

## **CURRICULUM VITAE**

### **PERSONAL**

Name: Russell T. Turner, Ph.D.  
Date and Place of Birth: July 6, 1948, Wilkes-Barre, PA

### **EDUCATION**

Pennsylvania State University	Ph.D. Biophysics	1975
Pennsylvania State University	M.S. Biophysics	1973
Pennsylvania State University	B.S. Biochemistry	1970

### **DISSERTATION**

"Estrogen-Induced Morphological and Metabolic Changes in the Avian Femur"

### **ACADEMIC POSITIONS**

Professor and Director of Skeletal Biology, School of Biological and Population Health Sciences, Oregon State University, Corvallis, OR; 2011-Present.

Professor and Director of Skeletal Biology, Department of Nutrition and Exercise Sciences, Oregon State University, Corvallis, OR; 2005-2011.

Professor and Director of the Bone Histomorphometry Laboratory, Department of Orthopedics, Mayo Medical School, Rochester, MN; 1992-2004.

Associate Professor, Departments of Orthopedics (1990-1992) and Biochemistry and Molecular Biology (1990-2004), Mayo Medical School, Rochester, MN.

Consultant, Department of Orthopedics, Mayo Clinic, Rochester, MN; 1992-2005.

Senior Associate Consultant, Departments of Orthopedics and Biochemistry and Molecular Biology, Mayo Clinic and Mayo Graduate School of Medicine, Rochester, MN; 1988-1992.

Off-campus member of the Center for Cell Research, The Pennsylvania State University, University Park, PA; 1988-1992.

Consultant for Radiation Safety, Jerry L. Pettis Memorial Administration Hospital, Loma Linda, CA; 1986-1988.

Associate Professor of Physiology and Pharmacology, Loma Linda University, Loma Linda, CA; 1984 -1988.

Research Chemist, Jerry L. Pettis Memorial Veterans Administration Hospital, Loma Linda, CA; 1984-1988.

Assistant Professor of Medicine and Pharmacology, Medical University of South Carolina, Charleston, SC; 1981-1984.

Instructor in Medicine and Pharmacology, Medical University of South Carolina, Charleston, SC; 1980-1981.

Research Associate, Department of Medicine, University of Washington School of Medicine, Seattle, WA; 1976-1980.

Radiation Safety Officer, American Lake Veterans Administration Medical Center, Tacoma, WA; 1977-1980.

Research Chemist, American Lake Veterans Administration Medical Center, Tacoma, WA; 1975-1980.

## **EXTRAMURAL FUNDING**

R21 AR066811-01A1 Turner (PI) 04/01/2015 – 03/31/17  
NIH

### **Mast Cells Mediate the Skeletal Response to Intermittent and Continuous PTH**

The goal of this project is to assess the role of mast cells in the differential skeletal response to intermittent and continuous PTH.

Role: PI

NNH14ZTT002N NRA Turner (PI) 07/01/15 – flight dependent  
NASA

### **Spaceflight-Induced Changes in Non-Shivering Thermogenesis and Effects on Bone in Mice**

This proposal requests tissues from flight and ground control mice from an upcoming spaceflight experiment aboard the International Space Station. The proposed research will address the mechanism(s) by which the spaceflight environment impacts energy balance and bone turnover.

Role: PI

NNX12AL24G Turner (PI) 09/15/12-09/14/16  
NASA

### **Role of Bone Marrow Adipocytes in Bone Loss during Simulated Spaceflight**

The goal of the study is to test the novel hypothesis that negative energy balance during spaceflight results in (1) bone marrow dysfunction and increased marrow adiposity and (2) altered signaling by peripheral adipokines (cytokines produced by adipocytes) all of which, in turn, contribute to negative bone turnover balance and bone loss.

R56DE014036 Spelsberg (PI) 07/01/12–06/30/17  
NIH/NIDR

### **Role of a TGF $\beta$ Regulated Gene (TIEG) in Human and Mouse Osteoblasts and Skeleton**

The goal of this project is to define the role of TIEG in osteoblast formation and function.

Role: PI on subaward to OSU

R01 RAR060913 Iwaniec (PI) 09/16/11–08/31/17  
NIH/NIAMS

### **The Role of Leptin in Inflammation-driven Bone Loss**

The goal of this project is to define the contribution of hyperleptinemia to inflammation-driven bone loss.

Role: Co-I

1P50AT006268-01 Helferich (PI) 09/01/10 - 08/31/17

NIH

**Botanical Estrogens: Mechanisms, Dose and Target Tissues**

The goal of this research is to assess the efficacy, safety, and mechanisms of action of estrogenic botanicals in order to guide public health recommendations.

Role: PI on subaward to OSU

R03 AA022454

Iwaniec (PI)

08/31/13 – 09/01/16

NIH/NIAA

**Chronic Alcohol Abuse: Suppression of Bone Remodeling in Non-human Primates**

The goal of this project is to define the effects of chronic alcohol consumption on cortical bone remodeling in a non-human primate model.

Role: Co-I

**INVENTIONS**

Treatment of bone cancer - United States patent #6,730,665 May, 04, 2004.

**HONORS AND AWARDS**

Faculty Excellence Award, College of Public Health and Human Sciences, Oregon State University, 2011.

Chair, Session on “Lifestyle and genetic influences on bone health”, Diet and optimal health, Portland, OR, May 2005.

Chair, Session on Osteoporosis, Orthopedic Research Society, San Francisco, CA, March 2004.

Rib Award, Sun Valley Hard Tissue Workshop, Sun Valley, ID, August 2003.

Chair and organizer, Session on Estrogen Receptors, Sun Valley Hard Tissue Workshop, Sun Valley, ID; August 2003.

Co-Chair, Session on Three-Dimensional Morphometry in the Assessment of Cancellous and Cortical Bone Structure, VIIIth Congress of the International Society of Bone Morphometry, Scottsdale, AZ; October 1999.

Co-Chair, Session on the Ovariectomized Rat Model for Postmenopausal Osteoporosis, Second Symposium/Workshop on Using the Live Rat in Skeletal Studies, Chicago, IL; May 1992.

Chair and organizer, Session on Cellular and Physiological Determinants of Bone Mass, Advances in Mineral Metabolism, Snowmass, CO; April 1991.

Co-Chair, Bone Session, Third International Sterling Symposium on the Biology of Aging, Neve Ilan, Israel; September 1990.

Travel Award, International Congress of Calcium Regulating Hormones, Montreal, and Quebec; September 1989.

Veterans Administration Performance Award; 1986.

Veterans Administration Performance Award; 1984.

Chair, Session on Vitamin D, Annual Meeting of the American Society for Bone and Mineral Research; 1981.

Travel Award, International Union of Physiological Sciences: Commission on Gravitational

Physiology, Innsbruck, Austria; October 1981.  
NASA Achievement Award; 1980.  
NASA Achievement Award; 1978.  
National Education Defense Administration Title 4 Fellowship; 1972-1974.

### **SOCIETY MEMBERSHIP**

International Society of Bone Morphometry, 2012-present.  
Endocrine Society; 1989-present.  
American Society for Bone and Mineral Research; 1979-present.  
National Speleological Society; 1970-(lifetime membership).  
Izaak Walton League; 1991-(lifetime membership).  
Phi Lambda Epsilon.  
Phi Eta Sigma.

### **COMMITTEE MEMBERSHIP**

Undergraduate Research, Innovation, Scholarship and Creativity (URISC) Committee, Oregon State University; 2012.  
Peer Review Committee, College of Public Health, Oregon State University; 2012-Present.  
Industry Partnering and Commercialization Committee, Oregon State University; 2012-Present.  
Promotion and Tenure Committee, Oregon State University; September 2008-2013. Chair 2012-2013.  
Institutional Animal Care and Use Committee, Oregon State University; January 2008-September 2011.  
Institutional Radiation Safety Committee, Oregon State University, September 2007-present.  
NASA Space Life Sciences - Cellular and Molecular Biology Standing Panel; December 1999-October 2002.  
Orthopedic Research Executive Committee, Mayo Clinic, Rochester, MN; 2000.  
Orthopedic Basic Research Committee, Mayo Clinic, Rochester, MN; 1988-2004.  
Research Service Safety Committee, Pettis Memorial Veterans Administration Hospital, Loma Linda, CA; 1987-1988.  
Human Studies Subcommittee, Pettis Memorial Veterans Administration Hospital, Loma Linda, CA; 1985-1988.  
Animal Welfare Committee, Charleston Veterans Administration Medical Center, Charleston, SC; 1982-1984.  
Hazardous Chemical Storage Committee, Charleston Veterans Administration Medical Center, Charleston, SC; 1980-1984.  
Radiation Safety Committee, American Lake Veterans Administration Medical Center, Tacoma, WA; 1978-1980.

## **EDITORIAL POSITIONS**

Editorial Board, Journal of Musculoskeletal and Neuronal Interaction: 2004-2008.

Editorial Board, Osteoporosis International 2015-present.

Ad hoc Reviewer: (15-25 manuscripts per year)

Alcohol: Clinical and Experimental Research

American Journal of Physiology

American Journal of Physiology - Regulatory, Integrative and Comparative Physiology

Applied Physiology, Nutrition, and Metabolism

Bone

British Journal of Nutrition

Calcified Tissue International

Clinical Orthopedics and Related Research

Drug and Chemical Toxicity

Endocrinology

Endocrine

Endocrine Reviews

Exercise and Sport Sciences Reviews

Experimental Cell Research

Experimental Gerontology

Evidence-Based Complementary and Alternative Medicine

General and Comparative Endocrinology

Hormone and Metabolic Research

Journal of Applied Bionics and Biomechanics

Journal of Applied Physiology

Journal of Bone and Mineral Metabolism

Journal of Clinical Endocrinology and Metabolism

Journal of Clinical Investigation

Journal of Gravitational Physiology

Journal of Interferon & Cytokine Research

Journal of Orthopedic Research

Journal of Musculoskeletal and Neuronal Interaction

Metabolism

Molecular Nutrition and Food Research

Nutrients

Osteoporosis International

PloS 1

Proceedings National Academy Science

Nature, Scientific Reports

Scanning Microscopy  
Society for Experimental Biology and Medicine

**VISITING PROFESSOR/SCIENTIST**

Boise State University, Boise, ID, Oct, 2009  
USDA, Grand Forks, ND, August, 2008  
University of Illinois, Urbana, IL, August, 2008  
Mayo Clinic, Rochester, MN, August 2008  
Bend Research, Bend, OR, March, 2008  
Mayo Clinic, Rochester, MN, June 2005  
Oregon Health Sciences Center, Portland, OR, July 2004  
University of Florida, Gainesville, FL, February 2004.  
Hershey Medical School, Hershey, PA, February 2004.  
Jackson Laboratories, Bar Harbor, ME, January 2002.  
University of Minnesota, Duluth, MN; February 2002.  
Procter & Gamble, Cincinnati, OH; November 2001.  
Stanford University, Palo Alto, CA; January 2000.  
Monsanto, St. Louis, MO; November 1999.  
Entremed, Baltimore, MD; April 1999.  
Bristol Myers Squibb, Princeton, NJ; April 1999.  
Abbott Laboratories, Chicago, IL; February 1999.  
Yale/Bayer Bone Seminar Series, West Haven, CT, October, 1998.  
Lilly Research Laboratories, Indianapolis, IN; July 1998.  
Texas A&M University, College Station, TX, March 1998.  
University of Indiana, Indianapolis, IN; May 1997.  
Loma Linda University, Loma Linda, CA; February 1997.  
Medical University of South Carolina, Charleston, SC; April 1996.  
Lilly Research Laboratories, Indianapolis, IN; March 1996.  
Hormel Institute, Austin, MN; December 1995.  
University of California, Davis, CA; November 1995.  
University of Minnesota, Duluth, MN; February 1995.  
Syntex Corporation, Mountainview, CA; November 1994.  
University of Indiana, Indianapolis, IN; March 1994.  
University of Utah, Salt Lake City, UT; January 1994.  
Lilly Research Laboratories, Indianapolis, IN; April 1993.  
National Institute of Aging, Baltimore, MD; February 1992.  
Creative Biomolecules, Boston, MA; February 1992.  
Lilly Research Laboratories, Indianapolis, IN; August 1991.

