Lecturer, Massachusetts General Hospital, Boston MA
2000	Knoll Award Finalist, The Endocrine Society (for excellence in thyroid research)
2002	University of Chicago Institutional Representative for the ASCI
2003	American Federation for Medical Research - Outstanding Investigator Award
2007	Ingbar Memorial Lecture and Award, Harvard Medical School, Boston MA
2007	Knoll Award Finalist, The Endocrine Society (for excellence in thyroid research)
2009	Knoll Award Finalist, The Endocrine Society (for excellence in thyroid research)
2012	Sidney H. Ingbar Distinguished Lectureship, American Thyroid Association- This award recognizes outstanding academic achievements in the field of thyroidology and is conferred upon an established investigator who has made major contribution in thyroid-related research over many years.
2014	W. Barry Wood Jr. Award- Given by the Class of 2016 to the most outstanding preclinical teacher at Johns Hopkins University School of Medicine
2015	Rutgers University Institutional Representative for the ASCI
2016	Outstanding Teaching Recognition by M2 students- Rutgers-RWJMS

RESEARCH ACTIVITIES (Total publications 190)

Original Research Articles (155, H-index 79):

1. Price WA, Hoffman DA, Woods L, **Wondisford FE**, Zlotnick S. Pericarditis associated with Crohn's disease. *Ohio State Med J*, 1985; 81: 429-431.

2. Kaetzel DM, Browne JK, **Wondisford FE**, Nett TM, Thomason AR, Nilson JH. Expression of biologically active bovine luteinizing hormone in Chinese hamster ovary cells. *Proc Natl Acad Sci USA*, 1985; 82:7280-7283.

3. **Wondisford FE**, Usala SJ, DeCherney GS, Castren M, Radovick S, Gyves PW, Trempe JP, Kerfoot BP, Nikodem VM, Carter BJ, Weintraub BD. Cloning of the human thyrotropin gene β-subunit and transient expression of biologically active human thyrotropin after gene transfection. *Mol Endocrinol*, 1988; 2:32-39.

4. **Wondisford FE**, Radovick S, Moates JM, Usala SJ, Weintraub BD. Isolation and characterization of the human thyrotropin β-subunit gene. Differences in gene structure and promoter function from murine species. *J Biol Chem*, 1988; 263:12538-12542.

5. Usala SJ, Bale AE, Gesundheit N, Weinberger C, Lash RW, **Wondisford FE**, McBride OW, Weintraub BD. Tight linkage between the syndrome of generalized thyroid hormone resistance and the human c-erbA-β gene. *Mol Endocrinol*, 1988; 2:1217-1220.

6. Kadowaki H, Kadowaki T, **Wondisford FE**, Taylor SI. Use of polymerase chain reaction catalyzed by Taq DNA polymerase for site-specific mutagenesis. *Gene*, 1989; 76:161-166.

7. **Wondisford FE**, Farr EA, Radovick S, Steinfelder HJ, Moates JM, McClaskey JH, Weintraub BD. Thyroid hormone inhibition of human thyrotropin β-subunit gene expression is mediated by a cis-acting element located in the first exon. *J Biol Chem*, 1989; 264:14601-14604.

8. Weintraub BD, **Wondisford FE**, Farr EA, Steinfelder HJ, Radovick S, Gesundheit N, Gyves PW, Taylor T, DeCherney GS. Pre-translational and post-translational regulation of TSH synthesis in normal and neoplastic thyrotrophs. *Horm Res*, 1989; 32:22-24.

9. Taylor T, **Wondisford FE**, Blaine T, Weintraub BD. The paraventricular nucleus of the hypothalamus has a major role in thyroid hormone feedback regulation of thyrotropin synthesis and secretion. *Endocrinology*, 1990; 126:317-324.

10. Usala SJ, Tennyson GE, Bale AE, Lash RW, Gesundheit N, **Wondisford FE**, Accili D, Hauser P, Weintraub BD. A base mutation of the c-erbA-β thyroid hormone receptor in a kindred with generalized thyroid hormone resistance: Molecular heterogeneity in two other kindreds. *J Clin Invest*, 1990; 85:93-100.

11. Nakayama Y, **Wondisford FE**, Lash RW, Bale AE, Weintraub BD, Cutler GB Jr, Radovick S. Analysis of gonadotropin-releasing hormone gene structure in families with familial central precocious puberty and idiopathic hypogonadotropic hypogonadism. *J Clin Endocrinol Metab*, 1990; 70:1233-1238.

12. Yamada M, Radovick S, **Wondisford FE**, Nakayama Y, Weintraub BD, Wilber JF.Cloning and structure of human genomic DNA and hypothalamic cDNA encoding human preprothyrotropin-releasing hormone. *Mol Endocrinol*, 1990; 4:551-556.

13. Radovick S, **Wondisford FE**, Nakayama Y, Yamada M, Cutler GB Jr, Weintraub BD. Isolation and characterization of the human gonadotropin-releasing hormone gene in the hypothalamus and placenta. *Mol Endocrinol*, 1990; 4:476-480.

14. Usala SJ, **Wondisford FE**, Watson TL, Menke JB, Weintraub BD. Thyroid hormone and DNA binding properties of a mutant c-erbA-β receptor associated with generalized thyroid hormone resistance. *Biochem Biophys Res Commun*, 1990; 171:575-580.

15. Weintraub BD, **Wondisford FE**, Farr EA, Steinfelder HJ, Radovick S, Gesundheit N, Gyves PW, Taylor T, DeCherney GS. Pre-translational and post-translational regulation of TSH: relationship to bioactivity. Horm Metab Res 1990;23:9-11.

16. Yamada M, **Wondisford FE**, Radovick S, Nakayama Y, Weintraub BD, Wilber JF. Assignment of human preprothyrotropin-releasing hormone (TRH) gene to chromosome 3. *Somat Cell Mol Genet*, 1991; 17:97-100.

17. Steinfelder HJ, Hauser P, Nakayama Y, Radovick S, McClaskey JH, Taylor T, Weintraub BD, **Wondisford FE**. Thyrotropin-releasing hormone regulation of human TSHB expression: Role of a pituitary-specific transcription factor (Pit-1/GHF-1) and potential interaction with a thyroid hormone inhibitory element. *Proc Natl Acad Sci USA*, 1991; 88:3130-3134.

18. Radovick S, Wray S, Lee E, Nichols DK, Nakayama Y, Weintraub BD, Westphal H, Cutler GB Jr, **Wondisford FE**. Migratory arrest of gonadotropin-releasing hormone neurons in transgenic mice. *Proc Natl Acad Sci USA*, 1991; 88:3402-3406.

19. Usala SJ, Menke JB, Watson TL, **Wondisford FE**, Weintraub BD, Berard J, Bradley WEC, Ono S, Mueller OT, Bercu BB. A homozygous deletion in the c-erbA-β thyroid hormone receptor gene in a patient with generalized thyroid hormone resistance: Isolation and characterization of the mutant receptor. *Mol Endocrinol*, 1991; 5:327-335.

20. Radovick S, Ticknor CM, Nakayama Y, Notides AC, Rahman A, Weintraub BD, Cutler GB Jr, **Wondisford FE**. Evidence for direct estrogen regulation of the human gonadotropin-releasing hormone gene. *J Clin Invest*, 1991; 88: 1649-1655.

21. Bodenner DL, Mroczynski MA, Weintraub BD, Radovick S, **Wondisford FE**. A detailed functional and structural analysis of a major thyroid hormone inhibitory element in the human thyrotropin β-subunit gene. *J Biol Chem*, 1991; 266:21666-21673.

22. Steinfelder HJ, Radovick S, Mroczynski MA, Hauser P, McClaskey JH, Weintraub BD, **Wondisford FE**. Role of a pituitary-specific transcription factor (Pit-1/GHF-1) or a closely related protein in cAMP regulation of human thyrotropin-β subunit gene expression. *J Clin Invest*, 1992; 89:409-419.

23. Steinfelder HJ, Radovick S, **Wondisford FE**. Hormonal regulation of the thyrotropin β-subunit gene by phosphorylation of the pituitary-specific transcription factor Pit-1. *Proc Natl Acad Sci USA*, 1992; 89:5942-5945.

24. Lash RW, Desai RK, Zimmerman CA, Flack MR, Yoshida T, **Wondisford FE**, Weintraub BD. Mutations of the human thyrotropin-β subunit glycosylation site reduce thyrotropin synthesis independent of changes in glycosylation status. *J Endocrinol Invest*, 1992; 15:255-263.

25. Radovick S, Nations M, Du Y, Berg LA, Weintraub BD, **Wondisford FE**. A mutation in the POU-homeodomain of PIT-1 responsible for combined pituitary hormone deficiency. *Science*, 1992; 257:1115-1118.

26. **Wondisford FE**, Steinfelder HJ, Nations M, Radovick S. AP-1 antagonizes thyroid hormone receptor action on the thyrotropin β-subunit gene. *J Biol Chem*, 1993; 268:2749-2754.

27. Radovick S, Wray S, Muglia L, Westphal H, Olsen B, Smith E, Patriquin E, **Wondisford FE**. Steroid hormone regulation and tissue-specific expression of the human GnRH gene in cell culture and transgenic animals. *Horm Behav*, 1994; 28:520-529.

28. Flynn TR, Hollenberg AN, Cohen O, Menke JB, Usala SJ, Tollin MK, Hegarty MK, **Wondisford FE**. A novel c-terminal domain of the thyroid hormone receptor mediates thyroid hormone inhibition. *J Biol Chem*, 1994; 269:32713-32716.

29. Citation for the Richard E. Weitzman Memorial Award to **Fredric E. Wondisford**. Endocr Rev. 1994 15:553-4.

30. Cohen LE, **Wondisford FE**, Salvatoni A, Maghnie M, Brucker-Davis F, Weintraub BD, Radovick S. A "Hot Spot" in the Pit-1 gene responsible for combined pituitary hormone deficiency: molecular and clinical correlates. *J Clin Endo Metabol*, 1995; 80:2,679-684.

