**CURRICULUM VITAE**

**Carol A. Oatis**

**450 S. Easton Road**

**Department of Physical Therapy**

**Arcadia University (formerly known as Beaver College)**

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**Education:**

Marquette University

Milwaukee, Wisconsin

BS, Physical Therapy, cum laude

University of Pennsylvania

Philadelphia, PA

Department of Anatomy

Doctor of Philosophy

**Professional Licenses:**

Physical Therapist, Commonwealth of Pennsylvania, Department of State, Bureau of Professional and Occupational Affairs

Physical Therapist, Physical Therapy Board of California

**Employment and Positions Held:**

Staff Physical Therapist

Rancho Los Amigos Hospital

Adult Arthritis Service

Pediatric Service, Lead JRA therapist

1973-1974

Staff Physical Therapist

Temple University Hospital

Philadelphia, PA

1975-1976

Instructor, Assistant Professor

Physical Therapy Department

University of Pennsylvania

Philadelphia, PA

1975-1981

Research Intern

Gait Laboratory

Boston Children's Medical Center

1976

Acting Director

Human Motion Analysis Laboratory

Department of Orthopedic Surgery Research, University of Pennsylvania

Philadelphia, PA

1978-1981

Co-founder and co-director

Philadelphia Institute for Physical Therapy

Philadelphia, PA

1980-1992

Assistant Professor in Orthopedics, Director of Gait Study Center

Pennsylvania College of Podiatric Medicine

1981-1984

Adjunct Assistant Professor

Graduate Program in Physical Therapy

Temple University

Philadelphia, PA

1981-1984

Instructor – Anatomy

Philadelphia College of Performing Arts

Philadelphia, PA

1984-1987

Adjunct Assistant Professor, Instructor

Department of Physical Therapy

Beaver College

Glenside, PA

1982-1990

Professor

Department of Physical Therapy

Arcadia University (formerly known as known as Beaver College)

Glenside, PA

Associate Professor, 1991-2003, Tenured December, 1994

**Publications:**

**Peer-Reviewed Journals:**

Hack, LM, G Logue, and CA Oatis, Evaluating physical therapy for patients undergoing meniscectomy, Quality Review Bulletin, 5:6-9, 1979.

Hayes WC, Gran JD, Nagurka ML, Feldman JM, Oatis C, Leg motion analysis during gait by multiaxial accelerometry: theoretical foundations and preliminary validations. Journal of Biomechanical Engineering 105(3):283-289, 1983.

Oatis CA: Biomechanics of the foot and ankle under static conditions. Physical Therapy, 68(12):1815-1821, 1988.

Craik RL, Oatis CA (Ed): Special Issue: Foot and Ankle, Physical Therapy, 68(12), 1988.

McCully KK, Forciea MA, Hack LM, Wheatley RW, Oatis CA, Goldberg T, Chance B: Muscle metabolism in older subjects using 31P magnetic resonance spectroscopy. Can J Physiol Pharmacol 69(5): 576-80, 1991.

Oatis CA: Invited Commentary, Physical Therapy 72(10): 706-708, 1992.

Griegel-Morris P, Larson K, Mueller-Klaus K, Oatis CA: Incidence of common postural abnormalities in the cervical, shoulder and thoracic regions and their association with pain in the two age groups of nondisabled subjects, Physical Therapy, 72(6):425-430, 1992. (Winner of the 1993 Dorothy Briggs Memorial Scientific Inquiry Award for Student Research from the APTA)

Oatis CA: The use of a mechanical model to describe the stiffness and damping characteristics of the knee joint in healthy adults. Physical Therapy: 73: 740-749, 1993.

Goldman RJ, Reingold KA, Iglarsh ZA, Neustadter LM, Oatis CA, Schumacher HR. Phase I design and evaluation of an isometric muscle reeducation device for knee osteoarthritis rehabilitation. Journal of Rehabilitation Research and Development: 40(2): 95-108, 2003

Fitzgerald GK, Oatis CA:The role of physical therapy in the management of knee osteoarthritis. Current Opinions in Rheumatology: 16:143-147, 2004.

Oatis CA, Wolff EF, Lennon SK. A mechanical model to compare knee joint stiffness in individuals with and without knee joint osteoarthritis-A preliminary study. J Orthopaedic & Sports Phys Ther. 36(12):935-941, 2006.

Hemsley KP, Sitler MR, Moyer RA, Oatis CA: Neuromuscular and psychological influences on range of motion recovery in anterior cruciate ligament reconstruction patients. Journal of Electromyography and Kinesiology. 2010; 20(4):684-692.