Childrens Hospital, San Francisco, CA; August 1990.  
Merck, Sharp and Dohme Research Laboratories, Westpoint, PA; May 1990.  
University of Texas Medical Center, Galveston, TX; January 1988.  
American Lake Veterans Administration Medical Center, Tacoma, WA; July 1987.  
The Pennsylvania State University, University Park, PA; May 1987.  
Hershey Medical School, Hershey, PA; May 1987.  
University of Pennsylvania, Philadelphia, PA; September 1986.  
Emory University, Atlanta, GA; April 1984.  
Clemson University, Clemson, SC; May 1983.  
In Gene Corp, Santa Monica, CA; January 1983.  
NASA, Ames Research Center, Moffett Field, CA; June 1979.

### **INVITED SPEAKER (scientific meetings)**

Keynote Speaker for Oklahoma Skeletal Biology Symposium Nov, 2013.  
Hard Tissue Workshop, Sun Valley, ID; August 2005.  
Amgen Symposium, Rochester, MN; June 2005  
Maine Osteoporosis meeting, Sugarloaf, Maine, January, 2002, January, 2004.  
Department of Development Lunch and Learn, Mayo Clinic, April 2003.  
Yale-Bayer Bone Biology Symposium, New Haven, CT; March 2000.  
Osteoporosis as a Failure of Bone's Adaptation to Functional Load Bearing, Creaton,  
Northamptonshire, England; October 1999.  
Endocrine Society Meeting, San Diego, CA; June 1999.  
Experimental Biology, Washington, DC; April 1999.  
Gender, Biology & Human Disease Workshop, New York City, NY; March 1999.  
Mayo Clinic Endocrine Course, Maui, HI; February 1999.  
Estrogens and Human Health Conference, University of Illinois at Urbana-Champaign, October  
2-3,1998.  
In Vivo Bone Working Group, American Society for Bone and Mineral Research, Seattle,  
Washington; September 1996; San Francisco, CA, December 1998.  
Deaconess Research Institute Workshop on Osteoporosis: Interrelationship with  
Osteoarthritis, Billings, Montana; August 1996.  
Gordon Conference: Bones and Teeth, Kimball Union Academy, Meriden, NH; July 1995.  
Ernst Schering Research Foundation Workshop on Organ-Selective Actions of Steroid  
Hormones, Berlin, Germany; May 1995.  
Sun Valley Hard Tissue Workshop, Sun Valley, ID; August 1994, 1995, 1997, 1998, 1999,  
2000, 2003.  
The First International Conference on Steroids and Bone, Florence, Italy; May 1994.  
Gordon Conference: Gravitational Physiology, Colby-Sawyer College, New London, NH;  
July1994.

Post-graduate Course on the Scientific Basis of Current Practice: Practical Application of Basic Sciences in Orthopedics, Rochester, MN; October 1992.  
Second Symposium/Workshop on the Rat Skeleton, Chicago, IL; May 1992.  
American Society for Pharmacology and Experimental Therapeutics, San Diego, CA; August 1991.  
Third International Sterling Symposium on the Biology of Aging, Neve Ilan, Israel; September 1990.  
Post-graduate Course on Diagnosis and Management of Disorders of Bone and Mineral Metabolism, Hilton Head, SC; February 1982, 1983.

### **PEER REVIEW PANELS**

Deutsche Forschungsgemeinschaft, May, 2016.  
NIH Skeletal Biology Development and Disease Study Section, 2014.  
NIH Special Emphasis Panel, June 2014.  
USDA Animal/in Vitro Models, Dec 2013.  
NIH Neurological, Aging and Musculoskeletal Epidemiology (NAME) Study Section, Oct, 2013.  
German Research Foundation, August, 2013.  
Reviewer for Vanderbilt University Orthopedic Pilot Grants, 2013.  
Icelandic Research Fund, November, 2012.  
NIH Molecular and Integrative Signal Transduction (MIST) Study Section, February, 2012.  
Austrian Science Fund, October, 2011.  
NASA Postdoctoral Fellowships, December, 2010.  
NIAMS Challenge grants, June, 2009.  
Department of Defense Peer-review panel: Acellular Tissue Matrix/Tissue Engineering; May 2005.  
Department of Defense Peer-review panel: Bone Diseases; May 2005.  
NIH Special Review Panel, Program Project; July, 2004. NIH ALTX-4 Study Section; October 2003 NIH - Geriatrics and Rehabilitation Medicine Study Section; Ad Hoc Committee member; February 2000.  
Nebraska Department of Health & Human Services Grant Proposal Review, Omaha, NE; May 1999, June 2004.  
NASA: Flight and Ground Review Panel; February 2000.  
NIAMS Panel: Special Emphasis Panel Osteoporosis SCORS; July 1998.  
Endocrinologic and Metabolic Drugs Advisory Committee, Bethesda, MD; December 1997.  
NIH-NIDDK: Tools for discovery of anti-osteoporotic drugs. Chair, Review Committee; August 1997.  
NASA Gravitational Biology and Biomedical Research Countermeasures Program; Ad Hoc Committee Member; July 1997.  
ALTX-4 NIH Study Section; Ad Hoc Committee Member; October 1996, June 1997, June 1999, October 1999.  
United States Army Medical Research and Material Command Osteoporosis Research Program; May 1996.



NIDR Ad Hoc Committees; 1991,1992, 1994.

Orthopaedic Research and Education Foundation: Career Development Awards and Fellowships Peer Review Committee; 1990–1995.

NIH Project site visit to the Clinical Research Center at the University of California, San Diego, CA; November 1982.

Veterans Administration MERIT Review Grants; 1989, 1990, 1995, 2001, 2002.

National Osteoporosis Foundation; 1991, 1992.

IML-2-Spacelab Mission; 1990.

United States - Israel Binational Science Foundation; 1989, 1990.

## **TEACHING EXPERIENCE**

**Mayo Graduate School of Medicine**, Formal Courses.

18 hrs/yr in the Graduate School (Physiology of Bone).

Course Director, 2 quarter course on the Physiology of Bone.

1 hr/yr in Biochemistry and Molecular Biology.

3 hrs/yr in Medical School (Physiology of Bone).

### **Oregon State University**

PH 699; Grant writing seminar, Spring 2014, 2015, 2016.

NUTR/EXSS 599; Bone Physiology; winter quarter 2007, 2009, 2011, Spring quarter 2013, 2015.

NUTR/EXSS 599; Neuroendocrine Regulation of Energy Metabolism, winter quarter 2010; spring quarter 2012, 2014, 2016.

NUTR 417/517Advanced Human Nutrition (macronutrients), Fall quarter, 2007-present.

Guest lecturers

NUTR 325; spring quarter 2007, fall and winter quarters, 2008-present. (2 lectures/quarter).

NUTR 699 (micronutrients); 2009 and 2011.

NUTR 550; spring quarter, 2010 and 2011.

H 320; fall quarter, 2011, Winter quarter, 2012.

## **Students Trained**

### **Undergraduate Students**

Hannah Jarvis (2014-present)

Amida Kuah (2014-present)

Arianna Kahler-Quesada (2014-present)

Jody Gordon (2012-2014)

Bailey Lindenmaier (2010-2013)

Kim Rubey (2009)

Cyndi Trevisiol (2006-2010)

Ioulia Klemens (2007-2009)  
Emily Heiberg (2007-2009)  
Marshall Jahns (2007-2009)  
Roumin Kaur (2007)  
Heather Hodnett (2007)  
Philip Menagh (2006-2007)  
Melanie Swope (2003)  
Estela Luz Alves  
Shimul Chowdhury (2002)  
Chelese Dahlke (2002 & 2003)  
Angela Kennedy (1999 & 2002)  
Ryan Harden (1995)  
Eric Hauck (1994)  
Sally Mullany (1993)  
Valerie Scott (1992)  
Michelle Deitering (1991)  
Pam Sherman (1990)  
Rita Francis (1987 and 1989)  
Carsten Lang (1986)

### **Undergraduate Honors Program**

Arianna Kahler-Quesada, Member of Committee, Oregon State University (2014-present)  
Amida Kauh, Member of Committee, Oregon State University (2014-2016)  
Linsay Wagner; Chair of Committee, Oregon State University (2010-2012)  
Melanie Jackson; Member of Committee, Oregon State University (2008-2010)  
Jason Cavolina; Southampton College, Southampton, NY (1995-1996).

### **Graduate Students**

Marques, Rodrigo S, PhD. Student, Member of Graduate Committee, 2015-present.  
Keune, Jessica, PhD. Student, Co-Chair Graduate Committee, 2013-present.  
Deyhle, Richard, MS. Student, Member of Graduate Committee, 2015-present.  
Padmalosini Muthukumaran, PhD. Student, External reviewer, National University of Singapore, 2012-present.  
Bruno Cappellozza, PhD. Student, Member of Graduate Committee, 2013-2015.  
Kelli Lytle, Ph.D, Student, Member of Graduate Committee, 2012-2016.  
Gino W Gaddini, M.S. Student, Member of Graduate Committee, 2011-2013.  
Elizabeth Doran, M.S. Student, Member of Graduate Committee, 2011-2013.  
Sherry Farley, Ph.D Student, Member of Graduate Committee, 2010-2012.  
Kenneth Philbrick, Ph.D. Student, Member of Graduate Committee, 2009-2014.  
Jamie Hunter, M.S. Student, Chair of Graduate Committee, 2006-2008.  
Adrienne McNamara - Ph.D. Student, Chair of Graduate Committee, 2005-2008.  
Margarita Bracamonte - Ph.D. Student, Member of Graduate Committee, Received Ph.D. from Mayo Graduate School of Medicine; 2003.  
Imke Schmidt - Thesis Advisor - Received Ph.D. from Cologne University Germany; 1995.  
David Young - Member of Graduate Committee - Received Ph.D. at Mayo Graduate School of Medicine; 1993.

Mark Markel - Member of Graduate Committee - Received Ph.D. at Mayo Graduate School of Medicine; 1990.

Nan-shan Chang - Member of Graduate Committee - Received Ph.D. at Medical University of South Carolina; 1983.

Jay Vandersteenhoven - Chairman of Graduate School Committee - Received Ph.D. at Medical University of South Carolina; 1983.

### **Post Doctoral Fellows**

Kathy Howe - Oregon State University; 2007-2010.

Kevin Marley - Oregon State University; 2005-2008.

Gerald Friedl - Mayo Graduate School of Medicine, 2003-2004.

Sutada Lotinun - Mayo Graduate School of Medicine; 1999-2001.

Louis Kidder - Mayo Graduate School of Medicine; 1995-1998.

Harold Dobnig- Mayo Graduate School of Medicine; 1994-1996.

Miguel Jimenez - Mayo Graduate School of Medicine; 1994-1996.

Kim Westerlind - Mayo Graduate School of Medicine; 1992-1994.

Steve Kapelner - Mayo Graduate School of Medicine; 1991.

Batia Bleiberg - Mayo Graduate School of Medicine; 1989.

Lee Hubbard - Medical University of South Carolina; 1983.

### **Orthopedic Residents (Research projects carried out in my laboratory)**

Delano Schutte Jr (1988)

Kevin Gramyk (1988)

Mark Beckner (1987)

John Portwood (1987)

Brad Baum (1987)

### **PUBLICATIONS**

#### **Total citations as of 9/15/16 = 13,600; h-index = 62**

1. **Turner RT**, Hunner JB: A physical geography of the Raystown River Valley. In: Archaeological Investigations of the Workman Site. JW Michels and JB Hunner (Eds), Department of Anthropology, The Pennsylvania State University, pp 25-48, 1968.
2. **Turner RT**, Hunner JB: A physical geography of the Raystown River Valley. In: Archaeological Investigations of the Sheep Rock Shelter Vol. III, JW Michels and JW Dutt (Eds), Department of Anthropology, The Pennsylvania State University, pp 93-116, 1970.
3. **Turner RT**: A biochemical analysis of naturally preserved prehistoric Zea Maize. In: Archaeological Investigations of Sheep Rock Shelter Vol. III, JW Michels and JW Dutt (Eds), Department of Anthropology, The Pennsylvania State University, pp 92-116, 1970.
4. **Turner RT**, Schraer H: Estrogen-induced sequential changes in avian bone metabolism. *Calcif Tiss Res* 24:157-162, 1977.