31. Hollenberg AN, Cohen O, Flynn TR, Boers M, Monden T, **Wondisford FE**. The human thyrotropin-releasing hormone gene is regulated by thyroid hormone through two distinct classes of negative thyroid hormone response elements. *Mol Endocrinol*, 1995; 9:540-550.

32. Cohen O, Flynn T, **Wondisford FE**. Ligand-dependent antagonism by retinoid X receptors of inhibitory thyroid hormone response elements. *J Biol Chem*, 1995; 270:13899-13905.

33. Hollenberg AN, Monden T, **Wondisford FE**. Ligand-independent and-dependent functions of thyroid hormone receptor isoforms depend upon their distinct amino termini. *J Biol Chem*, 1995; 270:14274-14280.

34. Joshi L, **Wondisford FE**, Weintraub BD. Recombinant TSH containing a beta subunit chimera with the hCG-β carboxy terminus is biologically active with a prolonged plasma half-life: role of carbohydrate on bioactivity and metabolic clearance. *Endocrinology*, 1995; 136:3839-48.

35. Medeiros-Neto G, Rajan S, Kommereddi S, De Lacerda L, Sandrini R, Boguszewski MCS, Radovick S, **Wondisford FE**. A circulating, biologically inactive thyrotropin caused by a mutation in the beta subunit gene, *J Clin Invest*, 1996; 97:1250-1256.

36. Hollenberg AN, Monden T, Madura J, Lee K, **Wondisford FE**. Function of nuclear co-repressor protein on thyroid hormone response elements is regulated by the receptor A/B domain, *J Biol Chem*, 1996; 271:28516-28520.

37. **Wondisford FE**. Thyroid hormone action beyond the receptor. *J Clin Endocrinol Metabol*, 1996; 81:4194-4195.

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146. Pearah A, Ramatchandirin B, Liu T, Wolf RM, Ikeda A, Radovick S, Sesaki H, **Wondisford FE**, O'Rourke B, He L. Blocking AMPKαS496 phosphorylation improves mitochondrial dynamics and hyperglycemia in aging and obesity. *Cell Chem Biol.* 2023 21;30(12):1585-1600.e6.

147. Yang X, Wang J, Chang CY, Zhou F, Liu J, Xu H, Ibrahim M, Gomez M, Guo GL, Liu H, Zong WX, **Wondisford FE**, Su X, White E, Feng Z, Hu W. Leukemia inhibitory factor suppresses hepatic de novo lipogenesis and induces cachexia in mice. *Nat Commun.* 2024 5(1):627.

148. Ramatchandirin B, Iijima M, Ikeda A, Pearah A, Radovick S, **Wondisford FE**, Sesaki H, He L. Protocol for measuring mitochondrial size in mouse and human liver tissues. *STAR Protoc.* 2024 5(1):102842.

149. Minakhina S, Kim SY, **Wondisford FE**. Regulation of hypothalamic reactive oxygen species and feeding behavior by phosphorylation of the beta 2 thyroid hormone receptor isoform. *Sci Rep.* 2024 14(1):7200.

150. Loan A, Awaja N, Lui M, Syal C, Sun Y, Sarma SN, Chona R, Johnston WB, Cordova A, Saraf D, Nakhlé A, O'Connor K, Thomas J, Leung J, Seegobin M, He L, **Wondisford FE**, Picketts DJ, Tsai EC, Chan HM, Wang J. Single-cell profiling of brain pericyte heterogeneity following ischemic stroke unveils distinct pericyte subtype-targeted neural reprogramming potential and its underlying mechanisms. *Theranostics.* 2024 14(16):6110-6137.

151. Shah A, Xu H, Kwon HJ, **Wondisford FE**. In vivo glycerol metabolism in patients with glycerol kinase deficiency. *JIMD Rep.* 2024 17;65(6):392-400.

152. Pearah A, Ramatchandirin B, Ramirez K, Radovick S, **Wondisford FE**, He L. Targeting negative phosphorylation to activate AMPK. *Endocr Connect.* 2025 14(7):e250260.

153. Al-Samerria S, Xu H, Diaz-Rubio ME, Phelan J, Su C, Ma K, Newen A, Li K, Yamada S, Negron AL, **Wondisford F**E, Radovick S. Biomarkers of GH deficiency identified in untreated and GH-treated Pit-1 mutant mice. *Front Endocrinol (Lausanne).* 2025 16:1539797.

154. Kwon H, Yamada S, Xu H, **Wondisford FE**. Glycerol 3-phosphate activates lipid metabolism through GATOR2-dependent regulation of mTORC1, Science Signaling, in revision.

155. Kwon M, **Wondisford FE**. AMPK-dependent phosphorylation of THRB2 in the POMC neuron regulates food intake, submitted

Reviews and Book Chapters (33):

1. Weintraub BD, Usala SJ, Bale AE, Gesundheit N, Weinberger C, Lash RW, **Wondisford FE**, McBride OW, Menezes-Ferreira MM. Thyroid hormone resistance syndrome. In: Imura H et al. eds. Progress in Endocrinology, Elsevier Science, 1988:797-802.

2. Weintraub BD, **Wondisford FE**, Farr EA, Steinfelder HJ, Radovick S, Gesundheit N, Gyves PW, Taylor T, DeCherney GS. Pretranslational and posttranslational regulation of TSH synthesis. In: Chin WW, Boime I, eds. Glycoprotein Hormones: Structure, Synthesis, and Biologic Function, Norwell, MA: Serono Symposia, USA, 1990:321-324.

3. **Wondisford FE**, Magner JA, Weintraub BD. Chemistry and biosynthesis of thyrotropin. In: Braverman LE, Utiger RD, eds. Werner and Ingbar's The Thyroid: A Fundamental and Clinical Text, 6th ed. Philadelphia: Lippincott, 1991:257-276.

4. Yamada M, Wilber J, Radovick S, **Wondisford FE**, Weintraub B. The human preproTRH (ppTRH) gene: Inhibition of expression in GH3 cells of plasmid chimeric luciferase constructs by L-triiodothyronine (L-T3). In: Gordon A, Gross J, Hennemann G, eds. Progress in Thyroid Research, Rotterdam: Balkema, 1991:89-94.

5. Radovick S, **Wondisford FE**, Wray S, Ticknor C, Nakayama Y, Cutler GB Jr, Weintraub BD, Westphal H, Lee E. Characterization, expression, and estradiol regulation of the human GnRH gene. In: Crowley WF Jr, Conn PM, eds. Modes of Action of GnRH and GnRH Analogues, Bressanone: Springer-Verlag, 1992:85-105.

6. **Wondisford FE**. Techniques to study regulation of gene expression. In: Paolo F, ed. Handbook of Endocrine Research Techniques, Academic Press, Inc., 1993:505-514.

7. **Wondisford FE**, Meier C, Weintraub BD. Thyroid-stimulating hormone in health and disease. In: DeGroot LJ, ed. Endocrinology, 3rd ed. Saunders, 1993

8. **Wondisford FE**. Cloning and expression of polypeptide hormone genes. In: Weintraub BD, ed. Molecular Endocrinology, Raven Press, 1995:105-113.

9. **Wondisford FE**, Magner JA, Weintraub BD. Chemistry and biosynthesis of thyrotropin. In: Braverman LE, Utiger RD, eds. Werner and Ingbar's The Thyroid: A Fundamental and Clinical Text, 7th ed. Philadelphia: Lippincott, 1996:190-207.

10. Cohen LE, **Wondisford FE**, Radovick S. Role of pit-1 in the gene expression of growth hormone, prolactin, and thyrotropin. In: Rosenfield RL, ed. Endocrinology and Metabolism Clinics of North America, 1996: vol 25(3), 523-540.

11. Medeiros-Neto G, de Lacerda L, **Wondisford FE**. Familial congenital hypothyroidism caused by abnormal and bioinactive thyroid-stimulating hormone due to mutations in the β subunit gene. In: Trends in Endocrinology and Metabolism, 1997:vol 8, 15-20.

12. Cohen LE, Radovick S, **Wondisford FE**. Molecular aspects of hormone deficiency caused by Pit-1 gene mutations. In: LeRoith D, ed. Advances in Molecular and Cellular Endocrinology, JAI Press Inc, 1997:31-50.

13. Steinfelder HJ, **Wondisford FE**. Thyrotropin (TSH) β-subunit gene expression - an example for the complex regulation of pituitary hormone genes. Exp Clin Endocrinol Diabetes; 1997:196-203.

14. Radovick S, Cohen LE, **Wondisford FE**. The molecular basis of hypopituitarism Horm Res. 1998;49 Suppl 1:30-6.

15. Cohen RC, **Wondisford FE**. Thyroid hormone receptor family members: homodimers, heterodimers, and mechanisms of transcriptional repression. In: Gene Engineering and Molecular Models in Endocrinology, Humana Press, 1999.

16. Cohen LE, Radovick S, **Wondisford FE**. Transcription Factors and Hypopituitarism. Trends Endocrinol Metab. 1999 10:326-332.

17. Cohen RC, Weintraub BD, **Wondisford FE**. Chemistry and biosynthesis of thyrotropin. In: Braverman LE, Utiger RD,eds. Werner and Ingbar's The Thyroid: A Fundamental and Clinical Text, 8th ed. Baltimore: Williams & Wilkins, 2000.

18. **Wondisford FE**. Lesson learned from TR-β2 KO mice. In: Beck-Peccoz P, ed. Syndromes of hormone resistance in the hypothalamic-pituitary-thyroid axis, Kluwer Academic Publishers, 2004:109-118.

19. Cohen RC, **Wondisford FE**. Chemistry and biosynthesis of thyrotropin. In: Braverman LE, Utiger RD, eds. Werner and Ingbar's The Thyroid: A Fundamental and Clinical Text, 9th ed. Baltimore: Williams & Wilkins, 2005.