Rosal MC, Ayers D, Li W, Oatis C, Borg A, Zheng H, Franklin P.  A randomized clinical trail of a peri-operative behavioral intervention to improve physical activity adherence and functional outcomes following total knee replacement.  BMC Musculoskeletal Disorders 2011; 12:226.

Stanislavova O, Robbins SJ, Oatis CA. Nonconscious priming of elderly or youthful stereotypes influences walking velocity in healthy undergraduates. Gait Posture. 2012 Sep 25. doi:pii: S0966-6362(12)00323-2.

Oatis CA, Wolff EF, Lockard MA, Michener LA, Robbins. Correlations among measures of knee stiffness, gait performance and complaints in individuals with knee osteoarthritis, Clin. Biomech. (2013), http://dx.doi.org/10.1016/j.clinbiomech.2013.01.010

Hua Zheng, Milagros C. Rosal, Carol Oatis, Wenjun Li, Patricia D. Franklin. Tailored System to Deliver Behavioral Intervention and Manage Data in Randomized Trials. Journal of Medical Internet Research. 2013 (Apr 11); 15(4): e58.

Ayers DC, Li W, Oatis C, Rosal MC, Franklin PD. [Patient-reported outcomes after total knee replacement vary on the basis of preoperative coexisting disease in the lumbar spine and other nonoperatively treated joints: the need for a musculoskeletal comorbidity index.](http://www.ncbi.nlm.nih.gov/pubmed/24132356) J Bone Joint Surg Am. 2013 (Oct 16); 95(20):1833-7. doi: 10.2106/JBJS.L.01007

Oatis C, Li W, Di Russo JM, Hoover MJ, Johnston KK, Butz MK, Phillips AL, Nanovic KM, Cummings EC, Rosal MC, Ayers D, Franklin PD. Variations in delivery and content of physical therapy rehabilitation following total knee replacement surgery: a cross-sectional observation study. Int J Phys Med Rehabil 2014, S5:002 <http://dx.doi.org/10.4172/2329-9096.S5-002>

Hannan MT, Oatis CA, McLean RR. A Cinderella tale: Can new shoes change the life of a person with knee osteoarthritis? Annals of Internal Medicine 2016; doi:10.7326/M16-1459.

Participated as technical expert for:

Lucie Brosseau, PhD,1,2,3 George A. Wells, PhD, 1,2 Peter Tugwell, MD, MSc, et al.Ottawa Panel evidence-based clinical practice guidelines for the management of osteoarthritis in adults who are obese or overweight. Physical Therapy: 91(6): 843-861, 2011

Hochberg MC, Altman RD, April KT, Benkhalti M, Guyatt G, McGowan J, Towheed T, Welch V, Wells G, Tugwell P; American College of Rheumatology., [American College of Rheumatology **2012** recommendations for the use of nonpharmacologic and pharmacologic therapies in osteoarthritis of the hand, hip, and knee.](http://www.ncbi.nlm.nih.gov/pubmed/22563589) Arthritis Care Res (Hoboken). 2012 Apr;64(4):465-74.

Shamliyan TA, Wang,S-Y, Olson-Kellogg B, Kane RL; Comparative Effectiveness Review, No. 77: Physical therapy interventions for knee pain secondary to osteoarthritis. AHRQ pub No 12(13)-EHC115-EF, Nov. 2012.

**Books and Book Chapters:**

Oatis, CA, The Use of a Mechanical Model to Predict the Motion of the Knee in Normal Locomotion: A Study of Healthy Younger and Older Adult Males, Doctoral Dissertation, University of Pennsylvania, 1982.

Craik, RL and CA Oatis, Gait Assessment in the Clinic: Issues and Approaches, in Rothstein JM (ed): Measurements in Physical Therapy, Churchill Livingstone, NY, 1985.

Oatis CA: The biomechanics of the hip joint. In Echternach JL (ed): Clinics in Physical Therapy: Physical Therapy of the Hip. Churchill Livingstone, NY, 1990.

Oatis CA: The role of the hip in posture and gait. In Echternach JL (ed): Clinics in Physical Therapy: Physical Therapy of the Hip. Churchill Livingstone, NY, 1990.

Oatis CA: Conservative management of the functional manifestations of Charcot-Marie-Tooth disease. In Shapiro HK (ed): 2nd International Conference on Charcot-Marie-Tooth Disorders. Alan R. Liss, NY, 1990.