5. Morey E, **Turner RT**, Baylink DJ: The effect of spaceflight on selected bone parameters. NASA Tech Mem 785236:135-183, 1978.
6. **Turner RT**, Eliel L: Evaluating DDT as an estrogen: Its effectiveness in competing for nuclear estrogen receptor. Bull Environ Contam Toxicol 19:139-142, 1978.
7. **Turner RT**, Eliel L: Nuclear estrogen receptors in the reproductive tract of laying Japanese quail. Gen Comp Endocrinol 34:141-148, 1978.
8. **Turner RT**, Howard GA, Baylink DJ: Specific binding of estrogen to nuclei from Japanese quail kidney cells. Endocrine Res Commun 5:335-342, 1978.
9. **Turner RT**, Howard GA, Rader JI, Bottemiller BL, Baylink DJ: In vitro regulation of 25-hydroxyvitamin D3 metabolism by avian kidney cells in serum-free medium. In: Vitamin D: Basic Research and Its Clinical Applications. AW Norman, K Schaefer, DV Herrath, HG Grigoleit, JW Coburn, HF DeLuca, EB Mawer and T Suda (Eds), Walter de Gruyter, NY, pp 617-620, 1979.
10. Morey ER, **Turner RT**, Baylink DJ: The effect of spaceflight on selected bone parameters. In: Effect of the Dynamic Factors of Spaceflight on the Animal Organism. AM Genin (Ed), Neuka Press, Moscow, pp 144-157, 1979.
11. Spengler DM, Morey ER, Carter R, **Turner RT**, Baylink DJ: Effect of spaceflight on bone strength. Physiologist 22 (Supplement):575-576, 1979.
12. Morey ER, Sabelman EE, **Turner RT**, Baylink DJ: A new rat model simulating some aspects of spaceflight. Physiologist 22 (Supplement):523-524, 1979.
13. **Turner RT**, Morey ER, Liu C, Baylink DJ: Altered bone turnover during spaceflight. Physiologist 22 (Supplement):573-574, 1979.
14. **Turner RT**, Rader JI, Eliel LP, Howard GA: Metabolism of 25-hydroxy-vitamin D3 during photo-induced reproductive development in female Japanese quail. Gen Comp Endocrinol 37:211-219, 1979.
15. Rader JI, Howard GA, Feist E, **Turner RT**, Baylink DJ: Bone mineralization and metabolism of 3H-25-hydroxyvitamin D3 in thyroparathyroidectomized rats treated with parathyroid extract. Calcif Tiss Int 29:21-26, 1979.
16. Rader JI, **Turner RT**, Howard GA, Baylink DJ: Effect of treatment with parathyroid extract on bone parameters and metabolism of 3H-25-hydroxyvitamin D3 in hypocalcemic, thyroparathyroidectomized rats. Met Bone Dis Rel Res 1:313-317, 1979.
17. Howard GA, **Turner RT**, Bottemiller BL, Rader JI: Serum-free cultures of kidney cells from Japanese quail: Regulation of vitamin D metabolism. Biochem Biophys Acta 587:495-506, 1979.
18. **Turner RT**, Bottemiller BL, Howard GA, Baylink DJ: In vitro metabolism of 25(OH)D3 by isolated rat kidney cells. Proc Natl Acad Sci 77:1537-1540, 1980.
19. **Turner RT**, Puzas JE, Forte MD, Lester GE, Gray TK, Howard GA, Baylink DJ: In vitro synthesis of 1,25-dihydroxycholecalciferol and 24,25-dihydroxycholecalciferol by isolated calvarial cells. Proc Natl Acad Sci 77:5720-5724, 1980.
20. Puzas JE, **Turner RT**, Forte MD, Baylink DJ: Metabolism of 25(OH)2D3 by chick cells in

- culture. *Gen Comp Endocrinol* 42:116-122, 1980.
21. Ivey JL, **Turner RT**, Baylink DJ: Direct and indirect effects of vitamin D metabolites on bone. In: *Proceedings of the Third International Workshop on Bone Histomorphometry*. WSS Jee and MA Parfitt (Eds), SNPMD Publishing, Paris, pp 121-125, 1980.
  22. Howard GA, Bottemiller BL, Rader JI, **Turner RT**, Baylink DJ: Parathyroid hormone stimulates bone formation and resorption in organ culture: Evidence for a coupling mechanism. *Proc Natl Acad Sci* 78:3204-3208, 1981.
  23. **Turner RT**, Dickhoff WW, Gorbman A: Estrogen binding to hepatic nuclei of pacific hagfish, *Eptatretus stouti*. *Gen Comp Endocrinol* 45:26-29, 1981.
  24. Howard GA, **Turner RT**, Sherrard DJ, Baylink DJ: Human bone cells in culture metabolize 25(OH)D<sub>3</sub> to 1,25(OH)<sub>2</sub>D<sub>3</sub> and 24,25(OH)<sub>2</sub>D<sub>3</sub>. *J Biol Chem* 15:7738-7740, 1981.
  25. Morey ER, Wronski TJ, Philpott E, **Turner RT**, Baylink DJ, Arnaud CD, Matthews JL, Jee WSS: The effect of spaceflight on selected bone parameters (Cosmos 1129). *NASA Tech Mem* 81289:101-126, 1981.
  26. **Turner RT**, Bobyn JD, Duvall P, Morey ER, Baylink DJ, Spector M: Evidence for arrested bone formation during spaceflight. *Physiologist* 24(Supplement):597-598, 1981.
  27. Baylink DJ, Howard GA, Ivey J, **Turner RT**, Farley J: Vitamin D and bone matrix formation and mineralization. In: *Vitamin D: Chemical, Biochemical and Clinical Endocrinology of Calcium Metabolism*. AW Norman, K Schaefer, DV Herrath and HG Grigoleit (Eds), Walter de Gruyter, NY, pp 363-368, 1982.
  28. Puzas JE, **Turner RT**, Howard GA, Brand JS: Studies on the metabolism of vitamin D by chick bone cells. In: *Vitamin D: Chemical, Biochemical and Clinical Endocrinology of Calcium Metabolism*. AW Norman, K Schaefer, DV Herrath and HG Grigoleit (Eds), Walter de Gruyter, NY, pp 13-16, 1982.
  29. **Turner RT**, Duvall P, Bell NH, Baylink DJ: 25-Hydroxyvitamin D<sub>3</sub>: 1 $\alpha$  and 24-hydroxylase activities in suspended rat kidney cells: The importance of substrate concentration. In: *Vitamin D: Chemical, Biochemical and Clinical Endocrinology of Calcium Metabolism*. AW Norman, K Schaefer, DV Herrath and HG Grigoleit (Eds), Walter de Gruyter, NY, pp 495-497, 1982.
  30. Lambert PW, Stern PH, Avioli RC, Brackett NC, **Turner RT**, Bell NH: Evidence for extrarenal production of 1 $\alpha$ ,25-dihydroxyvitamin D in man. *J Clin Invest* 69:722-725, 1982.
  31. Howard GA, **Turner RT**, Puzas JE, Baylink DJ, Nichols F: Bone cells on microcarrier spheres. *JAMA* 249:258-259, 1982.
  32. Howard GA, **Turner RT**, Puzas JE, Knapp DK, Nichol F: Mass spectrometric identification of 1,25(OH)<sub>2</sub>D<sub>3</sub> produced by bone cells. In: *Vitamin D: Chemical, Biochemical and Clinical Endocrinology of Calcium Metabolism*. AW Norman, K Schaefer, DV Herrath and HG Grigoleit (Eds), Walter de Gruyter, NY, pp 3-6, 1982.
  33. **Turner RT**, Puzas JE, Duvall P, Howard GA: Metabolism of 25-hydroxyvitamin D<sub>3</sub> by cultured avian cells. IN: *Aspects of Avian Endocrinology: Practical and Theoretical Implications*. CG Scanes and AD Kenny (Eds), Texas Tech Press, pp 283-291, 1982.

34. Spector M, **Turner RT**, Morey-Holton E, Baylink DJ, Bell NH: Arrested bone formation during spaceflight results in a hypomineralized skeletal defect. *Physiologist* 26:S110-S111, 1983.
35. Puzas JE, **Turner RT**, Howard GA, Forte M, Baylink DJ: Embryonic intestinal cells synthesize 1,25-dihydroxyvitamin D<sub>3</sub> and 24,25-dihydroxyvitamin D<sub>3</sub> in culture. *Endocrinology* 112:378-380, 1983.
36. **Turner RT**, Howard GA, Puzas JE, Knapp DK: Calvarial cells synthesize 1 $\alpha$ , 25-dihydroxyvitamin D<sub>3</sub>. *Biochem* 22:1073-1076, 1983.
37. **Turner RT**, Bell NH, Baylink DJ: Regulation of 25-hydroxyvitamin D<sub>3</sub>:1 $\alpha$ - and 24-hydroxylases in rat kidney by 1 $\alpha$ ,25-dihydroxyvitamin D<sub>3</sub>. *Calcif Tiss Int* 35:438-442, 1983.
38. Howard GA, Puzas JE, Nichols F, **Turner RT**, Baylink DJ: Osteoblasten op microkorrels. *JAMA - Belgicheuitgare* 18:45-46, 1983.
39. Spengler DM, Morey ER, Carter DR, **Turner RT**, Baylink DJ: Spaceflight: Effects on bone structural and material strength. *Proc Soc Exp Biol Med* 174:224-228, 1983.
40. Puzas JE, Farley JR, **Turner RT**, Baylink DJ: 1,25-dihydroxyvitamin D: Response to and production by bone cells. In: *Vitamin D Metabolism: Basic and Clinical Aspects*. R. Kumar (Ed), Martinus Nihoff, Boston, pp 125-149, 1984.
41. **Turner RT**: Mammalian 25-hydroxyvitamin D-1 $\alpha$ -hydroxylase: Measurement and regulation. In: *Vitamin D Metabolism: Basic and Clinical Aspects*. R. Kumar (Ed), Martinus Nihoff, Boston, pp 175-196, 1984.
42. Howard GA, Carlson CA, **Turner RT**: Molecular control of vitamin D metabolism in cultured kidney cells. In: *Endocrine Control of Bone and Calcium Metabolism*. OU Cohn, JT Potts, Jr and T Fujita (Eds), pp 48-49, 1984.
43. Bell NH, Levine MA, Greene A, **Turner RT**: Effects of human erythrocyte regulatory protein on parathyroid hormone-responsive adenylate cyclase from canine renal cortex. *Endocrinology* 115:1386-1391, 1984.
44. **Turner RT**: The binding of estrogen to liver nuclei from Japanese quail. *Gen Comp Endocrinol* 54:274-278, 1984.
45. **Turner RT**, Avioli RC, Bell NH: Extrarenal metabolism of 25-hydroxyvitamin D<sub>3</sub> in the rat: Regulation by 1,25-dihydroxyvitamin D<sub>3</sub>. *Calcif Tiss Int* 36:274-278, 1984.
46. Epstein S, Stern PH, Bell NH, Dowdeswell I, **Turner RT**: Evidence for abnormal regulation of circulating 1,25-dihydroxyvitamin D<sub>3</sub> in patients with pulmonary tuberculosis and normal calcium metabolism. *Calcif Tiss Int* 36:541-544, 1984.
47. Bell NH, Shaw S, **Turner RT**: Evidence that 1,25-dihydroxyvitamin D<sub>3</sub> inhibits the hepatic production of 25-hydroxyvitamin D in man. *J Clin Invest* 74:1540-1544, 1984.
48. **Turner RT**, Farley J, Vandersteenhoven JJ, Bell NH: Osteo-inductive and mitogenic activities are reduced in demineralized allogeneic bone matrix from vitamin D deficient rats. In: *Vitamin D: Chemical, Biochemical and Clinical Update*. AH Norman, K Schaefer, HG Grigoleit and GH Herrath (Eds), Walter de Gruyter, NY, pp 471-472, 1985.