20. Cohen RC, **Wondisford FE**. Chemistry and biosynthesis of thyrotropin. In: Braverman LE, Utiger RD, eds. Werner and Ingbar's The Thyroid: A Fundamental and Clinical Text, 10th ed. Baltimore: Williams & Wilkins, 2011.

21. Ortiga-Carvalho TM, Sidhaye AR and **Wondisford FE**. Thyroid hormone receptors and resistance thyroid hormone disorders Nature Reviews 2014:10-582-591.
*Featured Article

22. Tuttle RM, **Wondisford** FE. Welcome to the 84th Annual Meeting of the American Thyroid Association *Thyroid*, 2014:10-1439-40.

23. **Wondisford FE.** Chapter 77: Thyroid hormone action, in *Endocrinology*, 7th Edition, Jameson & DeGroot eds. 2015.

24. He L, **Wondisford FE**. Metformin action: concentrations matter, *Cell Metabol*, 2015, 21(2):159-62.

25. **Wondisford FE**. A direct role for thyroid hormone in development of the adrenal cortex. *Endocrinology*. 2015 Jun;156(6):1939-40.

26. Ortiga-Carvalho TM, Chiamolera MI, Pazos-Moura CC, **Wondisford FE**. Hypothalamus-Pituitary-Thyroid Axis. *Compr Physiol*. 2016 Jun 13;6(3):1387-428.

27. **Wondisford FE**. Evaluating the Hypothalamic-Pituitary-Thyroid (HPT) Axis in Mice. *Methods Mol Biol.* 2018;1801:155-161.

28. Guzman S, Brackstone M, **Wondisford FE**, Babwah AV, Bhattacharya M. KISS1/KISS1R, and Breast Cancer: Metastasis Promoter. *Semin Reprod Med.* 2019 37(4):197-206.

29. Shah AM, **Wondisford FE**. Tracking the carbons supplying gluconeogenesis. *J Biol Chem.* 2020 295(42):14419-14429.

30. Wang Y, Hui S, **Wondisford FE**, Su X. Utilizing tandem mass spectrometry for metabolic flux analysis. *Lab Invest.* 2020 101(4):423-429.

31. Wang Y, **Wondisford FE**, Song C, Zhang T, Su X. Metabolic Flux Analysis-Linking Isotope Labeling and Metabolic Fluxes. *Metabolites.* 2020 10(11):447.

32. Shah AM, **Wondisford FE**. Reply to Hernández-Glycolysis and gluconeogenesis: A teaching view. *J Biol Chem.* 2020 296:100021.

33. Shah A, **Wondisford FE.** Gluconeogenesis Flux in Metabolic Disease. *Annu Rev Nutr.* 2023 43:153-177.

Books as Editor (2):

Wondisford FE, and Radovick S eds. Clinical Management of Thyroid Disease, 1st ed. London: Elsevier Science, 2009.

Wondisford FE. Essentials of Endocrinology and Metabolism: A Practical Guide for Medical Students, 2020.

Inventions and Patents (3):

1. Inventor **F.E. Wondisford**, Co-inventor B.D. Weintraub: CRADA agreement with Genzyme Corporation for the synthesis of recombinant TSH. 1/87-9/00
2. Inventor **F.E. Wondisford**, Co-inventor B.D. Weintraub: "Biologically Active Synthetic Thyrotropin and Cloned Gene for Producing Same" U.S. Pat 6,117,991 (issued 9/12/00)
3. Inventor **F.E. Wondisford**, Co-inventor B.D. Weintraub: "Biologically Active Synthetic Thyrotropin and Cloned Gene for Producing Same" U.S. Pat. 6,284,491 (issued 9/4/01)

Thyrotropin alfa (Thyrogen®) was approved for use in Europe in 2005, certain South American countries in 2006, certain Asian countries in 2007, and the US in 2007. Thyrogen® has changed the standard of care for patients with thyroid cancer, improving patient compliance, diagnostic accuracy, and treatment efficacy.

Thyrogen® was listed as the 4th most commercially successful NIH invention from 2006-2009 (www.techtransfer.nih.gov/fy-2009-top-20-commercially-successful-inventions). From 2014-2018, Thyrogen® accounted for the second-highest Medicare Part B drug expenditures and number of beneficiaries among all NIH-licensed inventions (https://www.gao.gov/assets/gao-21-52.pdf). To date, Thyrogen® remains the only top 20 commercially successful NIH invention from the NIDDK.

Inventions and Patent Applications Pending (3)

1. Inventor **F.E. Wondisford**, Co-inventor H. Sabaawy: Composition and Methods for Producing Adult Liver Organoids, submitted 2021.
2. Inventor M. Bhattacharya, Co-inventor **F.E. Wondisford,** Co-inventor S. Radovick:

Modified Kisspeptin Receptor Agonist as Novel Treatment of Non-Fatty Liver Disorder and Non-Alcoholic Steatohepatitis, submitted 2022.

Rutgers University and inventors licensed the novel use of TAK-448/MVT-602 for fatty liver disease to Myovant on Jan 2023.

3. Inventor **F.E. Wondisford,** Co-inventor S. Radovick: Inhibition of Hepatic Glycerol Metabolism as a Treatment for Hypertriglyceridemia and Fatty Liver Disease, submitted 2023.

A Start-up company (Hetrel Technologies, Delaware incorporation) has been formed to pursue this invention.

Extramural Funding (Total NIH Funding 1991-2025, $41.5 million)

Current

2023- NIH, R01 DK136661-01 (Wondisford, FE PI; Hollenberg, AN MPI)
Title: **Hypothalamic regulation by thyroid hormone receptor phosphorylation**
Dates: 07/23-06/28
FEW Effort: 20%
Total Direct Costs: $2,552,876

Based on increased food intake, obesity, and thyroid hormone resistance in mice carrying a mutation of this phosphorylation site (S101A), we hypothesize that an AMPK-dependent THRB2 S101 phosphorylation pathway in the hypothalamus suppresses food intake and the HPT axis. We also hypothesize that dysfunction of this pathway results in leptin resistance, increased food intake, and obesity. Our goal is to study this pathway in detail.

2023- NIH, R01 DK 129919-01A1 (Wondisford, FE PI; He, L MPI)
Title: **Glycerol Regulation of Gluconeogenesis and Fatty Acid Metabolism**
Dates: 07/23-06/28
FEW Effort: 20%
Total Direct Costs: $2,045,055

The overall goal of this proposal is to determine the collective contributions of glucagon, insulin, estrogen, and altered gluconeogenesis substrate availability to the metabolic dysfunction of patients with T2DM. The strong focus on glycerol metabolism is justified based on preliminary data and may highlight an important and previously underappreciated therapeutic target for patients with T2DM.

Previous

1986 NIH, Intramural NRSA, Molecular Cellular and Nutritional Endocrinology Branch (MCNEB), National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)

1991-1996 NIH, R29 DK43653 (Wondisford, F.E., P.I.)
Title: Human TSH-β Gene Expression and Regulation by Thyroid Hormone
Total direct costs: $ 400,000

1992-1995 American Cancer Society, BE 127 (Wondisford, F.E., P.I.)
Title: Molecular Mechanism of TRH Action
Total direct costs: $ 250,000

1993-1994 Genzyme Corporation, TSH 92-0601 (Wondisford, F.E., P.I.)
Title: A Study of the Safety and Effectiveness of Thyrogen
Total direct costs: $ 120,000

1995-1997 Knoll Pharm., Thyroid Research Award (Wondisford, F.E., P.I.)
Title: Molecular Analysis of TSH Receptor Interactions
Total direct costs: $ 90,000

1995-1999 NIH, R01 DK49126 (Wondisford, F.E., P.I.)
Title: Research Supplement for Underrepresented Minorities (Evan Dale Abel M.D. Ph.D.)
Total direct costs: $ 185,000

1997 The Endocrine Society (Knoll Award) (Wondisford, F.E., P.I.)
Total direct costs: $ 30,000

1995-2000 NIH, Project 2, MO1 R01032-20 (Wondisford, F.E., P.I.)
Title: Testing of Patients with Suspected Disorders of TSH Secretion
Total direct cost: $ 250,000

1998-2002 NIH, R01 DK50564 (Wondisford, F.E., P.I.)
Title: Growth Factor Signaling in the Pituitary
Total direct costs: $ 580,000

2001-2004 NIH U24 DK58820 (Quigg, R., P.I., Wondisford, F.E. Co-P.I.)
Title: University of Chicago Biotechnology Center
Total yearly direct costs: $350,000

2003-2004 NIH, R01 DK63349 (Wondisford, F.E., P.I.)
Title: Research Supplement for Underrepresented Minorities (Isaiah Pittman M.D., Ph.D.)
Total yearly direct costs: $64,410

2002-2005 NIH P60 DK20595 (Wondisford, F.E. P.I., and Director, Transgenic core)

Project Title: Diabetes Research and Training Center
Dates: 12/1/02-11/30/07
Total yearly direct costs: $1,650,000

2003-2005 NIH, P30 CA 14599 (Vogelzang, N., P.I. Transgenic Core Director, Wondisford, F.E.)
Title: University of Chicago Cancer Research Center
Dates: 4/01/03-03/31/07

2004-2005 NIH, T32 DK007011 (Wondisford, F.E., P.I.)
Title: Endocrinology Research Training Grant
Dates: 7/01/00-06/30/05
Total yearly direct costs: $285,000

2001-2006 NIH, K24 DK54449 (Wondisford, F.E., P.I.)
Title: Thyroid Hormone Resistance, Clinical and Molecular Analysis"
Dates: 7/01-5/06
Total yearly direct costs: $110,000

2009-2010 NIH R24 DRTC Center Program (Amzel, M., Cole, P., Radovick, S., Wondisford, F.E., P.I.s)
Title: Seeding Collaborative Interdisciplinary Team Science in Diabetes, Endocrinology and Metabolic Diseases
Dates: 03/09-03/10
Total yearly direct costs: $ 300,000