Oatis CA: Perspectives on the Evaluation and Treatment of Gait Disorders. In Montgomery PC and Connolly BH (ed): Motor Control and Physical Therapy. Chattanooga Group, Inc. Hixson, TN, 1991.

Oatis CA: The role of conservative management in the care of patients with Charcot Marie Tooth Disorder. In Parry GJ (ed), Handbook for Primary Care Physicians on Charcot Marie Tooth Disease. John Wiley and Sons, NY 1995.

Oatis, CA: Goals of Gait Assessment. In Craik CL and Oatis CA, Gait Analysis: Theory and Practice. Mosby Year Book, St. Louis. 1995.

Craik CL and Oatis CA, Gait Analysis: Theory and Application. Mosby Year Book, St. Louis. 1995.

Oatis CA, Locomotor dysfunction: Evaluation and treatment. In Melvin JL and Jensen GM (eds). Rheumatologic Rehabilitation Series Vol I: Evaluation and Management of Arthritis in Rehabilitation, AOTA, Bethesda, MD, 1997.

Oatis CA and Dacko L: Perspectives on the Evaluation and Treatment of Gait Disorders. In Montgomery PC and Connolly BH (ed): Motor Control and Physical Therapy, 2nd Ed. Slack Publishing, Thorofare, NH, 2002.

Oatis CA, Kinesiology: Mechanics and Pathomechanics of Human Movement. Lippincott-Williams and Wilkins, Philadelphia, PA, 2004.

Oatis CA, Kinesiology: Mechanics and Pathomechanics of Human Movement. 2nd Ed. Lippincott-Williams and Wilkins, Philadelphia, PA, 2009.

Oatis CA, Kinesiology: Mechanics and Pathomechanics of Human Movement. 3rd Ed. Wolters Kluwer, Philadelphia, PA, 2017.

**Proceedings:**

Hayes, WC, JM Feldman, CA Oatis, and JE Nixon, Gait Analysis by Multiaxial Accelerometry: Application to the Kinetics of the Lower Leg During Swing Phase, Transactions 24th Annual ORS Meeting, 1978.

Oatis, CA, The Use of a Spring Damper Model to Predict Knee Motion in Normal Locomotion, Transactions, ASME Winter Annual Meeting, 1983.

Song J, Scahill K, Behler J, Furmato J, Secord D, Giang T, Harris D, Huber D, Reyes K, Ziegler K, Kugler F, Oatis C, Hillstrom H: Methods for testing static and dynamic reliability of kinematic systems. Eighth Annual East Coast Clinical Gait Laboratories Conference, Rochester, MN, 1993.

Bo L, Seliktar R, Esquenazi A, Oatis CA: An improved model of the cervical spine for use in occupational biomechanics. Proceedings, 13th Southern Biomedical Engineering Conference, Washington, DC. J. Vossoughi, Ed., p 518-521, 1994

Bo L, Seliktar R, Esquenazi A, Oatis CA: A hybrid biomechanical model of the human neck. Proceedings of IFAC Symposium on Modeling and Control in Biomedical Systems, Galveston, TX, March 1994.

Kellar BL, Landis JA, Sagoe JD, Oatis CA. An investigation of hamstring strengthening and its effects on lordotic squat lifting capacity. Proceedings of the 12th International Congress of the World Confederation for Physical Therapy. Washington DC, June 1995.

Muir MJ, Logue KG, Nelson BR, Oliver C, Sundberg D, Yerkes P, Oatis CA, The effects of exercise on strength and function in a subject with Charcot Marie Tooth (CMT) Disease: A single case study. Proceedings of the 12th International Congress of the World Confederation for Physical Therapy. Washington DC, June 1995.

**Abstracts:**

Oatis, CA, Functional Testing of the Knee Based on a Mechanical Model, Abstract, Physical Therapy, 62:632, 1982.

Frey JK, CA Oatis, and C Heaney, Lumbar Curvatures in the Balans Multi Chair, a Conventional Chair, and Standing, Abstract, Physical Therapy 65:674, 1985.

Hack L, Oatis C, Bourbon B: Development and implementation of a clinical affiliation in home care. Abstract. Physical Therapy (5): 840, 1988.

Oatis CA: Effects of Age and Sex on knee joint stiffness parameters in normal subjects. Abstract. Physical Therapy (5): 852,

1988.

Oatis CA, Hack LM, Bourbon BM: Integration of membership-based exercise program in an out-patient physical therapy practice. Abstract. Physical Therapy (5): 787, 1988.