49. **Turner RT**, Wakley GK, Szukalski B: Effects of gravitational loading on bone formation in growing rats. *Physiologist* 28:567-568, 1985.
50. **Turner RT**, Bell NH, Duvall P, Bobyn JD, Spector M, Holton EM, Baylink DJ: Spaceflight results in formation of defective bone. *Proc Soc Exp Biol Med* 180:544-549, 1985.
51. **Turner RT**, Bell NH: The effects of immobilization on bone histomorphometry in rats. *J Bone Miner Res* 1:399-407, 1986.
52. Gates S, Shary J, **Turner RT**, Wallach S, Bell NH: Abnormal calcium metabolism caused by increased circulating 1,25-dihydroxyvitamin D3 in a patient with rheumatoid arthritis. *J Bone Miner Res* 1:221-226, 1986.
53. **Turner RT**, Graves JS, Bell NH: Regulation of 25-hydroxyvitamin D3 metabolism in the chick embryo. *Am J Physiol* 252:E38-E43, 1987.
54. **Turner RT**, Greene VS, Bell NH: Demonstration that ethanol inhibits bone matrix synthesis and mineralization in the rat. *J Bone Miner Res* 2:61-66, 1987.
55. **Turner RT**, Vandersteenhoven JJ, Bell NH: The effects of ovariectomy and 17 $\beta$ -estradiol on cortical bone histomorphometry in growing rats. *J Bone Miner Res* 2:115-122, 1987.
56. Bell NH, Shaw S, **Turner RT**: Evidence that calcium inhibits the production of 25-hydroxyvitamin D in man. *J Bone Miner Res* 2:211-214, 1987.
57. **Turner RT**, Wakley GK, Hannon KS, Bell NH: Tamoxifen prevents the skeletal effects of ovarian hormone deficiency in rats. *J Bone Miner Res* 2:449-456, 1987.
58. Puzas JE, **Turner RT**, Howard GA, Brand JS, Baylink DJ: Synthesis of 1,25-dihydroxycholecalciferol and 24,25-dihydroxycholecalciferol by calvarial cells: Characterization of the enzyme system. *Biochem J* 245:333-338, 1987.
59. Vandersteenhoven JJ, DeLustro FA, Bell NH, **Turner RT**: Osteoinduction by implants of demineralized bone matrix is diminished in vitamin D deficient rats. *Calcif Tissue Int* 42:39-45, 1988.
60. **Turner RT**, Farley J, Vandersteenhoven JJ, Epstein S, Bell NH, Baylink DJ: Demonstration of reduced mitogenic and osteoinductive activities in demineralized allogeneic bone matrix from vitamin D deficient rats. *J Clin Invest.* 82:212-217, 1988.
61. **Turner RT**, Aloia RC, Segel LD, Hannon KS, Bell NH: Chronic alcohol treatment results in disturbed vitamin D metabolism and skeletal abnormalities in rats. *Alcoholism: Clin Exp Res* 12:151-155, 1988.
62. **Turner RT**, Wakley GK, Hannon KS, Bell NH: Tamoxifen inhibits osteoclast-mediated resorption of trabecular bone in ovarian hormone-deficient rats. *Endocrinology* 122:1146-1150, 1988.
63. Wakley GK, Baum RL, Hannon KS, **Turner RT**: Tamoxifen treatment reduces osteopenia induced by immobilization in the rat. *Calcif Tissue Int* 43:383-388, 1988.
64. **Turner RT**, Vandersteenhoven JJ, Bell NH: Evidence that osteoinduction by implants of demineralized allogeneic bone matrix is diminished in vitamin D-deficient normal calcemic rats. In: *Vitamin D: Cellular and Clinical Endocrinology*. AW Norman, K Shaefer, H-G Grigoleit, DV Herrath (eds), Walter de Gruyter, New York, pp 370-371, 1989.

65. **Turner RT**, Francis R, Brown D, Garand J, Hannon KS, Bell NH: The effects of fluoride on bone and implant histomorphometry in growing rats. *J Bone Miner Res* 4:477-484, 1989.
66. **Turner RT**, Hannon KS, Demers L, Buchanan J, Bell NH: Differential effects of gonadal function on bone histomorphometry in male and female rats. *J Bone Miner Res* 4: 557-563, 1989.
67. Kasperk CH, Wergedal JE, Farley JR, Linkhart TA, **Turner RT**, Baylink DJ: Androgens directly stimulate proliferation of bone forming cells. *Endocrinology* 124:1576-1578, 1989.
68. **Turner RT**, Colvard DS, Bleiberg B, Evans GL, Francis R, Spelsberg TC: Bone metabolism in rat tibia is regulated by sex steroids. In: *Calcium regulation and Bone Metabolism: Basic and Cellular Aspects*. Vol. 10. DV Cohn, FH Glorieux, TJ Martin (eds), Excerpta Medica, New York, pp 448-454, 1990.
69. **Turner RT**, Wakley GK, Hannon KS: Differential effects of androgens on cortical bone histomorphometry in gonadectomized male and female rats. *J Orthop Res* 8:612-617, 1990.
70. **Turner RT**, Bleiberg B, Colvard DS, Keeting PE, Evans GL, Spelsberg TC: Failure of isolated rat tibial periosteal cells to 5 $\alpha$ -reduce testosterone to 5 $\alpha$ -dihydrotestosterone. *J Bone Miner Res* 5:775-779, 1990.
71. **Turner RT**, Lifrak ET, Beckner M, Wakley GK, Hannon KS, Parker LN: Dehydroepiandrosterone reduces cancellous bone osteopenia in growing ovariectomized rats. *Am J Physiol* 258: E673-E677, 1990.
72. **Turner RT**, Colvard DS, Spelsberg TC: Estrogen inhibition of periosteal bone formation in rat long bones: Down regulation of gene expression for bone matrix proteins. *Endocrinology* 127:1346-1351, 1990.
73. **Turner RT**, Backup P, Kline BC, Colvard DS, Spelsberg TC: Evidence that the inhibition of osteoblast activity by estrogen is preceded by down regulation of IGF-1 gene expression and that these changes are estrogen-receptor mediated. *Molecular Concepts of Insulin-like Growth Factors*. E. Martin Spencer (Ed), Elsevier, New York, pp 143-153, 1991.
74. Waters DJ, Caywood DD, Trachte GJ, **Turner RT**, Hodgson SF: Immobilization decreases bone mass and increases prostaglandin E: A partial bone mass sparing effect of aspirin in disuse osteoporosis. *Acta Orthop Scand* 62:238-243, 1991.
75. **Turner RT**, Spector M, Bell NH: Ethanol induced abnormalities in bone formation, turnover, mechanical properties and mineralization in young adult rats. *Cells and Materials, Suppl* 1:167-173, 1991.
76. **Turner RT**, Colvard DS, Spelsberg TC: Measurement of mRNA levels in the periosteum of aging rats. *Cells and Materials, Suppl* 1:47-51, 1991.
77. Wakley GK, **Turner RT**: Sex steroids and the regulation of bone volume in the rat. *Cells and Materials, Suppl* 1:85-91. 1991.
78. Wakley GK, Shutte DE, Hannon KS, **Turner RT**: The effects of castration and androgen replacement therapy on bone: A histomorphometric study in the rat. *J Bone Miner Res* 6:325-330, 1991.



79. **Turner RT**, Spelsberg TC: Correlation between mRNA levels for bone cell proteins and bone formation in long bones of maturing rats. *Am J Physiol* 261: E348-E353, 1991.
80. Hill EL, **Turner R**, Elde R: Alterations in bone remodeling in sympathectomized and capsaicin treated rats. *Neuroscience* 44:747-755, 1991.
81. Waters DJ, Caywood DD, **Turner RT**: Effect of tamoxifen citrate on canine immobilization (disuse) osteoporosis. *Vet Surgery* 20:392-396, 1991.
82. Moon L, Wakley GK, **Turner RT**: Dose dependent effects of tamoxifen on long bones in growing rats: Influence of ovarian status. *Endocrinology* 129:1568-1574, 1991.
83. **Turner RT**: The role of local factors in mediating the skeletal response to arthroplasty. In: *Joint Replacement Arthroplasty*. BF Morrey (ed), Churchill Livingstone. New York, pp 81-92, 1991.
84. **Turner RT**, Backup P, Sherman PH, Hill E, Evans GL, Spelsberg TC: Mechanism of action of estrogen on intramembranous bone formation: regulation of osteoblast differentiation and activity. *Endocrinology* 131:883-889, 1992.
85. Torring O, **Turner RT**, Carter WB, Firek AF, Jacobs CA, Heath H, III: Inhibition by human Interleukin-1a of parathyroid hormone-related peptide effects on renal calcium and phosphorous metabolism in the rat. *Endocrinology* 131:5-13, 1992.
86. **Turner RT**, Kapelner S, Spelsberg TC: Tissue-specific expression of bone proteins in femora of growing rats. *Am J Physiol*. 263: E724-E729, 1992.
87. Wakley GK, Garand J, Brown D, Szukalski B, Baylink DJ, Bell NH, **Turner RT**: The effects of gallium on bone in the rat. *J Bone Miner Res* 7:11-19, 1992.
88. Wakley GK, Portwood JS, **Turner RT**: Disuse osteopenia is accompanied by down regulation of gene expression for bone proteins in growing rats. *Am J Physiol*. 263: E1029-E1034, 1992.
89. **Turner RT**, Evans GL, Wakley GK: The mechanism of action of estrogen on cancellous bone balance in tibiae of ovariectomized growing rats: Inhibition of indices of formation and resorption. *J Bone Miner Res* 8(3):359-366, 1993.
90. **Turner RT**, Bell NH, Gay CV: Evidence that estrogen binding sites are present in bone cells and mediate medullary bone formation in Japanese quail. *Poult Sci* 72:728-740, 1993.
91. Knorr A, Kapelner S, **Turner RT**, Bolander ME, Sarkar G: Stimulatory effect of potassium glutamate in PCR. *PCR: Methods and Applications* 3:73-74, 1993.
92. Desimone DP, Green VS, Hannon KS, **Turner RT**, Bell NH: Prostaglandin E2 administered by subcutaneous pellets causes local inflammation and systemic bone loss: A model for inflammation-induced bone disease. *J Bone Miner Res* 8:625-634, 1993.
93. Westerlind KC, Wakley GK, Evans GL, **Turner RT**: Estrogen does not increase bone formation in growing rats. *Endocrinology* 133:2924-2934, 1993.
94. Witkiewicz H, **Turner RT**, Rock MG, Morrey BF, Bolander ME: The local cellular response to components of total hip arthroplasty experiencing massive osteolysis. IN: *Biological*,

Material, and Mechanical Considerations of Joint Replacement: Current Concepts and Future Directions. BF Morrey (Ed), Bristol-Myers/Zimmer, Raven Press, New York 1993 pp 425-437.