2004-2010 NIH, R01 DK53036 (Wondisford, F.E., P.I.)
Title: Molecular Mechanisms of Thyroid Hormone Resistance
Dates: 12/04-11/10
Total yearly direct costs: $ 220,000

2003-2010 NIH, U54 HD58820 (Radovick, S., P.I.)
Project 4 (P.L. Wondisford, F.E.)
Title: Baltimore Center for Reproductive Research, Insulin Regulation of the Gonadotroph
Dates: 02/03-12/10
Total yearly direct costs: $996,493; Project 4: $165,527

2009-2013 NIH, R01 DK63349 Akunna Iheanacho (Wondisford, F.E., P.I.)
Title: Research Supplement for Underrepresented Minorities
Dates: 03/09-03/13
Total yearly direct costs: $34,000

2008-2015 NIH P60 DK79637 (Wondisford, F.E., P.I.)
Title: JHU-UMD Diabetes Research Center
Dates: 02/13-01/18
Effort: 25%
Total yearly direct costs: $1,770,000

2005-2015 NIH T32 DK007751 (Radovick, S, P.I. Wondisford, F.E., Co-P.I.)
Title: Interdepartmental Training Program in Molecular and Cellular Endocrinology
Dates: 07/13-06/17
Effort: 5%

2009-2017 NIH R01 DK81472 (Hussain, MA, Co-P.I. Wondisford, F.E., Co-P.I.)
Title: Beta-cell Proliferation
Dates: 03/09-2/17
Effort: 20%
Total yearly direct costs: $225,000

1995-2020 NIH, R01 DK49126 (Wondisford, F.E., P.I.)
Title: Molecular Mechanism of Thyroid Hormone Action
Dates: 08/95-10/20
Effort: 25%
Total yearly direct costs: $308,000

2002-2020 NIH, R01 DK63349 (Wondisford, F.E., P.I.)
Title: Transcriptional Coactivators and Hepatic Glucose Production
Dates: 09/02-12/20
Effort: 15%
Total yearly direct costs: $348,000

2019-2023 NIH 7KL2TR003018-05 (Radovick, S PI, Wondisford, FE PD
Title: Institutional Career Development Core of the New Jersey Alliance for Clinical and Translational Science (NJ ACTS)
Dates: 03/19-02/24
FEW Effort: 10%
Total Direct Costs: $2,977,045

This is the training grant of NJ ACTS, a consortium of Rutgers and Princeton Universities, and the NJ Institute for Technology.

Grant Support Received by Laboratory/Faculty Members

Evan Dale Abel, M.D., Ph.D.

4/93-4/97	Robert Wood Johnson Foundation Title: Tissue-Specific Homologous Recombination Total direct costs: $500,000.
7/96	Eleanor and Miles Shore Fellowship for junior faculty at Harvard Medical School. Total direct costs: $ 30,000.
4/97-4/02	NIH, K08 award (FE Wondisford, mentor) Title: In Vivo Analysis of Thyroid Hormone action Total direct costs: $400,000.
4/98-4/00	Knoll Pharmaceuticals, Thyroid Research Award

Title: Knock-In of RTH Mutations in Mice
Total direct costs: $120,000.

Timothy R. Flynn, M.D.

4/96-3/01 NIH, K08 Award (FE Wondisford, mentor)
Title: TRH and Pit-1 Regulation of TSH-β Subunit Expression
Total direct costs: $400,000, declined by applicant.

Anthony N. Hollenberg, M.D.

4/94-10/96 Knoll Pharmaceuticals
Title: Molecular Mechanism of Thyroid Hormone Resistance
Total direct costs: $80,000.
4/95-4/00 NIH, K08 award (FE Wondisford, mentor)
Title: "Human TRH Gene Expression"
Total direct costs: $400,000.
4/00-4/05 NIH, R01 award
Title: "Role of Nuclear Corepressors in Thyroid Hormone Action"
Total direct costs: $750,000
4/00-4/03 NIH, R21 award
Title: "Role of Leptin in the TRH Neuron"
Total direct costs: $300,000

Joshua D. Safer, M.D.

4/96-3/01 NIH, K08 Award (FE Wondisford, mentor
Title: Characterization of Central Resistance to Thyroid Hormone
Total direct costs: $400,000.

Ronald N. Cohen, M.D.

4/98-3/03 NIH, K08 Award (FE Wondisford, mentor)
Title: Role of Cofactors in Thyroid Hormone Action
Total direct costs: $400,000.

Kimberly Barnes, M.D., Ph.D.

4/04-4/09 Robert Wood Johnson Foundation
Title: Role of Co-activators in the Pancreatic β Cell
Total direct costs: $650,000.

Gene Webb, Ph.D.

4/04-3/09 National Institutes of Health. K01 Award (FE Wondisford, mentor)
Title: "Signaling by mTOR in the pancreatic β cell"
Total direct costs: $625,000.

Diane Deplewski, M.D.

9/03-8/08 National Institutes of Health. K08 Award (FE Wondisford, mentor)
Title: “Role of the PPAR gamma amino-terminus in the adipocyte”
Total direct costs: $625,000.

Colleen Buggs, M.D., Ph.D.

9/04-8/09 National Institutes of Health. K08 Award (FE Wondisford, co-mentor)
Title: “Insulin control of the reproductive axis”
Total direct costs: $625,000.

Amin Sabet, M.D.

6/06-6/07 Endocrine Fellows Foundation Award
Title: Negative Regulation of the Central Thyroid Axis
Total direct costs: $7,500.
6/08-5/10 National Institutes of Health. F32 Award (FE Wondisford, mentor)
Title: “Thyroid hormone regulation of the thyrotroph”
Total direct costs: $123,000.

Ryan Miller, M.D.

2/08 National Institutes of Health. F32 Award (FE Wondisford, mentor) – declined in favor of the K08
4/08-4/13 National Institutes of Health. K08 Award (FE Wondisford, mentor)
Title: “Insulin and Growth Factor Regulation of the Gonadotroph”
Total direct costs: $632,000.

Stephen Djejdos, M.D.

6/09-6/10 Endocrine Fellows Foundation Award
Title: Foxo1 regulation of hepatic gluconeogenesis
Total direct costs: $15,000.

Ling He, M.D., Ph.D.

6/10-5/15 National Institutes of Health K99/R00
Title: Regulation of hepatic gluconeogenesis and lipogenesis
Total direct costs: $810,000.

Amy Suhotliv, M.D.

6/16-6/17 Summer Research Fellowship, Robert Wood Johnson Medical School

Ankit Shah, M.D.

6/19-6/21 KL2 Award, CTSA: Rutgers Biomedical and Health Sciences (RBHS)

Title: Glycerol Metabolism in Humans with Diabetes Mellitus
Total direct costs: $330,000.

Research Program Building / Leadership

2001-2005	Member, Molecular Metabolism and Nutrition Committee
2001-2005	Founding Member, Molecular Medicine Committee
2001-2005	Chair, Molecular Metabolism and Nutrition Committee (degree granting committee), The University of Chicago
2002-2005	Scientific Director, Transgenic Animal Facility, The University of Chicago
2003-2004	Chair, Research Advisory Committee, Biological Sciences Division
2003-2005	Research Chair, Dean's Cabinet, Biological Sciences Division, The University of Chicago
2006-2012	Co-Director, Obesity and Metabolism Center, Institute for Basic Biomedical Sciences (IBBS), Johns Hopkins University School of Medicine
2008-2015	Director, JHU Diabetes Research and Training Center-Joint program with the University of Maryland
2012-2015	Director, JH Diabetes Institute
2017-	Director, Rutgers Metabolomics Core
2018-	Core writing committee of the NIH Clinical and Translational Science Award to Rutgers University (CTSA, $29M five-year budget), the first-ever CTSA award in the State of NJ.
2018-	Director, KL2 Training
2023	Research faculty census in the DOM at RWJMS grew three-fold (11 to 33 faculty) since 2015
2023	DOM NIH research funding grew six-fold ($4.5M to $27.0M) since 2015, associated with a rise in our Department's Blue Ridge Institute for Medical Research ranking (82 in 2015 to 46 in 2022).
2023	DOM collaborative research relationships with nine institutes and centers and the Schools of Engineering, Arts and Sciences, Public Health, and Nursing within Rutgers University.

EDUCATIONAL ACTIVITIES

Teaching

1984-1990	Biochemistry Department, Northeastern Ohio Universities College of Medicine, Endocrinology Section Leader, 110 medical students, 6 lectures/year (20 total hours)
1990-1992	Department of Medicine, Case Western Reserve University School of Medicine, Ward Attending, 6 residents, 4 medical students, 22 hours/week, 1 month/year
1990-1992	Department of Medicine, Case Western Reserve University School of Medicine, Endocrinology Attending, 1 fellow, 1 resident, 2 medical students, 20 hours/week, 1 month/year

1990-1992 Endocrinology & Metabolism Committee, Case Western Reserve University School of Medicine, 6 lectures (1 hour each), 6 case discussion sessions (2 hours each), 18 hours/year

1992 Member, Medical School Admission Committee, Case Western Reserve University School of Medicine

1994 Course Director (Harvard CME) Thyroid Disease: 1994 Update, Harvard Faculty Club, Cambridge, 51 attendees, 15 lectures, 50 total hours

1995 Course Director (Harvard CME) Thyroid Disease: A Practical Approach, Black Point Inn Resort, Prouts Neck, Scarborough, Maine, 62 attendees, 16 lectures, 60 total hours

1992-1999 Course Co-Director, Endocrinology (HST 060) 40 HST medical students, Harvard Medical School, Boston 7 lectures (1-2 hour each), 40 total hours/year

1992-2000 Department of Medicine, Beth Israel Deaconess Medical Center, Boston, General Medicine Attending - 6 residents, 4 medical students, 20 hours/week; 1 month/year

1992-2000 Department of Medicine, Beth Israel Deaconess Medical Center, Boston, Endocrinology Attending - 1 fellow, 1-2 residents, 15 hours week; 1 month/year