McGonagle L and Oatis CA: Structural and kinematic asymmetry of the lower extremities. Abstract. Physical Therapy, 68(5): 804, 1988.

Griegel P, Larson K, Mueller K, Oatis C: Incidence of common postural problems and their association with pain and muscle imbalance. Abstract. Physical Therapy (5): 803, 1988.

Graber EA, McDermott AM, Richards MA, Oatis CA: In investigation into the role of the Quadriceps and Hamstring musculature during lordotic squat lifting. Abstract. Physical Therapy 74(5) Suppl: S28, 1994.

Oatis CA, Adonizio MA, Gilleem JB, Haber LJ, Kousen CL. Knee joint stiffness in subjects with osteoarthritis versus healthy subjects. Association of Rheumatology Health Professionals. 30th National Scientific Meeting. San Francisco, CA, October 1995.

Oatis CA, Kane BD, Laiken CR, Mauss WF, Thomas R. The correlation between knee joint stiffness and gait women with osteoarthritis. Association of Rheumatology Health Professionals 31st National Meeting, Orlando, FL, October 18-22, 1996

Oatis CA, Lockard MA, Michener LA, Goldovsky A. Correlations among gait parameters, quantified joint stiffness and self reports of impairments and disability in subjects with knee osteoarthritis. APTA Scientific Meeting and Exposition, San Diego, California, May 30 - June 4, 1997.

Oatis CA, Lockard MA, Michener LA, Goldovsky A. A comparison of WOMAC scores, gait variables and stiffness and damping characteristics in individuals with knee OA with and without crepitus. Association of Rheumatology Health Professionals 32nd National Meeting, Washington, DC, Nov. 8-12, 1997.

Oatis CA, Hammerschmidt K, Kemp C, Olek J, Gill B: The relationship between stiffness, damping and walking performance in women with knee osteoarthritis: a pilot study. 33rd Association of Rheumatology Health Professionals National Scientific Meeting, San Diego, CA. Nov 8-12, 1998.

Frtizen M, Oatis CA: Reliability of manual muscle testing of hand muscles in individuals with hereditary motor sensory neuropathy. Combined Sections Meeting of the American Physical Therapy Association, Seattle, WA, Feb, 1999.

Oatis CA, Frtizen M: The effect of hand dominance on hand strength in individuals with hereditary motor sensory neuropathy. Combined Sections Meeting of the American Physical Therapy Association, Seattle, WA, Feb, 1999.

Goldman RJ, Reinbold KA, Iglarsh ZA, Oatis C, Newstadter L, Zonay L, Schumacher HR. Osteo-arthritic knee isometric exerciser with feedback. 34thd Association of Rheumatology Health Professionals National Scientific Meeting, Boston, MA. Nov 13-17, 1999.

Oatis CA, Gallen KM, McConnell DW, Tsepas DJ The Relationship between gait and motion analysis and its role in knee stiffness in subjects older than 40 years of age without knee osteoarthritis. 39thd Association of Rheumatology Health Professionals National Scientific Meeting, San Antonio, TX. Oct 16-21, 2004.

Bruno M, Hinkel M, Vey C, Oatis C, Lockard M. Reliability of knee stiffness and damping coefficient measurements using two different motion analysis systems. 42nd Annual Scientific meeting of the Association of Rheumatology Health Professionals Boston, MA. Nov. 7-11, 2007.

Hemsley KP, Sitler MR, Moyer RA, Oatis CA, Tierney RM, Kendrick ZV. Neuromuscular and Psychological Influences on Range of Motion Recovery in Anterior Cruciate Ligament Reconstruction Rehabilitation Patients. EATA 60th Annual Meeting, Jan, 2008, Valley Forge, PA. Winner of the 2008 EATA Free Communication GRADUATE Oral Presentation.

Bruno M, Hinkel M, Vey C, Oatis C, Lockard M. Reliability of knee stiffness and damping coefficient measurements using two different motion analysis systems. Combined Sections Meeting of the American Physical Therapy Association. Nashville, TN, Feb. 6-10, 2008.

Zheng H, Rosal M, Oatis C, Li W, Franklin P. More Than a Database: How Informatics Can Foster Fidelity in Delivery of a Behavioral Intervention and Translation to Future Clinical Settings. American Medical Informatics Association, San Francisco, CA. (November 2009)

Oatis CA, Brennan JL, Kushman S, Werner A, Franklin PD. Describing “Usual” Physical Therapy Practice Following Total Knee Replacement in Montgomery County, Pennsylvania. 44nd Annual Scientific meeting of the Association of Rheumatology Health Professionals, Philadelphia, PA. Oct. 18-21, 2009 and at Combined sections Meeting of the American Physical Therapy Association, San Diego, CA, Feb. 17-19, 2010.