95. Sarkar G, **Turner RT**, Bolander ME: Restriction-site PCR: A direct method of unknown sequence retrieval adjacent to a known locus by using "universal" primers. *PCR: Methods and Applications* 2:318-322, 1993.
96. **Turner RT**, Evans GL, Wakley GK: Reduced chondroclast differentiation results in increased cancellous bone volume in estrogen-treated growing rats. *Endocrinology* 134:461-466, 1994.
97. Westerlind KC, Wronski TJ, Evans GL, **Turner RT**: The effect of long-term ovarian hormone deficiency on transforming growth factor- $\beta$  and bone matrix protein mRNA expression in rat femora. *Biochem Biophys Res Comm* 200:283-289, 1994.
98. Backup P, Westerlind K, Harris S, Spelsberg T, Kline B, **Turner RT**: Spaceflight results in reduced mRNA levels for tissue specific proteins in the musculoskeletal system. *Am J Physiol* 266: E567-E573, 1994.
99. Evans G, Bryant HU, Magee D, Sato M, **Turner RT**: The effects of raloxifene on tibia histomorphometry in ovariectomized rats. *Endocrinology* 134:2283-2288, 1994.
100. **Turner RT**, Riggs BL, Spelsberg TC: Skeletal effects of estrogen. *Endocrine Reviews* 15:275, 1994.
101. Witkiewicz H, Vidovszky T, **Turner RT**, Rock MG, Morrey BF, Bolander ME: Fate of ultrahigh molecular weight polyethylene (UHMW-PE) wear debris in patients with hip implants. *Techniques in Orthopaedics* 8(4):254-261, 1994.
102. **Turner RT**: Cancellous bone turnover in growing rats: Time-dependent changes in association between calcein label and osteoblasts. *J Bone Miner Res* 9:1419-1424, 1994.
103. Kapelner SN, **Turner RT**, Sarkar G, Bolander ME: Deletion mutation can be an unsuspected gel artifact. *BioTechniques* 17(1):64-67, 1994.
104. Westerlind KC, **Turner RT**: The skeletal effects of spaceflight in growing rats: Reduced steady-state mRNA levels of TGF- $\beta$ . *J Bone Miner Res* 10(6):843-848, 1995.
105. **Turner RT**, Hannon KS, Greene VS, Bell NH: Prednisone inhibits formation of cortical bone in sham-operated and ovariectomized female rats. *Calcif Tissue Int* 56:311-315, 1995.
106. **Turner RT**: Effects of short-term spaceflight and recombinant human growth hormone (rhGH) on bone growth in young rats. *Aviat Space Environ Med* 66:763-769, 1995.
107. **Turner RT**, Evans GL, Wakley GK: Spaceflight results in depressed cancellous bone formation in rat humeri. *Aviat Space Environ Med* 66:770-774, 1995.
108. **Turner RT**, Riggs BL, Spelsberg TC: Skeletal effects of estrogen: Update 1995. *Endocrine Review Monograph Series* 4:155-158, 1995.
109. Dobnig H, **Turner RT**: Evidence that intermittent treatment with parathyroid hormone increases bone formation in adult rats by activation of bone lining cells. *Endocrinology*

136:3632-3638, 1995.

110. Westerlind KC, Sarkar G, Bolander ME, **Turner RT**: Estrogen receptor mRNA is expressed in vivo in rat calvarial periosteum. *Steroids* 60 (8):484-487, 1995.
111. Schmidt I, Dobnig H, **Turner RT**: Intermittent parathyroid hormone treatment increases osteoblast number, steady-state mRNA levels for osteocalcin and bone formation in tibial metaphysis of hypophysectomized female rats. *Endocrinology* 136:5127-5134, 1995.
112. **Turner RT**: Organ selective actions of tamoxifen and other partial antiestrogens. In: *Organ-Selective Actions of Steroid Hormones* (Eds. DT Baird, G. Schütz, R Krattenmacher), Ernst Schering Research Foundation Workshop 16, Springer Verlag, Heidelberg, Germany, pp 65-84, 1995.
113. Evans GL, **Turner RT**: Tissue selective actions of estrogen analogs. *Bone* 17:181S-190S, 1995.
114. Oursler MJ, Kassem M, Turner R, Riggs BL, Spelsberg TC: Regulation of bone cell function by gonadal steroids. In: *Osteoporosis* (eds. Marcus, Feldman, Kelsey), Academic Press, pp 237-260, 1996.
115. Firling CE, Wakley GK, Evans GL, Sibonga J, **Turner RT**: Lack of an effect of sodium Zeolite A on rat tibia histomorphometry. *J Bone Miner Res* 11:254-263, 1996.
116. **Turner RT**: The skeletal response to arthroplasty: Role of growth factors in bone turnover, Chapter 10. In: *Joint Replacement Arthroplasty*, 2nd Edition, (Ed. BF Morrey); Churchill Livingstone, New York, pp 95-106, 1996.
117. Evans GL, Bryant HU, Magee DE, **Turner RT**: Raloxifene inhibits bone turnover and prevents further cancellous bone loss in adult ovariectomized rats with established osteopenia. *Endocrinology*, 137:4139-4144, 1996.
118. Harris SA, Tau KR, **Turner RT**, Spelsberg TC: Estrogen and Progestins. In: *Principles of Bone Biology* (eds. Bilezikian, Raisz, and Rodan); Academic Press, pp 507-520, 1996.
119. Sibonga JD, Evans GL, Hauck ER, Bell NH, **Turner RT**: Ovarian status influences the skeletal effects of tamoxifen in adult rats. *Breast Cancer Res Treat*, 41:71-79, 1996.
120. **Turner RT**, Hannon KS, Greene VS, Bell NH: Leukemia inhibitory factor produces hypercalcemia in rats without altering bone histomorphometry of the tibia. *Calcif Tissue Int*, 59:301-304, 1996.
121. Wakley GK, Evans GL, **Turner RT**: Short-term effects of high dose estrogen on tibiae of growing male rats. *Calcif Tissue Int*, 60:37-42, 1997.
122. Sibonga JD, Evans GL, Magee DE, Bryant HU, **Turner RT**: 5 $\alpha$ -Dihydrotestosterone is ineffective in normalizing cancellous bone volume and turnover in the ovariectomized rat. *Archives of STD/HIV Research* 11:141-153, 1997.
123. Jimenez MA, Magee DE, Bryant HU, **Turner RT**: Clomiphene prevents cancellous bone loss from tibia of ovariectomized rats. *Endocrinology*, 138:1794-1800, 1997.
124. Cavolina JM, Evans GL, Harris SA, Zhang M, Westerlind KC, **Turner RT**: The effects of

- orbital spaceflight on bone histomorphometry and mRNA levels for bone matrix proteins and skeletal signaling peptides in ovariectomized growing rats. *Endocrinology*, 138:1567-1576, 1997.
125. Westerlind KC, Wronski TJ, Luo Z-P, An K-N, Bell NH, **Turner RT**: Estrogen regulates the rate of bone turnover but bone balance in ovariectomized rats is modulated by prevailing mechanical strain. *Proc Natl Acad Sci*, 94:4199-4204, 1997.
  126. Kidder LS, Schmidt IU, Evans GL, **Turner RT**: Effects of growth hormone and low dose estrogen on bone growth and turnover in long bones of hypophysectomized rats. *Calcif Tissue Int*, 61:327-335, 1997.
  127. **Turner RT**: Effects on bone and mineral metabolism: Basic aspects. In: *Estrogens and Antiestrogens* (eds. R Lindsay, DW Dempster, VC Jordan), Lippincott-Raven Publishers, Philadelphia, pp 129-149, 1997.
  128. Dobnig H, **Turner RT**: The effects of programmed administration of human parathyroid hormone fragment (1-34) on bone histomorphometry and serum chemistry in rats. *Endocrinology*, 138:4607-4612, 1997.
  129. Gill RK, **Turner RT**, Wronski TJ, Bell NH: Orchiectomy markedly reduces the concentration of the three isoforms of transforming growth factor- $\beta$  in rat bone and reduction is prevented by testosterone. *Endocrinology*, 139:546-550, 1998.
  130. Ritman EL, Jorgensen SM, Beighley PE, Thomas PJ, Dunsmuir JH, Romero JC, **Turner RT**, Bolander ME: Synchrotron-based micro-CT of in situ biological Basic Functional Units and their integration. *Proc SPIE, Developments in X-ray Tomography* 3149:13-24, 1997.
  131. Westerlind KC, Fluckey JD, Gordon SE, Kraemer WJ, Farrell PA, **Turner RT**: Effect of resistance exercise training on cortical and cancellous bone in mature male rats. *J Applied Physiol*, 84:459-464, 1998.
  132. Sibonga JD, Bell NH, **Turner RT**: Evidence that ibuprofen antagonizes selective actions of estrogen and tamoxifen on rat bone. *J Bone Miner Res*, 13:863-870, 1998.
  133. Zhang M, **Turner RT**: The effects of spaceflight on mRNA levels for cytokines in. *Aviat, Space, proximal tibia of ovariectomized rats Environ Med*, 69(7):626-629, 1998.
  134. Westerlind KC, Gibson KJ, Malone P, Evans GL, Turner, RT: Differential effects of estrogen metabolites on bone and reproductive tissues of ovariectomized rats. *J Bone Miner Res*, 13:1023-1031, 1998.
  135. Sibonga JD, Dobnig H, Harden RM, **Turner RT**: Effect of the high affinity estrogen receptor ligand ICI 182,780 on rat tibia. *Endocrinology*, 139:3736-3742, 1998.
  136. Evans GL, Morey-Holton E, **Turner RT**: Spaceflight has compartment and gene specific effects on mRNA for bone matrix proteins in rat femur. *J Appl Physiol* 84:2132-2137, 1998.
  137. **Turner RT**, Evans GL, Sluka JP, Adrian MD, Bryant HU, Turner CH, Sato M: Differential responses of estrogen target tissues in rats including bone to clomiphene, enclomiphene, and zuclomiphene. *Endocrinology*, 139:3712-3720, 1998.
  138. **Turner RT**, Wronski TJ, Zhang M, Bloomfield SA, Sibonga JD: Effects of ethanol on

- gene expression in rat bone: Transient dose dependent changes in mRNA levels for matrix proteins, skeletal growth factors and cytokines are followed by reductions in bone formation. *Alcoholism: Clin Exp Res*, 22:1591-1599, 1998.
139. Kidder LS, **Turner RT**: Dietary ethanol does not accelerate bone loss in ovariectomized rats. *Alcoholism: Clin Exp Res*, 22(9):2159-2164, 1998.
  140. **Turner RT**, Evans GL, Cavolina JM, Halloran B, Morey-Holton E: Programmed administration of parathyroid hormone (PTH) increases bone formation and reduces bone loss in hindlimb unloaded ovariectomized rats. *Endocrinology*, 139:4086-4091, 1998.
  141. Ritman EL, Bolander ME, Fitzpatrick LA, **Turner RT**: Micro-CT imaging of structure-to-function relationship of bone microstructure and associated vascular involvement. *Technology and Health Care* 6:403-412, 1998.
  142. Simmons DJ, Yang J, Yang S, Bi LX, Buford WL, **Turner RT**, Crowther R, Carney DH: Acceleration of rat femoral fracture healing by a synthetic thrombin peptide. In: *Calcium Metabolism: Comparative Endocrinology*. Eds. C. Dacke, J. Danks, G. Flik, and C. Gay. BioScientifica Ltd., Bradley Stoke, Bristol, UK, 1999.
  143. Doran PM, **Turner RT**, Riggs BL, Khosla S: Estrogens and Bone Health. In: *Osteoporosis in Men* (ed. Eric Orwoll), San Diego, Academic Press, 1999, pp 275-298.
  144. **Turner RT**: Mice, estrogen and postmenopausal osteoporosis. *J Bone Miner Res*, 14(2):187-191, 1999.
  145. **Turner RT**, Evans GL, Zhang M, Maran A, Sibonga JD: Is Resveratrol an estrogen agonist in growing rats? *Endocrinology*, 140:50-54, 1999.
  146. **Turner RT**, Kidder LS, Zhang M, Harris SA, Westerlind KC, Maran A, Wronski TJ: Estrogen has rapid tissue-specific effects on rat bone. *J Appl Physiol*, 86:1950-1958, 1999.
  147. Kostenuik PJ, Harris J, Halloran BP, **Turner RT**, Morey-Holton ER, Bikle DD: Skeletal unloading causes resistance of osteoprogenitor cells to parathyroid hormone and to insulin-like growth factor-I. *J Bone Miner Res* 14:21-31, 1999.
  148. **Turner RT**: Mechanical signaling in the development of postmenopausal osteoporosis. *Lupus* 8:388-392, 1999.
  149. Harris SA, Zhang M, Evans GL, Kidder LS, Spelsberg TC, **Turner RT**: The effects of orbital spaceflight on human osteoblastic cell physiology and gene expression. *Bone*, 26:325-331, 2000.
  150. Schmidt IU, Wakley GK, **Turner RT**: Effects of estrogen and progesterone on tibia histomorphometry in growing rats. *Calcif Tissue Int*, 67:47-52, 2000.
  151. **Turner RT**, Evans GL, Dobnig H: The high-affinity estrogen receptor ligand 182,780 has no effect on bone growth in young male rats. *Calcif Tissue Int*, 66:461-464, 2000.
  152. Robinson JA, Waters KM, **Turner RT**, Spelsberg TC: Direct action of naturally occurring estrogen metabolites on human osteoblastic cells. *J Bone Miner Res*, 15:499-506, 2000.