1992-2000 Harvard Community Health Plan, Boston, Thyroid Clinic Attending Physician - 1 endocrinology fellow, 4 hours/week, 200 hours/year

1999-2000 Course Director, Endocrinology (HST 060) Harvard Medical School, Boston 40 HST medical students, 25 lectures (1-2 hour each), 250 total hours/year

1993-2000 Department of Medicine, Beth Israel Deaconess Medical Center, Boston Thyroid Clinic Director, 1 endocrinology fellow, 2 hours/week, 100 hours/year

1993-2000 Mentor, “Project Success”, undergraduate training for minorities, Harvard Medical School, 3-4 students/year, 80 hours/year

1997-2000 Course Coordinator, Physical Diagnosis of the Endocrine System, Harvard Medical School, 40 students, 4 hours/week, 20 hours/year

2001-2005 Member, Medical School Admission Committee (MSTP Program), The University of Chicago

2000-2005 Department of Medicine, Endocrinology Clinic, The University of Chicago, 1 endocrinology fellow, 3 hours/week, 140 hours/year

2000-2005 Department of Medicine, The University of Chicago, General Medicine Attending - 4 residents, 2 medical students, 40 hours/week; 1 month/year

2000-2005 Department of Medicine, The University of Chicago, Endocrinology Consult Attending - 1 fellow, 2 residents, 2 medical students, 20 hours/week; 1 month/year

2001-2005 Director, Clinical Pathophysiology Course, Pritzker School of Medicine

2003-2005 Medical Scientist Training Program, Class Co-Mentor

2005-2010 Endocrinology Section, Organ Systems, Johns Hopkins School of Medicine 10 hours/week; 3 weeks/year

2005-2015 Attending Adult Endocrinology Fellows Clinic, Johns Hopkins School of Medicine 6 hours/week; 48 weeks/year

2006-2014 Coordinator, Topics in Modern Medicine, Post-Baccalaureate Premedical Program, Johns Hopkins University, 2 hours/week in the fall semester.

2006-2015 Director Endocrinology Section, Genes to Society, Johns Hopkins School of Medicine 40 hours/week; 3 weeks/year

2008-2014 Director, Mini-Medical School Curriculum, Post-Baccalaureate Premedical Program, Johns Hopkins University

2013-2015 Endocrinology and Metabolism, M2 Teaching, Perdana School of Medicine in Malaysia affiliated with Johns Hopkins School of Medicine 40 hours/week; 3 weeks/year

2013-2015 Comprehensive USMLE Part 1 Review, M2 Teaching, Perdana School of Medicine in Malaysia affiliated with Johns Hopkins School of Medicine 40 hours/week; 2 weeks/year

2015-2019 Comprehensive USMLE Part 1 Review, M2 Teaching, University of Sydney, Australia, 40 hours/week; 2 weeks/year

2015-2023 Attending Adult Endocrinology Fellows Clinic, Rutgers-Robert Wood Johnson School of Medicine 6 hours/week; 48 weeks/year

2016-2021 Digestive Systems, Nutrition and Metabolism, M1 Teaching Rutgers-Robert Wood Johnson School of Medicine 4 hours/week; 1 week/year

2016-2023 Endocrinology and Metabolism, M2 Teaching Rutgers-Robert Wood Johnson School of Medicine 6 hours/week; 2 weeks/year

2016-2023 Getting Prepared Series (GPS), M2 Teaching Rutgers-Robert Wood Johnson School of Medicine 10 hours/week; 12 weeks/year

2024- Clinical Based Instruction (CBI), M1 Teaching University of Arizona College of Medicine 4 hours/week; 12 weeks/year

Mentoring (pre- and post-doctoral)

There are 44/77 trainees with academic positions (57%) and ranks: One hospital CEO, four chairs of medicine (professors), two chiefs of endocrinology (associate professors), seven professors, 14 associate professors, 14 assistant professors, and two instructors.

Past Advisees

1. B. Price Kerfoot, undergraduate student, Princeton University, 1987-1989. Current position: Associate Professor of Surgery- Urology, Harvard Medical School.
2. J.M. Moates, medical student, Howard Hughes Medical Institute, University of Alabama Medical School, 1987-1988. Current position: Assoc. Professor of Medicine, University of Alabama.
3. E.A. Farr, medical student, Howard Hughes Medical Institute, University of Michigan Medical School, 1987-1988. Current position: Asst Professor of Ophthalmology Mayo Clinic Medical School.
4. H.J. Steinfelder, postdoctoral fellow, Dept. of Pharmacology & Toxicology, Universität Göttingen, Germany, 1988-1992. Current position: Professor of Medicine, Universität Göttingen.
5. M. Yamada, postdoctoral fellow, Gunma University School of Medicine, 1988-1990. Current position: Chair of Medicine, Professor of Medicine, Gunma University School of Medicine.
6. M. Mroczynski, postdoctoral fellow, Northeastern Ohio University College of Medicine, 1991. Current position: clinical practice.

7. M. Nations, postdoctoral fellow, Northeastern Ohio University College of Medicine, 1992. Current position: clinical practice
8. S.G. Rajan, postdoctoral fellow, Case Western Reserve University Medical School, 1992. Current position: Asst Professor of Clinical Medicine, Columbia University, NY, NY.
9. S. Kommareddi, postdoctoral fellow, Case Western Reserve University Medical School, 1992. Current position: Asst Professor of surgery, Univ of Arizona.
10. L.A. Berg, M.D., Endocrinology fellow, University Hospitals of Cleveland, 1992. Current position: clinical practice.
11. L. Cohen, M.D., postdoctoral fellow Beth Israel and Children's Hospitals, 1992-1995. Current position: Assoc. Professor of Pediatrics, Harvard Medical School, Children's Hospital, Boston
12. S. Tollin, M.D., Endocrinology fellow, Beth Israel Hospital, Boston, 1992-1994. Current position: clinical practice.
13. E.D. Abel, M.D., Ph.D., Endocrinology fellow, Beth Israel Hospital, Boston, 1993-1996. Current position: Professor of Medicine, Chair of Medicine, University of Iowa, Iowa City.
14. A. Hollenberg, M.D., Instructor, Beth Israel Hospital, Boston, 1993-1995. Current position: Professor of Medicine, Harvard Medical School, Chair of Medicine, Cornell University.
15. O. Cohen, M.D., Endocrinology fellow, Beth Israel Hospital, Boston, 1992-1994. Current position: Professor of Medicine, Chaim Sheba Medical Center, Israel.
16. D. Herodotou, M.D., Endocrinology fellow, Beth Israel Hospital, Boston, 1993-1996. Current position: clinical practice
17. T. R. Flynn, M.D., Endocrinology fellow, Beth Israel Hospital, Boston, 1993-1996. Current position: Assoc. Professor of Medicine, Emory University, Atlanta GA.
18. T. Monden, M.D., Ph.D., postdoctoral fellow, Beth Israel Hospital, Boston, 1994-1997. Current position: Assoc. Professor of Medicine, Gunma University School of Medicine, Gunma Japan.
19. MF Langlois, M.D., Research fellow, Thyroid Unit, Beth Israel Hospital, Boston, 1995-1997. Current position: Professor of Medicine, Sherbrooke University School of Medicine, Sherbrooke Quebec.
20. K. Lee, Research associate, medical student HST program, Harvard Medical School, 1994-1998. Current position: clinical practice reproductive endocrinology, Duke University.
21. H.C. Kaulbach, M.D., Endocrinology fellow, Thyroid Unit, Beth Israel Deaconess Medical Center, Boston, 1995-1998. Current position: clinical practice
22. E. Moura, Ph.D., sabbatical leave, Thyroid Unit, Beth Israel Deaconess Medical Center, Boston, 1997-1999. Current position: Professor of Physiology, Biological Institute, Rio de Janeiro, Brazil
23. C. Pazos Moura, Ph.D., sabbatical leave, Thyroid Unit, Beth Israel Deaconess Medical Center, Boston, 1997-1999. Current position: Professor of Physiology, Federal University, Rio de Janeiro, Brazil
24. J. D. Safer, M.D., Research fellow, Thyroid Unit, Beth Israel Hospital, Boston, 1994-1996; Instructor, 1996-1999. Current position: Professor of Medicine, Mount Sinai Medical School, NY
25. C. Oberste-Berghaus, M.D., Research fellow, Thyroid Unit, Beth Israel Hospital, Boston, 1997-1999. Current position: Asst Professor of Medicine, Bonn University, Germany.
26. K. Zanger, M.D., Research fellow, Thyroid Unit, Beth Israel Deaconess Medical Center, Boston, 1995-2000. Current position: clinical practice pediatrics, Massachusetts General Hospital, Boston, MA