Uyen-Sa D.T. Nguyen,Lien Quach,, Jennifer L. Kelsey, Douglas P. Kiel, Andrew M. Galica, Carol A. Oatis, Marian T. Hannan. Berg Balance and Risk of Indoor and Outdoor Falls in Elderly Men and Women: The MOBILIZE Boston Study. 74th Annual Scientific Meeting of the American College or Rheumatology, Philadelphia, PA. Oct. 18-21, 2009.

Oatis CA, Brennan JL, Kushman S, Werner A, Franklin PD

“Usual” Therapy Practice Following Total Knee Replacement in Acute, Home, and Outpatient Settings: Patterns of Utilization in a Pennsylvania County, Combined sections Meeting of the American Physical Therapy Association, San Diego, CA, Feb. 17-19, 2010

US Nguyen, Y Zhang, L Quach, DP Kiel, SG Leveille, RH Shmerling, CA Oatis, MT Hannan.

Knee Osteoarthritis and Risk of Indoor and Outdoor Falls in Older Adults: The MOBILIZE Boston Study, accepted for presentation at the Gerontological Society of America, Nov. 11, 2010.

Oatis CA, DiRusso JM, Hoover MJ, Johnston KK, Kasinova M, Franklin PD. Describing the Pattern of Physical Therapy Utilization Following Total Knee Replacement (TKR). 45nd Annual Scientific meeting of the Association of Rheumatology Health Professionals, Atlanta, GA. Nov. 7-11, 2010. Also presented at the Combined Sections Meeting of the American Physical Therapy Association, New Orleans, LA, Feb. 9-12, 2011 and the American Academy of Orthopedic Surgeons, San Diego, CA, Feb 15-19, 2011.

DiRusso JM, Hoover MJ, Johnston KK, Kasinova M, Franklin PD, Oatis CA. Describing the Pattern of Physical Therapy Intervention Following Total Knee Replacement (TKR). 45nd Annual Scientific meeting of the Association of Rheumatology Health Professionals, Atlanta, GA. Nov. 7-11, 2010. Also presented at the Combined Sections Meeting of the American Physical Therapy Association, New Orleans, LA, Feb. 9-12, 2011

Nguyen UDT,Hannan MT, Shmerling RH, Liel DT, Leveille SG, Oatis CA, Quach , Zhang Y. Potential gender effects on the association between knee osteoarthritis and risk of indoor and outdoor falls in elderly men and women. Annual Scientific meeting of the American College of Rheumatology, Atlanta, GA. Nov. 7-11, 2010.

Franklin PD, Li W, Ayers DC, Oatis CA. Co-morbid pain in hips, low back, and non-operative knee association with physical function before and after TKR. Annual Scientific meeting of the American College of Rheumatology, Atlanta, GA. Nov. 7-11, 2010.

US Nguyen, Y Zhang, J Niu, DP Kiel, SG Leveille, RH Shmerling, CA Oatis, MT Hannan. Mediating Effect of Physical Activity in Knee Osteoarthritis (OA)and Risk of Falls in Older Adults 64th Annual Scientific Meeting of The Gerontological Society of America, Boston, MA, November 18-22, 2011.

Nanovic K, Phillips A, Childs E, Franklin PD, Oatis CA. Describing the Interventions in Home Care Physical Therapy (PT) for Patients Following Total Knee Replacement (TKR). Accepted at the Annual Scientific Meeting of the American College of Rheumatology and Association of Rheumatology Health Professionals, Nov 5-9, 2011, Chicago, IL and Combined Sections Meeting of the American Physical Therapy Association, Chicago, IL, February 8-11, 2012

Phillips A, Nanovic K, Childs E, Franklin PD, Oatis CA. Describing the Utilization in Home Care Physical Therapy for Patients Following Total Knee Replacement (TKR). Combined Sections Meeting of the American Physical Therapy Association, Chicago, IL, February 8-11, 2012

Franklin PD, Li W, Oatis CA, SnyderB, Rosal M, Ayers DC. Importance of clinically-refined medical and

musculoskeletal co-morbidities in registries that evaluate patient-reported outcomes following TKR. UMass Center for Clinical & Translational Science, Shrewsbury, MA. (May 2012) (Poster)