153. Sibonga JD, Zhang M, Ritman EL, **Turner RT**: Restoration of bone mass in the severely osteopenic senescent rat. *J Gerontol*, 55A:B71-B78, 2000.
154. Sibonga JD, Zhang M, Ritman EL, **Turner RT**: Restoration bone mass in the osteopenic skeleton: Not just a matter of osteoblast life and death. *J Gerontol* 55a:B83-B84, 2000.
155. Luo ZP, Zhang L, **Turner RT**, An K-N: Effects of mechanical stress/strain and estrogen on cancellous bone structure predicted by fuzzy decision. *Trans Biomed Eng*, 47:344-351, 2000.
156. **Turner RT**, Evans GL: 2-Methoxy estradiol inhibits longitudinal bone growth in normal female rats. *Calcif Tissue Int*, 66:465-469, 2000.
157. **Turner RT**: What do we know about the effects of spaceflight on bone? *J Appl Physiol*, 89:840-847, 2000.
158. Sibonga JD, Zhang M, Evans GL, Westerlind KC, Cavolina JM, Morey-Holton E, **Turner RT**: Effects of spaceflight and simulated weightlessness on longitudinal bone growth. *Bone*, 27:535-540, 2000.
159. Colleran PN, Wilkerson MK, Bloomfield SA, Suva LJ, **Turner RT**, Delp MD: Alterations in skeletal perfusion with simulated microgravity: A possible mechanism for bone remodeling. *J Appl Physiol*, 89:1046-1054, 2000.
160. **Turner RT**: Skeletal response to alcohol. *Alcohol Clin Exp Res*, 24:1693-1701, 2000.
161. Jorgensen SM, **Turner RT**, Ritman EL: Cryogenic micro-CT imaging of tissues. *Annals Biomed Engr*, 28:S-39, 2000.
162. Westerlind KC, Gibson KJ, Evans GL, **Turner RT**: The catechol estrogen, 4-hydroxyestrone has tissue-specific estrogen actions. *J Endocrinology*, 167:281-287, 2000.
163. **Turner RT**, Kidder LS, Kennedy A, Evans GL, Sibonga JD: Moderate alcohol consumption suppresses bone turnover in adult female rats. *J Bone Miner Res*, 16:589-594, 2001.
164. **Turner RT**, Maran A, Lotinun S, Hefferan T, Evans GL, Zhang M, Sibonga JD: Animal models for osteoporosis. *Reviews in Endocrine and Metabolic Disorders*, 2:117-127, 2001.
165. Maran A, Zhang M, Spelsberg TC, **Turner RT**: The dose-response effects of ethanol on the human fetal osteoblastic cell line. *J Bone Miner Res* 16:270-276, 2001.
166. **Turner RT**, Bolander ME, Sarkar G, An KN, Maran A, Ritman EL: Editorial: An integrated approach to assess structure to function relationships in the skeleton. *J Musculoskeletal Neuronal Interactions*, 2:3-8, 2001.
167. Buhl KM, Jacobs CR, **Turner RT**, Evans GL, Farrell PA, Donahue HJ: Aged bone displays an increased responsiveness to low-intensity resistance exercise. *J Appl Physiol* 90:1359-1364, 2001.
168. Rickard D, Harris SA, **Turner R**, Khosla S, Spelsberg TC: Estrogens and Progestins. In: *Principles of Bone Biology*, 2nd Edition (Bilezikian JP, Raisz LG, Rodan GA, eds),

Academic Press, San Diego, Vol 1, pp 655-675, 2002.

169. **Turner RT**, Rickard D, Spelsberg TC, Sibonga JD: Chapter 15, The Basic Biology of Estrogen and Bone. In: Contemporary Endocrinology: Osteoporosis: Pathophysiology and Clinical Management. (Eds. ES Orwoll and M Blizotes), Humana Press, Totowa, NJ pp 309-329, 2002.
170. **Turner RT**, Evans GL, Zhang M, Sibonga JD: Effects of parathyroid hormone on bone formation in a rat model for chronic alcohol abuse. *Alcohol Clin Exp Res*, 25:667-671, 2001.
171. **Turner RT**, Sibonga JD: Effects of alcohol and estrogen on bone metabolism. *Alcohol Research and Health*, 25:276-281, 2001.
172. **Turner RT**: Skeletal adaptation to external loads to optimize mechanical properties: Fact or fiction. *Current Opinion in Orthopaedics*, 12:384-388, 2001.
173. Maran A, **Turner RT**: Effects of estrogen on bone. *Recent Res Devel Endocrinol* 2:327-346, 2001.
174. Lotinun S, Westerlind KC, **Turner RT**: Tissue-selective effects of continuous release of 2-hydroxyestrone and 16 $\alpha$ -hydroxyestrone on bone, uterus and mammary gland in ovariectomized growing rats. *J Endocrinology* 170:165-174, 2001.
175. Burguera B, Hofbauer L, Thomas T, Gori F, Evans GL, Khosla S, Riggs BL, **Turner RT**: Leptin reduces ovariectomy-induced bone loss in rats. *Endocrinology*, 142:3546-3553, 2001.
176. Maran A, Zhang M, Kennedy AM, Sibonga JD, Rickard DJ, Spelsberg TC, **Turner RT**: 2-Methoxyestradiol induces interferon gene expression and apoptosis in osteosarcoma cells. *Bone*, 30:393-398, 2002.
177. Bouxsein ML, Rosen CJ, Turner CH, Ackert CL, Shultz KL, Donahue LR, Churchill G, Adamo ML, Powell DR, **Turner RT**, Muller R, Beamer WG: Generation of a new congenic mouse strain to test the relationships among serum insulin-like growth factor I, bone mineral density, and skeletal morphology in vivo. *J Bone Miner Res*, 17:570-579, 2002.
178. Lotinun S, Sibonga JD, **Turner RT**: Differential effects of intermittent and continuous administration of parathyroid hormone on bone histomorphometry and gene expression. *Endocrine* 17:29-36, 2002.
179. Sibonga JD, Sommer U, **Turner RT**: Evidence that 2-methoxyestradiol suppresses proliferation and accelerates apoptosis in normal rat growth plate chondrocytes. *J Cancer Res Clin Oncol*, 128:477-483, 2002.
180. Conover CA, Johnstone EW, **Turner RT**, Evans GL, Ballard FJ, Doran PM, Khosla S: Subcutaneous administration of insulin-like growth factor (iGF)-II/IGF binding protein-2 complex stimulates bone formation and prevents loss of bone mineral density in a rat model of disuse osteoporosis. *Growth Hormone and IGF Research*, 12(3):178-183, 2002.
181. Reed AH, McCarty HL, Evans GL, **Turner RT**, Westerlind KC: The effects of chronic alcohol consumption and exercise on the skeleton of adult male rats. *Alcoholism: Clin*

- Exp Res 26:1269-1274, 2002.
182. Buhl KM, Jacobs CR, **Turner RT**, Evans GL, Farrell PA, Donahue HJ: Parallel changes in extracellular matrix protein gene expression, bone formation and biomechanical properties in aging rat bone. *J Musculoskeletal Res*, 6:157-169, 2002
  183. Martin EA, Ritman EL, **Turner RT**: Time course of epiphyseal growth plate fusion in rat tibiae. *Bone*, 32:261-267, 2003.
  184. Locklin RM, Khosla S, **Turner RT**, Riggs BL: Mediators of the biphasic responses of bone to intermittent and continuously administered parathyroid hormone. *J Cellular Biochem* 89:180-190, 2003.
  185. Lotinun S, **Turner RT**: Triazolopyrimidine (trapidil), a platelet-derived growth factor antagonist, inhibits parathyroid bone disease in an animal model for chronic hyperparathyroidism. *Endocrinology*, 144:2000-2007, 2003.
  186. Lotinun S, Westerlind KC, Kennedy A, **Turner RT**: Comparative effects of long-term continuous release of 16 $\alpha$ -hydroxyestradiol and 17 $\beta$ -estradiol on bone, uterus and serum cholesterol in ovariectomized rats. *Bone*, 33:124-131, 2003.
  187. Maran A, Khosla S, Riggs BL, Zhang M, Ritman EL, **Turner RT**: Measurement of gene expression following cryogenic  $\mu$ -CT scanning of human iliac crest bone biopsies. *J Musculoskeletal Neuronal Interactions*, 3:83-88, 2003.
  188. Hefferan T, Kennedy AM, Evans GL, **Turner RT**: Disuse exaggerates the detrimental effects of alcohol on cortical bone. *Alcohol Clin Exp Res*, 27:111-117, 2003.
  189. Sibonga JD, Evans GL, Lotinun S, Pribluda VS, Green SJ, **Turner RT**: Dose response effects of 2-methoxyestradiol on estrogen target tissues in the ovariectomized rat. *Endocrinology*, 144:785-792, 2003.
  190. Coghlan MJ, Jacobson PB, Lane B, Nakane M, Lin CW, Elmore SW, Kym PR, Luly JR, Carter GW, **Turner RT**, Tyree CM, Hu J, Elgort M, Rosen J, Miner JN: A novel anti-inflammatory maintains glucocorticoid efficacy with reduced side effects. *Mol Endocrinol*, 17:860-869, 2003.
  191. Fitzpatrick LA, **Turner RT**, Ritman E: Endochondral bone formation in the heart; A possible mechanism of coronary calcification. *Endocrinology*, 144:2214-2219, 2003.
  192. Hefferan T, Evans GL, Lotinun S, Zhang M, Morey-Holton E, **Turner RT**: Effects of gender on bone turnover in adult rats during simulated weightlessness. *J Appl Physiol*, 95:1775-1780, 2003.
  193. Silha JV, Mishra S, Rosen CJ, Beamer WG, **Turner RT**, Powell DR, Murphy LJ: Perturbations in bone formation and resorption in insulin-like growth factor binding protein-3 transgenic mice. *J Bone Miner Res*, 18:1834-1841, 2003.
  194. **Turner RT**: The secret life of bone cells. *J Musculoskel Neuron Interact*, 3:268-269, 2003.
  195. **Turner RT**: Summary – Estrogen Receptors. *J Musculoskel Neuron Interact*, 3:381, 2003.
  196. Maran A, Zhang M, Kennedy AM, **Turner RT**: ER-independent actions of estrogen and