27. M.E. Boers, Research fellow, Thyroid Unit, Beth Israel Deaconess Medical Center, Boston, 1996-2000. Current position: Biotechnology Company
28. K. Hashimoto, M.D., Ph.D., Research fellow, Thyroid Unit, Beth Israel Deaconess Medical Center, Boston, 1997-2000. Current position: Associate Professor of Medicine, Gunma University School of Medicine, Gunma Japan.
29. F. Curty, Predoctoral student, Thyroid Unit, Beth Israel Deaconess Medical Center, Boston, 1999-2000. The University of Chicago, 2000-2002. Current position: Asst Professor, Biological Institute, Rio de Janeiro, Brazil.
30. P. Borges, Predoctoral student, Thyroid Unit, Beth Israel Deaconess Medical Center, Boston, 1999-2000. The University of Chicago, 2000-2002. Current position: Asst Professor, Biological Institute, Rio de Janeiro, Brazil.
31. N. Shibusawa, M.D., Ph.D. Research fellow, Thyroid Unit, Beth Israel Deaconess Medical Center, Boston, 1999-2000. The University of Chicago, 2000-2003, Current position: Associate Professor of Medicine, Gunma University School of Medicine, Gunma Japan.
32. Christine Houlihan, M.D., Postdoctoral Fellow, The University of Chicago 2002-2004, Current position: Asst. Professor of Medicine, Northern Hospital, Eppig, Australia.
33. Isaiah Pittman IV, M.D., Ph.D. Endocrinology fellow, The University of Chicago, 2002-2004. The University of Chicago, 2000-2003, Current position: clinical practice
34. C-Z. Wang, Ph.D. Research Associate, The University of Chicago, 2003-2004, Current position: Research Associate (Instructor), The University of Chicago.
35. V. Milkovich, Research Fellow, The University of Chicago, 2002-2004, Current position: practicing pharmacist.
36. A. Nikrodhanond, Research Fellow, The University of Chicago, 2000-2005; Current position: Pharmaceutical industry
37. K. Naik, Ph.D. Postdoctoral fellow, The University of Chicago, 2002-2005; Current position: Pharmaceutical industry
38. K. Barnes, M.D., Ph.D. Endocrinology fellow, The University of Chicago, 2002-2005; Current position: Asst Professor, University of Illinois, Chicago.
39. K. Temple, Graduate Student, Molecular Metabolism and Nutrition Committee, The University of Chicago, 2002-2004 (Ph.D. degree conferred), postdoctoral fellow 2004-2005; Current position: Clinical Research Manager, The University of Chicago.
40. D. Porras, Graduate Student, Molecular Metabolism and Nutrition Committee, The University of Chicago, 2002-2005; Current position: Post doctoral fellow, The University of Illinois
41. Diane Deplewski, M.D. Postdoctoral fellow, The University of Chicago, 2003-2005; Current position: Associate Professor of Pediatrics, University of Chicago
42. T. Ortiga-Carvalho, Ph.D, Research Associate (Instructor), The University of Chicago, 2003-2005, Current position: Assoc. Professor of Physiology, Federal University, Rio de Janeiro, Brazil
43. Collen Buggs M.D., Ph.D. Postdoctoral fellow, The University of Chicago, 2003-2005; Current position: Assistant Professor of Pediatrics, Wayne State University
44. S. Skjei, M.D., Endocrinology fellow, The University of Chicago, 2004-2005, Current position: Private Practice.
45. M. Hussain, M.D, Research Associate (Asst. Professor), The University of Chicago, 2004-2005, Current position: Professor of Medicine, University of Michigan.
46. A. Sidhaye, M.D, Postdoctoral fellow, Johns Hopkins University School of Medicine, 2005-2006, Current position: Asst Professor of Medicine, Johns Hopkins University School of Medicine.

47. R. Miller, M.D, Postdoctoral fellow, Johns Hopkins University School of Medicine, 2005-2006, Current position: Asst Professor of Pediatrics, Johns Hopkins University School of Medicine.
48. A. Alatortsev, Ph.D., Postdoctoral fellow, Johns Hopkins University School of Medicine, 2005-2006, Current position: Biotech Industry.
49. D. Machado, Research technician, Johns Hopkins University School of Medicine, 2005-2008, Current position: Biotech Industry.
50. R. Stein, Post-Baccalaureate student Johns Hopkins University, 2007-2009, Current position: residency training.
51. M. Henderson, Post-Baccalaureate student Johns Hopkins University, 2008-2009, Current position: residency training.
52. D. Sima, M.D. Postdoctoral fellow, Johns Hopkins University School of Medicine, 2006-2009, Current position: Asst Professor of Pediatrics, Albany Medical College.
53. A. Sabet, M.D. Postdoctoral fellow, Johns Hopkins University School of Medicine, 2006-2009, Current position: Instructor in Medicine, Harvard Medical School, BIDMC.
54. M. Messer, Post-Baccalaureate student Johns Hopkins University, 2009-2010, Current position: residency training.
55. L. He, M.D., Ph.D. Postdoctoral fellow, Johns Hopkins University School of Medicine, 2008-2009, Current position: Associate Professor of Pediatrics, Johns Hopkins University Medical School.
56. K. Brothers Graduate student, Department of Physiology, Johns Hopkins University School of Medicine, 2007-2010, Current position: Administrator for the Endocrine Society.
57. M. Chiamolera M.D., Ph.D. Postdoctoral fellow, Johns Hopkins University School of Medicine, 2006-2013, Current position: Assoc. Professor of Medicine, Federal University, Sao Paulo, Brazil.
58. S. Matsumoto, M.D., Ph.D. Postdoctoral fellow, Johns Hopkins University School of Medicine, 2009-2013, Current position: Assoc. Professor of Medicine, Gunma University School of Medicine, Gunma Japan.
59. A. Iheanacho Graduate student, Department of Physiology, Johns Hopkins University School of Medicine, 2007-2013, Current position: pharmaceutical industry
60. Dustin Jones Graduate student, Department of Physiology, Johns Hopkins University School of Medicine, 2012-2015
61. Irene Aninye, Ph.D. Postdoctoral fellow, Johns Hopkins University School of Medicine, 2012-2015, Current position: postdoctoral fellow, National Institute of Health
62. Kate Beckwith-Fickas, M.D. Postdoctoral fellow, Johns Hopkins University School of Medicine, 2012-2015, Current position: Assoc. Professor of Pediatrics, Hackensack Meridian School of Medicine
63. Vitor Pinto Ph.D. Graduate student, Federal University, Sao Paulo, Brazil and Johns Hopkins University School of Medicine, 2012-2015, Current position: pharmaceutical industry
64. Vivianne Lima Ph.D. Graduate student, Federal University, Sao Paulo, Brazil and Johns Hopkins University School of Medicine, 2012-2015, Current position: pharmaceutical industry
65. Sally McMillian, Ph.D. 2013-2016 Instructor, Rutgers-Robert Wood Johnson Medical School, Current position: Assistant Professor High Point University, NC
66. Svetlana Minakhina, Ph.D. 2015-2023 Instructor, Rutgers-Robert Wood Johnson Medical School, Current position, Assistant Professor, Icahn School of Medicine

67. Katarzyna Kalemba 2015-2020 Lecturer Rutgers-Robert Wood Johnson Medical School, Current position, Data Science Associate, Golden Hippo
68. Amy Suhotliv, M.D. 2016-2019, Medical Student Fellowship, Current position: Pulmonary and Critical Care Medicine Fellow, Montefiore Health System.
69. Yujue Wang, Ph.D. 2016-2020 Ph.D. candidate, Instructor, Rutgers-Robert Wood Johnson Medical School, Metabolomics Core Director, Current position, Fellow Tsinghua University, China
70. Hyok Kwon, Ph.D. 2017- Instructor, Rutgers-Robert Wood Johnson Medical School, Current position, Associate Professor, UA College of Medicine-Phoenix
71. Sanya Bansai M.D. 2018-2021 Medical Student Fellowship
    Current position, Medical Student, University of Virginia Medical School
72. Vaneesa Oliveria Ph.D. 2018-2020 Postdoctoral fellow Rutgers-Robert Wood Johnson Medical School, Current position industry
73. Huiting Xu, Ph.D. 2018-2023 Ph.D. candidate, postdoctoral fellow Rutgers-Robert Wood Johnson Medical School, Current position Industry

Current Fellows/Advisees (4)

1.	Rohaim Gilani	2022- Undergraduate Student
2.	Sonya Kim M.S.	2019- Research Assistant
3.	Sayaka Yamada, M.D., Ph.D.	2023- Postdoctoral fellow
4.	Lingqiong Meng, Ph.D.	2024- Postdoctoral fellow

Thesis committees

1995	Thesis Examination Committee, C.Martinez, Neuroscience Department, Harvard Medical School
2001-2005	Chair, Thesis Committee, Kit Phanvijhitsiri, Molecular Metabolism and Nutrition Committee, University of Chicago
2004	Thesis Examination Committee, Karla Temple, Molecular Metabolism and Nutrition Committee, University of Chicago
2007	Chair, Thesis Examination Committee, Adam Naj, Department of Epidemiology at the Johns Hopkins School of Public Health
2008	Member, Qualifying Committee, Yunjung Lee, Department of Physiology, Johns Hopkins University School of Medicine
2008	Member, Qualifying Committee, Katie Brothers, Department of Physiology, Johns Hopkins University School of Medicine
2009	Member, Qualifying Committee, Akunna Iheanacho, Department of Physiology, Johns Hopkins University School of Medicine
2010	Member, Qualifying Committee, Zhikui (Zeke) Wei, Department of Physiology, Johns Hopkins University School of Medicine
2017	Member, Qualifying Committee, Yujue Wang, Microbiology and Molecular Genetics, Rutgers University
2018	Member, Qualifying Committee, Huiting Xu, Cell and Developmental Biology, Rutgers University
2020	Chair, Qualifying Committee, Christian Moya Gamboa, Physiology and Integrative Biology, Rutgers University

2020 Chair, Thesis Defense, Yujue Wang, Microbiology and Molecular Genetics, Rutgers University

2023 Chair, Thesis Defense, Huiting Xu, Cell and Developmental Biology, Rutgers University

Training Grant Participation

2000-2004 Executive Committee, Integrated Training Grant in Endocrinology (NIH T32), University of Chicago

2001-2005 Executive Committee, Digestive Diseases and Nutrition Training Grant (NIH T32), University of Chicago

2002-2003 Co-Director, Diabetes Research and Training Center (NIH P60), University of Chicago

2003-2005 Director, Diabetes Research and Training Center (NIH P60), University of Chicago

2004-2005 Director, Research Training Grant in Endocrinology (NIH T32), University of Chicago

2005-2015 Co-Director, Research Training Grant in Endocrinology (NIH T32, Radovick, S and Wondisford, F Co-PIs), John Hopkins University School of Medicine

2005-2015 Director, Diabetes Research and Training Center (NIH P60), John Hopkins University School of Medicine

2024- Director (MPI) Training Grant in Endocrinology (NIH T32), University of Arizona