- estrogen metabolites in bone cells. *J Musculoskel Neuron Interact*, 3:367-369, 2003.
197. Lotinun S, Evans GL, Bronk JT, Bolander ME, Wronski TJ, Ritman EL, **Turner RT**: Continuous Parathyroid Hormone Induces Cortical Porosity in the Rat: Effects on Bone Turnover and Mechanical Properties. *J Bone Miner Res*, 19:1165-1171, 2004.
  198. Maran A, Hefferan TE, Zhang M, **Turner RT**: Unanticipated changes in steady-state mRNA levels for glyceraldehydes-3-phosphate dehydrogenase in rat tibiae. *Calcif Tissue Int*, 74:204-207, 2004.
  199. von Knoch M, Jewison DE, Sibonga JD, **Turner RT**, Morrey BF, Loer F, Berry DJ, Scully SP: Particle-induced osteolysis in obese (ob/ob) mice. *Biomaterials*, 19: 4675-4678, 2004.
  200. Onyia JE, Gelbert L, Zhang M, Lotinun S, Bemis K, Dow E, Maran A, Lin X, Li Q, Mishra S, Halladay DL, Chandraskhar S, Frolik C, Sato M, Bryant H, **Turner RT**: Gene expression analysis by DNA microarray reveals novel clues to the mechanism of the catabolic and anabolic actions of PTH in bone. *J Cell Biochem*, 15:403-418, 2005.
  201. Doran PM, **Turner RT**, Chen D, Facteau SM, Ludvigson JM, Khosla S, Riggs BL, Russell SJ: Native osteoprotegerin gene transfer inhibits the development of murine osteolytic bone disease induced by tumor xenographs. *Exp Hematol*, 32:351-359, 2004.
  202. Hatano H, Siegel HJ, Yamagiwa H, Bronk JT, **Turner RT**, Bolander ME, Sarkar G: Identification of estrogen-regulated genes during fracture healing using DNA microarray. *J Bone Min Res*, 22:224-235, 2004.
  203. Subramaniam M, Gorny G, Johesen SA, Monroe DG, Evans GL, Fraser DG, Rickard DJ, van Deursen JM, **Turner RT**, Ousler M, Spelsberg TC. TIEG1 Null mouse derived osteoblasts are defective in mineralization and in support of osteoclast differentiation in vitro. *Mol Cell Biol*, 25:1191-1199, 2005.
  204. Borah B, Ritman EL, Dufresne TE, Jorgensen SM, Liu S, Sacha J, Phipps RJ, Turner, RT: The effect of risedronate on bone mineralization as measured by micro-computed tomography with synchrotron radiation: correlation to histomorphometric indices of turnover. *Bone*, 37:1-9, 2005.
  205. Vingren JL, Koziris LP, Gordon SE, Kraemer WJ, **Turner RT**, Westerlind KC: Effect of chronic alcohol intake and resistance training on the skeletal-muscle androgen receptor content in rats. *Med Sci in Sports and Exer*, 37:1842-1848, 2005.
  206. Smith BJ, Lucas EA, **Turner RT**, Evans GL, Lerner MR, Brackett DJ, Stoecker BJ, Arjamandi BH: Vitamin E provides protection for bone in mature hindlimb unloaded male rats. *Calcif Tiss Int*, 76:272-279, 2005.
  207. Lotinun S, Evans GL, Ousler M, **Turner RT**: Deletion of membrane-bound steel factor results in osteopenia in mice. *J Bone Min Res*, 20:644-652, 2005.
  208. Kennedy AM, Shogren KL, Zhang M, **Turner RT**, Spelsberg TC, Maran A: 17 $\beta$ -Estradiol-dependent activation of signal transducer and activator of transcription-1 in human fetal osteoblasts is dependent on Src Kinase activity. *Endocrinology*, 146:201-207, 2005.
  209. Lotinun S, Sibonga JD, **Turner RT**: Evidence that the cells responsible for marrow

- fibrosis in a rat model for hyperparathyroidism are preosteoblasts. *Endocrinology*, 146:4074-4081, 2005.
210. Bahr JM, Nakai M, Rivera A, Walsh J, Evans GL, Lotinun S, **Turner RT**, Black M, Jeffery EH: Dietary soy proteins and isoflavones: minimal beneficial effects on bone and no effect on the reproductive tract of sexually mature ovariectomized Sprague-Dawley rats. *Menopause*, 12:164-173, 2005.
  211. Nakai M, Cook L, Pyter LM, Black M, Sibonga J, **Turner RT**, Jeffery EH, Bahr JM: Dietary soy proteins have no significant effect on bone and a potentially negative effect on the uterus of sexually mature intact Sprague-Dawley rats. *Menopause*, 12:291-298, 2005.
  212. Chiccoa AJ, McCarty H, Reed AH, Story RR, Westerlind KC, **Turner RT**, Hayward R: Resistance exercise training attenuates alcohol-induced cardiac oxidative stress. *Eur J Cardiovasc Prev Rehabil*, 13:74-9, 2006
  213. Bliziotis M, Sibonga JD, **Turner RT**, Orwoll E: Periosteal Remodeling at The femoral neck in non-human primates. *J Bone Min Res*, 21:1060-1067, 2006.
  214. Maran A, Gorny G, Oursler MJ, Zhang M, Shogren KL, Yaszemski MJ, **Turner RT**: 2-Methoxyestradiol inhibits differentiation and is cytotoxic to osteoclasts. *J Cell Biochem*, 99:425-34, 2006.
  215. Borah B, Dufresne TE, Ritman EL, Jorgensen SM, Liu S, Chmielewski PA, Phipps RJ, Zhou X, Sibonga JD, **Turner RT**: Long-term Risedronate Treatment Normalizes Mineralization and Continues to Preserve Trabecular Architecture: Sequential Triple Biopsy Studies with Micro-Computed Tomography, *Bone* 39:345-352, 2006.
  216. Turner, RT, Lotinun S, Hefferan TE, Morey-Holton E: Disuse in Adult Male Rats Attenuates the Bone Anabolic Response to a Therapeutic Dose of Parathyroid Hormone. *J Applied Physiol*, 101:881-886, 2006.
  217. Maran A, Shogren K, Zhang M, Spelsberg TC, Kloosterboer HJ, Turner RT: Stable Transfection of Human Fetal Osteoblast Cells with Estrogen Receptor- $\alpha$  Confers Regulation of Bone Matrix Gene Expression By Estrogenic Metabolites of Tibolone. *Bone*, 39:523-529, 2006.
  218. Sibonga, JD, Iwaniec UI, Shogren KL, Rosen CJ, **Turner RT**: Effects of parathyroid hormone (1-34) on tibia in an adult model for chronic alcohol abuse. *Bone*, 40:1013-1020, 2007.
  219. Miner JN, Chang W, Chapman MS, Finn PD, Hong MH, Lopez FJ, Marschke KB, Rosen J, Schrader W, Turner R, van Oeveren A, Viveros H, Zhi L, Negro-Vilar A. An orally active selective androgen receptor modulator is efficacious on bone, muscle, and sex function with reduced impact on prostate. *Endocrinology*, 148:363-73, 2007.
  220. Shogren KL, **Turner RT**, Yaszemski MJ, Maran A: Double-stranded RNA-dependent protein Kinase is involved in 2-methoxyestradiol-mediated cell death in osteosarcoma cells. *J. Bone Min Res*, 22:29-36, 2007.
  221. **Turner RT**, Evans GL, Lotinun S, Lapke PD, Iwaniec UT, Morey-Holton E: Dose-response Effects of PTH on cancellous bone in hindlimb unloaded rats. *J Bone Min Res*, 22:64-71, 2007.

222. Iwaniec UT, Boghossian S, Lapke PD, **Turner RT**, Kalra, SP: Central leptin gene therapy corrects skeletal abnormalities in leptin-deficient ob/ob mice. *Peptides*, 28:1012-1019, 2007.
223. Trevisiol CH, **Turner RT**, Pfaff JE, Hunter JC, Menaugh PJ, Iwaniec UT. Impaired osteoinduction in a rat model for chronic alcohol abuse. *Bone*, 41:175-180, 2007.
224. Friedl G, **Turner RT**, Evans GL, Dobnig H: Intermittent parathyroid hormone (PTH) treatment and age-dependent effects on rat cancellous bone and mineral metabolism. *J Orthop Res*, 25:454-64, 2007.
225. Cicek M, Iwaniec UT, Goblirsch M, Vrabel A, Clohisy DR, **Turner RT**, and Oursler MJ: 2-methoxyestradiol suppresses osteolytic breast cancer tumor progression in mice. *Cancer Res*, 67:10106-11, 2007.
226. Iwaniec UT, **Turner RT**: Animal models for osteoporosis. In: 'Osteoporosis, Third Edition' Marcus, Feldman, Nelson and Rosen eds. Elsevier, 985-1009, 2008.
227. Iwaniec UT, Wronski TJ, **Turner RT**: Histological analysis of bone. *Methods Mol Biol*, 447:325-41, 2008
228. Morey-Holton E, **Turner RT**. Laboratory Models of Adult Human Bone Loss: Ground-based Models that Mimic Spaceflight. In: 'Bone loss during spaceflight: etiology, countermeasures, and implications for bone health on Earth' P. R. Cavanagh. A.J. Rice (Eds.), Chapter 2, Cleveland Clinic Press, pp. 17-24, 2008.
229. Iwaniec UT, Trevisiol CH, Maddalozzo GF, Rosen VJ, and **Turner RT**: Effects of low dose parathyroid hormone on bone mass, turnover, and ectopic osteoinduction in a rat model for chronic alcohol abuse. *Bone* 42: 695-701, 2008.
230. Maran A, Shogren K, Benedikt M, Sarkar G, **Turner RT**, and Yaszemski M: 2-methoxyestradiol-induced cell death is preceded by cell cycle arrest in osteosarcoma cells. *J Cell Biochem*, 104(5):1937-45, 2008.
231. Rickard DJ, Iwaniec UT, Evans G, Hefferan TE, Hunter CJ, Waters KM, Lydon JP, O'Malley BW, Khosla S, Spelsberg TC, and **Turner RT**. Bone growth and turnover in progesterone receptor knockout mice. *Endocrinology*, 149(5):2383-90, 2008.
232. Jokihaara J, Jarvinen TLN, Tahvanainen A, Kööbi P, Vehmans T, Mustonen J, Niemela, **Turner RT**, Iwaniec UT, Pörsti I. Pamidronate Treatment in Experimental Renal Osteodystrophy. *Kidney Int*, 74; 319-327, 2008.
233. Hawse JR, Iwaniec UT, Bensamoun SF, Monroe DG, Peters KD, Ilharreborde B, Rajamannan NM, Oursler MJ, **Turner RT**, Spelsberg TC, Subramaniam M: TIEG-null mice display an osteopenic gender-specific phenotype. *Bone* 42(6):1025-31, 2008.
234. Lowry MB, Lotinun S, Leontovich AA, Zhang M, Maran A, Shogren KL, Palama BK, Marley K, Iwaniec UT, **Turner RT**: Osteitis fibrosa is mediated by PDGF-A via a PI3K-dependent signaling pathway in a rat model for chronic hyperparathyroidism. *Endocrinology*, 149:5735-46, 2008
235. Maddalozzo GF, Widrick JJ, Rosen CJ, Iwaniec UT, **Turner RT**: Whole-body vibration slows the acquisition of fat in mature rats. *Int J Obes*, 32:1348-54, 2008
236. Maran A, Shogren K, Benedikt M, Sarkar G, **Turner RT**, and Yaszemski M: 2-