Invited Talks, Panels

1987 Symposium, “Synthesis of recombinant TSH”, NIH, Bethesda

1990 Endocrine Grand Rounds, University Hospitals of Cleveland

1991 Endocrine Grand Rounds, University Hospitals of Cleveland Symposium “Regulation of TSH biosynthesis”, NIH, Bethesda

1992 Medical Grand Rounds, “Molecular pathogenesis of pituitary adenomas”, University Hospitals of Cleveland

Endocrine Grand Rounds, “Molecular basis of central hypothyroidism”, Beth Israel Hospital, Boston, MA

Endocrine Grand Rounds, “Molecular basis of central hypothyroidism”, Massachusetts General Hospital, Boston

Endocrine Grand Rounds, “TSH secretion in health and disease” Tufts New England Medical Center, Boston

Nuclear Medicine Grand Rounds, “TSH structure-function relationships” Dana Farber Cancer Institute, Boston

Endocrine Grand Rounds, “TSH secretion in health and disease Boston University Medical Center, Boston

1993 Endocrine Grand Rounds, “Molecular basis of thyroid hormone action” Brigham and Women’s Hospital, Boston

Endocrine Grand Rounds, “TSH secretion in health and disease” Massachusetts General Hospital, Boston

Symposium, “Use of transgenic animals in thyroid research”, American Thyroid Association, Tampa, FL

1994 Internal Medicine Course, “Update in Internal Medicine - 1994”, Beth Israel Hospital, Boston, MA

Symposium, “Medical Genetics and Human Disease”, Introduction to Molecular and Cellular Research Course, Endocrine Society, Orlando, FL

1995 Symposium, “Regulation of Transcription”, Introduction to Molecular and Cellular Research Course, Endocrine Society, Orlando, FL

Seminar Series, Endocrine Grand Rounds, “Inappropriate TSH secretion: new insights from molecular biology” Rhode Island Hospital, Providence, RI

Meeting, Diabetes and Endocrine Society of Rhode Island, “Problems in Thyroid Disease”, Cranston, RI

Internal Medicine Course, “Update in Internal Medicine 1995”, Columbia-Presbyterian Medical Center and Beth Israel Hospital, New York, NY

Medical Grand Rounds, “Problems in Thyroid Disease”, Framingham Union Hospital, Framingham, MA

Endocrine Society of Australia, Postgraduate Assembly, “POU Transcription Factors and Endocrinology” and “TSH Subunit Gene Regulation”, Canberra, Australia

1996 Primary Care Seminar, “Problems in Thyroid Disease”, Primary Care Seminar, Beth Israel Hospital, Boston, MA

Medical Grand Rounds, “Thyroid Hormone Action at the Receptor”, Johns Hopkins University, Baltimore MD

Internal Medicine Course, “Update in Internal Medicine 1996”, Columbia-Presbyterian Medical Center and Beth Israel Hospital, New York City, NY

Symposium, “Negative Regulation by Thyroid Hormone”, American Thyroid Association, San Diego, CA

Thyroid Hormone Action Symposium, “Negative Regulation by Thyroid Hormone” and “Inappropriate TSH Secretion”, Maebashi, Japan

1997 Symposium, “Regulation by Nuclear Hormone Receptors”, National Institute of Aging, Baltimore MD

Medical Grand Rounds, “Thyroid Hormone Action," University of Pittsburgh, Pittsburgh PA

Medical Grand Rounds, “Thyroid Hormone Action at the Receptor," University of Maryland, Baltimore MD

Medical Grand Rounds, “Problems in Thyroid Disease”, University of Sherbrooke, Sherbrooke Quebec

Internal Medicine Course, “Update in Internal Medicine 1997”, Columbia-Presbyterian Medical Center and Beth Israel Deaconess Medical Center, New York, NY

Seminars in Medicine at the Beth Israel Hospital, “Thyroid Hormone Action”, Boston, MA

Third International Meeting on Resistance to Thyroid Hormone, “Pituitary Resistance to Thyroid Hormone”, Aspen, Co

Symposium, “Regulation of TSH Synthesis”, American Thyroid Association, Annual Meeting, Colorado Springs, Co

1998 Fifth International Symposium on Molecular Thyroidology, “Cofactors in Thyroid hormone Action”, Nagoya, Japan

Internal Medicine Course, “Update in Internal Medicine 1998”, Columbia-Presbyterian Medical Center and Beth Israel Deaconess Medical Center, New York, NY

American Thyroid Association, Van Meter Award Lecture, “Molecular Regulation of the Thyrotroph”, Portland, OR

Symposium, “TSH Regulation in Health and Disease,” University of Massachusetts Medical Center, Worcester, MA

Endocrine Grand Rounds, “Molecular Regulation of the Thyrotroph”, Mount Sinai Medical Center, New York, NY

Endocrine Grand Rounds, “Molecular Regulation of the Thyrotroph”, Vanderbilt Medical Center, Nashville, TN

1999 Sixth International Symposium on Molecular Thyroidology, “Cofactors in Thyroid hormone Action”, Gunman, Japan

Endocrine Grand Rounds, “Insight from Transgenic Animals into the Control of TSH Synthesis,” Tufts New England Medical Center, Boston, MA

Fourth International Meeting on Resistance to Thyroid Hormone, “TR Knockout Animals Yield Insight into the Control of the Thyroid Axis”, Sao Paulo, Brazil

Latin American Thyroid Society, “Central hypothyroidism,” Igassu Falls, Brazil

Biochemistry Seminar, “Molecular Mechanism of Thyroid Hormone Action,” State University of New York at Buffalo, Buffalo, NY

Endocrinology Seminar, “Molecular Mechanism of Thyroid Hormone Action,” Baylor College of Medicine, Houston, TX

Montreal Thyroid Club Special Lecture, “Molecular Mechanism of Thyroid Hormone Action,” Montreal, Canada

2000 Endocrinology Seminar, “Molecular Mechanism of Thyroid Hormone Action,” University of Chicago, Chicago, IL

12th International Thyroid Congress, “Role of TRH in the Hypothalamic-Pituitary-Thyroid Axis,” Kyoto, Japan

11th International Congress of Endocrinology, Plenary Session “Mechanisms of Negative TRE Function,” Sydney Australia

The Endocrine Society, Plenary Session, “TR Knockout Animals,” Denver, Co

2001 Endocrine Grand Rounds, "Co-activators and the Pancreatic Beta Cell," University of Chicago, Chicago IL

Fifth International Meeting on Resistance to Thyroid Hormone, “TR Knockin Animals and Control of the Thyroid Axis,” Verbania, Italy

2002 International Conference on Thyroid Hormone and Brain Development, "Thyroid Hormone Action in the Brain," Research Triangle Park, NC

Brazilian Federation of the Societies for Experimental Biology, “Lesson Learned from Transgenic Animal with Mutant Thyroid Hormone Receptor,” Salvador, Brazil

Instituto de Biofísica Carlos Chagas Filho "Is DNA Binding Required for all Actions of the Thyroid Hormone Receptor," Universidade Federal do Rio de Janeiro, Brazil

New Faculty Retreat, Department of Medicine "Grants 101," University of Chicago, Chicago, IL

Endocrine Grand Rounds, "Update of Thyroid Hormone Action," New York University School of Medicine, New York, NY

2003 Nutrition Rounds, "Thyroid Hormone Action: Lessons from Transgenic Animals," University of Chicago, Chicago IL

Endocrine Grand Rounds, "Co-activators and the Pancreatic Beta Cell," University of Illinois Chicago, Chicago IL

Outstanding Investigator Award Lecture, American Federation for Medical Research

New Faculty Retreat, Department of Medicine "Grants 101," University of Chicago, Chicago, IL

Sixth International Meeting on Resistance to Thyroid Hormone, “Role of Transcriptional Cofactors in Control of the Thyroid Axis,” Miami, FL

2004 Cooperative Reproductive Research Center Scientific Meeting, Portland, OR

Endocrine Grand Rounds, "Insulin Control of Gluconeogenesis," University of Pennsylvania, Philadelphia, PA

American Diabetes Association Annual Meeting, "Insulin Control of Gluconeogenesis," Orlando, FL

New Faculty Retreat, Department of Medicine "Grants 101," University of Chicago, Chicago, IL

Meet the Professor, “Mutant Thyroid Hormone Receptors,” Annual Meeting, American Thyroid Association, Vancouver, BC

2005 Endocrine Grand Rounds, “Cross-talk Between Insulin and cAMP Signaling Pathways," Columbia University, New York, NY

Symposium Speaker, “Thyroid hormone Receptor Knock-ins," Endocrine Society Annual Meeting, San Diego, CA

Symposium Speaker, “Hepatic Gluconeogenesis," 48th Annual Japanese Diabetes Society, Kobe, Japan

Symposium Speaker, “TR DNA Binding," 13th International Thyroid Congress, Buenos Aires, Argentina

7th International Meeting on Resistance to Thyroid Hormone, Scientific Organizing Committee and Speaker, Lyon, France

Endocrine Grand Rounds, “Cross-talk Between Insulin and cAMP Signaling Pathways," Massachusetts General Hospital, Boston, MA

2006 Research Symposium, “Cross-talk Between Insulin and cAMP Signaling Pathways," University of Michigan, Ann Arbor, MI

Endocrine Grand Rounds, “When TSH is not the best thyroid function test," University of Michigan, Ann Arbor, MI

2007 Sidney Ingbar Memorial Lecture and Award, Beth Israel Deaconess Hospital, Boston MA

8th International Meeting on Resistance to Thyroid Hormone, Scientific Organizing Committee and Speaker, Azores Islands, Portugal

2008 Speaker, 11th Annual Frontiers in Nuclear Receptor Action Meeting, Savannah GA

American Thyroid Association, Symposium Speaker, “Nutritional Regulation of the Thyrotroph,” Chicago, IL

2009 Symposium speaker, “Metabolic and Thyroid Disease,” Fudan University, Shanghai, China

Symposium speaker, American Thyroid Association Annual Meeting “Thyroid Hormone Synthesis, Action and Metabolism,” Palm Beach, FL