- methoxyestradiol-induced cell death is preceded by cell cycle arrest in osteosarcoma cells. *J Cell Biochem*, 104:1937-1945, 2008.
237. Widrick JJ, Maddalozzo GF, Hu H, Herron JC, Iwaniec UT, **Turner RT**: Impaired soleus function during recovery from hindlimb suspension. *Am J Physiol*, R1585-1592, 2008.
238. Hydock DS, Iwaniec UT, **Turner RT**, Lien C, Jensen BT, Parry TL, Hayward R. Effects of voluntary wheel running on goserelin acetate-induced bone degeneration. *Pathophysiology*, 15:253-259, 2008.
239. **Turner RT**, Rickard DJ, Iwaniec UT, and Spelsberg TC. Estrogens and Progestins. In 'Principles of Bone Biology, Third Edition' Bilezikian JP, Raisz LG, Matrin J (eds.) Academic, 847-877, 2008.
240. Iwaniec UT, Dube M, Boghossian S, Song H, Helferich WG, **Turner RT**, Kalra. SP: Body mass influences cortical bone mass independent of leptin signaling. *Bone*, 44:404-412, 2009.
241. Maddalozzo GF, **Turner RT**, Edwards CH, Howe KS, Widrick JJ, Rosen CJ, Iwaniec UT. Alcohol alters whole body composition, inhibits bone formation and increases bone marrow adiposity in rats. *Osteoporosis Int*, 20:1529-1538, 2009.
242. Iwaniec UT, **Turner RT**, Koo SI, Kaur R, Ho E, Wong CP, Bruno RS. Effects of green tea on bone architecture in lean and leptin-deficient obese mice. *J Nutrition*. 139:1914-1919, 2009.
243. Menagh PJ, **Turner RT**, Jump DB, Wong CP, Lowry MB, Yakar S, Rosen CJ, Iwaniec UT. Growth hormone regulates the balance between bone formation and bone marrow adiposity. *J Bone Miner Res*. 25:757-768, 2010.
244. **Turner RT**, Rosen CJ, Iwaniec UT. Effects of alcohol on skeletal response to growth hormone in hypophysectomized rats. *Bone*. 46:806-812, 2010.
245. **Turner RT**, Iwaniec UT, Marley K, Sibonga JD. The role of mast cells in parathyroid bone disease. *J Bone Miner Res*.25:1637-1649, 2010.
246. **Turner RT**, Iwaniec UT. Moderate weight gain does not influence bone metabolism in skeletally mature female rats. *Bone*. 47:631-635. 2010
247. Howe KS, Iwaniec UT, **Turner RT**. The effects of low dose parathyroid hormone on lumbar vertebrae in a rat model for chronic alcohol abuse. *Osteoporos Int*. 22(4):1175-81, 2011.
248. **Turner RT**, Iwaniec UT. Low dose parathyroid hormone maintains normal bone formation in adult male rats during rapid weight loss. *Bone* 48:726-32, 2011.
249. Iwaniec UT, Boghossian S, Trevisiol CH, Wronski TJ, **Turner RT**, Kalra SP. Hypothalamic leptin gene therapy prevents weight gain without long-term detrimental effects on bone in growing and skeletally mature female rats. *J Bone Miner Res*. 26:1506-1516, 2011
250. Jackson MA, Iwaniec UI, **Turner**, RT, Wronski TJ, and Kalra SP. Effects of increased hypothalamic leptin gene expression on ovariectomy-induced bone loss in rats. *Peptides*. 32:1575-1580, 2011
251. **Turner RT**, Wong CP, and Iwaniec UT. Effect of Reduced c-Kit Signaling on Bone Marrow

- Adiposity in Mice and Rats. *Anat Re.* 294:1126-34, 2011.
252. Turner RT, Doran E, Iwaniec UT: Detrimental effects of alcohol on bone growth. In: *Osteogenesis*. Lin Y. ed, InTech, Rijeka, Croatia pp 57-82, 2012.
253. Tal TL, Franzosa JA, Tilton SC, Philbrick KA, Iwaniec UT, **Turner RT**, Waters KM, Tanguay RL. MicroRNAs control neurobehavioral development and function in zebrafish. *FASEB J.* 26:1452-61, 2012.
254. Marrone A, Maddalozzo GF, Branscum, Hardin K, Cialdella-Kam L, Philbrick K, Breggia A, Rosen CJ, **Turner RT**, and Iwaniec UT. Rapid Effect of Moderate Alcohol Consumption on Biochemical Markers of Bone Turnover in Postmenopausal Women. *Menopause.* 19:974-9, 2012.
255. Wiren K, Zhang X, Olson DA, **Turner RT**, Iwaniec UT. Androgen prevents hypogonadal bone loss via inhibition of resorption mediated by mature osteoblasts/osteocyte. *Bone* 51:835-46, 2012
256. Iwaniec UT, **Turner RT**. Failure to generate bone marrow adipocytes does not protect mice from ovariectomy-induced osteopenia. *Bone* 53:145-153, 2013.
257. **Turner RT**, Kalra SP, Wong CP, Philbrick KA, Lindenmaier LB, Boghossian S, and Iwaniec UT. Peripheral leptin regulates bone formation. *J Bone Miner Res* 28:22-34, 2013
258. Bredahl E, Hydock D, Iwaniec UT, **Turner RT**, Parry T, Schneider C, Hayward R. Voluntary wheel running in growing rats does not protect against doxorubicin-induced osteopenia. *Journal of Pediatric Hematology and Oncology.* 35:e144-148, 2013.
259. Yang X, Belosay A, Du M, Hartman JA, Jackson M, Fan TM, **Turner RT**, Iwaniec UT, Helferich WG: Evaluating breast cancer metastasis using bioluminescence imaging and murine models. Revised manuscript submitted to *Clinical and Experimental Metastasis.* 30(6):711-21, 2013.
260. Iwaniec UT, **Turner RT**. Intraperitoneal injection of ethanol results in drastic changes in bone metabolism not observed when ethanol is administered by oral gavage. *Alcohol Clin Exp Res.*37:1271-1277, 2013
261. **Turner RT**, Andrade JE, Branscum, AJ, Neese, SL, Olson, DA, Wagner, L, Wang, VC, Schantz, SL, Helferich, WG. Genistein delivered as a once daily oral supplement had no beneficial effect on the tibia in rat models for postmenopausal bone loss. *Menopause.* 20(6):677-86, 2013.
262. Recht M, Liel MS, **Turner RT**, Klein RF, Taylor JA. The bone disease associated with factor VIII deficiency in mice is secondary to increased bone resorption. *Haemophilia.* 19(6):908-12, 2013.
263. **Turner RT**, Iwaniec UT, Wong CP, Lindenmaier LB, Wagner LA, Branscum AJ, Menn SA, Taylor J, Zhang Y, Wu H, Sibonga JD. Acute exposure to high dose  $\gamma$ -radiation results in transient activation of bone lining cells. *Bone.* 57:164-73, 2013.
264. Iwaniec UT, **Turner RT**, Smith BJ, Stoecker BJ, Rust A, Zhang B, Vasu VT, Gohil K, Cross CE, Traber MG. Evaluation of long-term vitamin E insufficiency or excess on bone mass, density, and microarchitecture in rodents. *Free Radic Biol Med.* 65:1209-

14, 2013.

265. Hawse JR, Pitel KS, Cicek M, Philbrick KA, Gingery A, Peters KD, Syed FA, Ingle JN, Suman VJ, Iwaniec UT, **Turner RT**, Spelsberg TC, Subramaniam M. TGF $\beta$  inducible early gene-1 plays an important role in mediating estrogen signaling in the skeleton. *J Bone Miner Res.* 2014;29(5):1206-16.
266. Johnson TL, Gaddini G, Branscum AJ, Olson DA, Caroline-Westerlind K, **Turner RT**, Iwaniec UT. Effects of chronic heavy alcohol consumption and endurance exercise on cancellous and cortical bone microarchitecture in adult male rats. *Alcohol Clin Exp Res.* 38(5):1365-72, 2014.
267. Hydock DS, Parry TL, Wymore JD, Iwaniec UT, **Turner RT**, Schneider CM, Hayward R. Effects of treadmill training on combined goserelin acetate and doxorubicin-induced osteopenia in female rats. *J Musculoskelet Neuronal Interact.* 14(1):10-8, 2014.
268. Gingery A, Subramaniam M, Pitel KS, Reese JM, Cicek M, Lindenmaier LP, Ingle JN, Goetz MP, **Turner RT**, Iwaniec UT, Spelsberg TC, Hawse JR. The effects of a novel hormonal breast cancer therapy, endoxifen, on the mouse skeleton. *PLoS One.* 22;9(5):e98219, 2014.
269. **Turner RT**, Philbrick KA, Wong CP, Olson DA, Branscum AJ, Iwaniec UT. Morbid obesity attenuates the skeletal abnormalities associated with leptin deficiency in mice. *Journal of Endocrinology* 223 (1), M1-M15, 2014
270. Gaddini GW, Grant KA, Woodall A, Stull C, Maddalozzo GF, Zhang B, **Turner RT**, Iwaniec UT. Twelve months of voluntary heavy alcohol consumption in male rhesus macaques suppresses intracortical bone remodeling. *Bone* 71, 227-236, 2015.
271. Philbrick KA, **Turner RT**, Branscum AJ, Wong CP, Iwaniec U. Paradoxical Effects of Partial Leptin Deficiency on Bone in Growing Female Mice. *Anatomical Record (Hoboken).* Dec;298(12):2018-29, 2015. doi: 10.1002/ar.23267.
272. **Turner RT**, Dube, M, Branscum AJ, Wong CP, Olson DA, Zhong X, Kweh M, Larkin I, Wronski T, Rosen C, Kalra SP, Iwaniec U. Hypothalamic leptin gene therapy reduces body weight without accelerating age-related bone loss. *Journal of Endocrinology* Dec;227(3):129-41, 2015 doi: 10.1530/JOE-15-0280.
273. Keune JA, Branscum AJ, Iwaniec UT, Turner RT. Effects of spaceflight on bone microarchitecture in the axial and appendicular skeleton in growing ovariectomized rats. *Sci Rep.* Dec 22;5:18671, 2015 doi: 10.1038/srep18671.
274. Madak-Erdogan Z, Gong P, Zhao YC, Xu L, Wrobel KU, Hartman JA, Wang M, Cam A, Iwaniec UT, **Turner RT**, Twaddle NC, Doerge DR, Khan IA, Katzenellenbogen JA, Katzenellenbogen BS, Helferich WG. Dietary licorice root supplementation reduces diet-induced weight gain, lipid deposition, and hepatic steatosis in ovariectomized mice without stimulating reproductive tissues and mammary gland. *Mol Nutr Food Res.* Feb;60(2):369-80, 2016 doi: 10.1002/mnfr.201500445.
275. Gaddini GW, **Turner RT**, Grant KA, Iwaniec UT. Alcohol: A simple nutrient with complex actions on bone in the adult skeleton. *Alcohol Clin Exp Res.* Apr;40(4):657-71, 2016 doi: 10.1111/acer.13000.
276. Wang W, Belosay A, Yang X, Hartman JA, Song H, Iwaniec UT, **Turner RT**, Churchwell

- MI, Doerge DR, Helferich WG. Effects of letrozole on breast cancer micro-metastatic tumor growth in bone and lung in mice inoculated with murine 4T1 cells. *Clin Exp Metastasis*. Jun;33(5):475-85, 2016 doi: 10.1007/s10585-016-9792-z.
277. Shahnazari M, **Turner RT**, Iwaniec UT, Wronski TJ, Li M, Ferruzzi MG, Nissenson RA, Halloran BP. Dietary dried plum increases bone mass, suppresses proinflammatory cytokines and promotes attainment of peak bone mass in male mice. *J Nutr Biochem*. Aug;34:73-82, 2016 doi: 10.1016/j.jnutbio.2016.04.007.
278. Iwaniec UT, **Turner RT**. Influence of body weight on bone mass, architecture and turnover. *J Endocrinol*. Sep;230(3):R115-30, 2016 doi: 10.1530/JOE-16-0089.
279. Lindenmaier LB, Philbrick KA, Branscum AJ, Kalra SP, **Turner RT**, Iwaniec UT. Hypothalamic Leptin Gene Therapy Reduces Bone Marrow Adiposity in ob/ob Mice Fed Regular and High-Fat Diets. *Front Endocrinol (Lausanne)*. Aug 16;7:110, 2016 doi: 10.3389/fendo.2016.00110.
280. Keune JA, Philbrick KA, Branscum AJ, Iwaniec UT, **Turner RT**. Spaceflight-induced vertebral bone loss in ovariectomized rats is associated with increased bone marrow adiposity and no change in bone formationnpj *Microgravity*, 2:16016, 2016.
281. Iwaniec UT, Philbrick KA, Wong CP, Gordon JL, Kahler-Quesada AM, Olson DA, Branscum AJ, Sargent JL, DeMambro VE, Rosen CJ, **Turner RT**. Room temperature housing results in premature cancellous bone loss in growing female mice: implications for the mouse as a preclinical model for age-related bone loss. *Osteoporos Int*. 2016 May 17. [Epub ahead of print].
282. Jokihaara J, Pörsti IH, Sievänen H, Kööbi P, Kannus P, Niemelä O, **Turner RT**, Urszula Iwaniec UT, Järvinen TLN. Phosphate Binding with Sevelamer Preserves Mechanical Competence of Bone Despite Acidosis in Advanced Experimental Renal Insufficiency. *PIOS One*, In Press.