2009 Endocrine Grand Rounds, “Transcriptional Control of Hepatic Gluconeogenesis in Fasting and Obesity," Albert Einstein University College of Medicine, New York, NY

2010

Endocrine Grand Rounds, “Transcriptional Control of Hepatic Gluconeogenesis in Fasting and Obesity," University of Pennsylvania College of Medicine, Philadelphia, PA

Medical Grand Rounds, “Control of Hepatic Gluconeogenesis,” Alpert School of Medicine, Providence, RI

2010 9th International Meeting on Resistance to Thyroid Hormone, Scientific Organizing Committee and Speaker, Cambridge, UK

14th Annual International Thyroid Congress, “Transcriptional Control by Co-Activators and Co-Repressors,” Paris, France

2011 Medical Grand Rounds, “Control of Hepatic Gluconeogenesis,” University of Rochester, Rochester, NY

American Thyroid Association, Symposium Speaker, “Molecular Mechanism of Thyroid Hormone Action,” Palm Springs, CA

Medical Grand Rounds, “Control of Hepatic Gluconeogenesis,” Stonybrook University, NY

Banbury Conference on Metformin Action, Invited Speaker, Cold Spring Harbor, NY

Medical Grand Rounds, “Control of Hepatic Gluconeogenesis,” Medical University of South Carolina, Charleston, SC

2012 Diabetes and Metabolism Seminar Series, University of Washington, Seattle WA
Medical Grand Rounds, University of Utah School of Medicine, Salt Lake City, UT

82nd Annual Annual Meeting of the American Thyroid Association, “Sidney H. Ingbar Award Lecture: Evolving Concepts in Thyroid Hormone Action,” Quebec, Canada

10th: International Meeting on Resistance to Thyroid Hormone, Scientific Organizing Committee and Speaker, Quebec, Canada

2013 Endocrinology Review Course, University of Sydney, Australia

Endocrinology Review Course, Perdana, Johns Hopkins University, Malaysia

Medical Grand Rounds, Oregon Health and Sciences University, Portland, OR

Endocrine Society Symposium Speaker: “Negotiations in Academic Medicine,” San Francisco, CA

American Thyroid Association Research Summit, speaker, Washington, DC

2014 Endocrinology Review Course, University of Sydney, Australia

Endocrine Society Symposium Speaker: “Negotiations in Academic Medicine,” Chicago, IL

Program Chair, 84th Annual Meeting of the American Thyroid Association, Coronado, CA

11th: International Meeting on Resistance to Thyroid Hormone, Scientific Organizing Committee and Speaker, Madrid, Spain

USMLE Boot Camp Course, Johns Hopkins School of Medicine, Baltimore, MD

2015 Endocrinology Review Course, University of Sydney, Australia

Symposium speaker, "Metabolic and Thyroid Disease," Fudan University, Shanghai, China

15th International Thyroid Congress, "Thyroid Hormone Action Debate," Lake Buena Vista, FL

USMLE Boot Camp Course, Johns Hopkins School of Medicine, Baltimore, MD

2016 Endocrinology Review Course, University of Sydney, Australia

Endocrine Society Symposium Speaker: Negotiations in Academic Medicine, Boston, MA

12th International Meeting on Resistance to Thyroid Hormone, Scientific Organizing Committee and Speaker, Colorado Springs, CO

Columbia University Diabetes Center Symposium, "Transcriptional control of gluconeogenesis," New York, NY

2017 Endocrinology Review Course, University of Sydney, Australia

Endocrine Society Symposium Speaker: "Negotiations in Academic Medicine," Boston, MA

USMLE Boot Camp Course, University of Sydney, Australia

2018 NYU Diabetes Symposium, "Metabolomics and the control of gluconeogenesis," New York, NY

International Congress of Endocrinology Speaker, Toronto, Canada

13th International Meeting on Resistance to Thyroid Hormone, Scientific Organizing Committee and Speaker, Amsterdam, Netherlands

NJ AHA Cardiology Meeting, “Lipid disorders,” St. Barnabas Hospital, Livingston, NJ

USMLE Boot Camp Course, University of Sydney, Australia

2019 American Professors of Medicine “Lessons for leadership: high profile cases of misbehavior,” moderator, Philadelphia, PA

Rutgers-NJ Child Heath Institute Symposium “Metabolomics and the control of gluconeogenesis,” New Brunswick, NJ

USMLE Boot Camp Course, University of Sydney, Australia

2020 JDRF Symposium, “Type 1 DM Research Center” Rutgers Biomedical Health Sciences

2021 Japanese Endocrine Society Annual Meeting, New Thoughts on Hepatic Gluconeogenesis in Diabetes Mellitus, online

American Professors of Medicine “Leveraging Innovation,” moderator, Tucson, AZ

14th International Meeting on Resistance to Thyroid Hormone, Scientific Organizing Committee and Speaker, Monterey, CA

USMLE Boot Camp Course, University of Sydney, Australia

Annual Mid-Atlantic Diabetes and Obesity Research Symposium, NIH, Bethesda, MD

Major Research Interests:

1. **Thyroid hormone regulation of the hypothalamic pituitary thyroid (HPT) axis** My laboratory has had a long-standing interest in thyroid hormone regulation of the HPT axis. Cell culture and mouse models with targeted disruptions of feedback regulation have been studied. Novel insights in the mechanism of negative thyroid hormone regulation have been obtained from these studies.

- Machado DS, Sabet A, Ortiga-Carvalho T, Santiago L, **Wondisford FE**. A thyroid hormone receptor mutation that dissociates thyroid hormone regulation of gene expression in vivo. Proc Natl Acad Sci USA, 2009, 106:9441-9446. PMID: 19439650. Cover Editorial – Webb, P. Another story of mice and men: The types of RTH *Proc Natl Acad Sci USA*, 2009, 106:9129-9130.
- Pinto VMS, Minakhina S, Qiu S, Sidhaye A, Brotherton MP, Suhotliv A, **Wondisford FE**. Naturally Occurring Amino Acids in Helix 10 of the Thyroid Hormone Receptor Mediate Isoform-Specific TH Gene Regulation. *Endocrinology*. 2017, 158:3067-3078. PMID: 28911178

- Minakhina S, Bansal S, Zhang A, Brotherton M, Janodia R, De Oliveira V, Tadepalli S, **Wondisford FE**. A Direct Comparison of Thyroid Hormone Receptor Protein Levels in Mice Provides Unexpected Insights into Thyroid Hormone Action. *Thyroid*. 2020 30(8):1193-1204. PMID: 32122258
- Minakhina S, De Oliveira V, Kim SY, Zheng H, **Wondisford FE**. Thyroid Hormone Receptor Phosphorylation is Essential for Acute Fasting-Induced Suppression of the Hypothalamic-Pituitary-Thyroid Axis. *Proc Natl Acad Med USA* 2021, 118(39): e2107943118.

2. Hormone and substrate control of hepatic glucose production in diabetes My laboratory determined for the first time a plausible mechanism by which metformin regulates hepatic glucose production. Metformin phosphorylates CBP on a unique serine residue and these studies were extended to show that phosphorylation of this site could be used as a biomarker for metformin action. We are now using metabolomic and fluxomics to probe substrate control of gluconeogenesis. Three patents are pending on methods to study and treat forms of fatty liver disease.

- He L, Sabet A, Miller R, Djedos S, Hussain MA, Sun X, Radovick S, **Wondisford FE**. Metformin and insulin suppress hepatic gluconeogenesis by inhibiting cAMP signaling through phosphorylation of CREB binding protein (CBP), Cell 2009, 137:635-646. PMID: 19450513. Editorial – White, MF. Metformin and insulin meet in a most atypical way *Cell Metabol*. 2009, 9:485-487.
- Konopka AR, Esponda RR, Robinson MM, Johnson ML, Carter RE, Schiavon M, Cobelli C, **Wondisford** FE, Lanza IR, Nair KS. Hyperglucagonemia Mitigates the Effect of Metformin on Glucose Production in Prediabetes. *Cell Rep*. 2016 15(7):1394-400. PMID: 29791861
- Wang Y, An H, Liu T, Qin C, Sesaki H, Guo S, Radovick S, Hussain M, Maheshwari A, **Wondisford FE**, O'Rourke B, He L. Metformin Improves Mitochondrial Respiratory Activity through Activation of AMPK. *Cell Rep.* 2019 29(6):1511-1523.
- Wang Y, Kwon H, Su X, **Wondisford FE**. Glycerol not lactate is the major net carbon source for gluconeogenesis in mice during both short and prolonged fasting. *Mol Metab.* 2020, 31:36-44. Outstanding article of the issue, featured on the cover.

3. Mechanisms by which the CBP/P300 co-activators act in health and disease While studying gene regulation in the anterior pituitary, my laboratory determined that CBP/p300 co-activators played critical and distinct roles in both cellular development and hormonal gene regulation. Subsequently, these studies were extended to the pancreatic beta cell, hepatocyte and CNS.

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4. Characterization of TSH subunit genes and their expression My laboratory was the first to clone the unique TSH-beta subunit gene in humans and express it with the common TSH-alpha subunit to produce biologically active human TSH in tissue culture. Dr. Wondisford holds two US patents on TSH synthesis, and these patents were licensed to Sanofi to produce Thyrogen, which is currently used extensively in the diagnosis and treatment of thyroid cancer.

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5. Mutations affecting anterior pituitary gland function In 1992, my laboratory described the first gene mutation affecting human anterior pituitary gland development. This landmark work established the clinical syndrome of combined pituitary hormone deficiency. I also described the first mutations of the TSH-beta subunit gene that resulted in secretion of biological inactive hormone.

- Steinfelder HJ, Radovick S, Mroczynski MA, Hauser P, McClaskey JH, Weintraub BD, **Wondisford FE**. Role of a pituitary-specific transcription factor (Pit-1/GHF-1) or a closely related protein in cAMP regulation of human thyrotropin-β subunit gene expression. *J Clin Invest*. 1992; 89:409-419. PMID: 1310694
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