P. D. Franklin, M. C. Rosal, W. Li, C. Oatis, D. C. Ayers. Results from a randomized clinical trial of a peri-operative behavioral intervention to improve physical activity adherence and functional outcomes following total knee replacement. EFORT 2012, 23 - 25 May 2012. Berlin, Germany

Franklin PD, Li W, Oatis CA, Snyder B, Rosal M, Ayers DC. Importance of musculoskeletal co-morbidities in the TJR registries that evaluate patient-reported outcomes. International Congress of Arthroplasty Registries, Bergen, Norway. (May 2012) (Poster)

C.A. Oatis, W. Li, , M. C. Rosal, D. C. Ayers, P. D. Franklin. Physical Activity and Timing of Discharge From Physical Therapy Following Total Knee Replacement. 2012 ACR/ARHP Annual Meeting, Washington, D.C., November 9-14, 2012. (poster). Presented as an oral presentation at the Combined Sections Meeting of the American Physical Therapy Association, San Diego , CA, January 22-24, 2013.

C.A. Oatis, W. Li, , M. C. Rosal, D. C. Ayers, P. D. Franklin. Associations Between Body Mass Index and Physical Activity Following Total Knee Replacement. 2012 ACR/ARHP Annual Meeting, Washington, D.C., November 9-14, 2012. (oral presentation). Presented as an oral presentation at the Combined Sections Meeting of the American Physical Therapy Association, San Diego , CA, January 22-24, 2013.

Johnson JK, Donahue KL, DeWan TE, Li W, Franklin PD, Oatis CA. What Elements of Physical Therapy Interventions Contribute To Improved Outcomes Following Total Knee Arthroplasty? Poster presentation at ACR/ARHP Annual Scientific Meeting, San Diego, CA. October 26-30, 2013.

Nguyen US, Zhang YQ, Niu J, Shmerling RH, Kiel DP, Leveille SG, Oatis CA, Hannan MT. Does Foot Pain Mediate the Effect of Knee Osteoarthritis and Risk of Indoor and Outdoor Falls in Older Men and Women? Submitted to ACR/ARHP Annual Scientific Meeting, San Diego, CA. October 26-30, 2013.

Johnson JK, Donahue KL, DeWan TE, Li W, Franklin PD, Oatis CA. Identifying the effect of physical therapy interventions on functional outcomes following unilateral total knee arthroplasty: A retrospective study. Poster presentation at Combined Sections Meeting of the APTA, Las Vegas, Nevada, Feb 3-6, 2014.

**Ongoing Research Support**

PCORI   2016-

Principal Investigator: Franklin PD (PI) Department of Orthopedics, University of Massachusetts Medical School, Worcester, MA. “Patient Osteoarthritis Careplan to Inform Optimal Treatment”. Role: Physical Therapy expert consultant.

**Current Research Support:**

NIAMS (1R01AR071048-01)

Co- Principal Investigators: Oatis CA Department of Physical Therapy, Arcadia University and Franklin PD Department of Orthopedics, University of Massachusetts Medical School, Worcester, MA. “Defining components of Physical Therapy achieving maximum function after TKR”.

**Completed Research Support**

AHRQ  (1 P50HS018910-01) 2010-2014

$ 11,987,050     
Principal Investigator: Franklin PD (PI) Department of Orthopedics, University of Massachusetts Medical School, Worcester, MA. “Improving Orthopedic Outcomes Through a National TJR Registry” This project develops a national registry of patients receiving total joint replacements. Of particular interest is the collection of functional outcomes as well as the more standard data of surgical complications. Role; National Steering Committee member (bi-annual meetings to provide guidance on interpretation of results and steer dissemination).

NIAMS (1-RO1-AR-054479-01A1) 09/17/2007-6/30/2011

$1,722,800

Principal Investigator: Dr. Patricia Franklin, Department of Orthopedics, University of Massachusetts Medical School, Worcester, MA. "Perioperative support for optimal functional improvement after Total Knee Replacement." This research develops and tests a patient-centered telephone counselor support intervention to enhance self-efficacy, self-care, and adherence to physical activity in the rehabilitation period following total knee replacement. As the population ages, maintenance and improvement of independent physical function will have increased importance to osteoarthritis patients and society. Thus, new health delivery models that integrate behavioral care with rehabilitation are needed. Role: Rehabilitation consultant.

AHRQ

Principal Investigator: Robert L. Kane, MD, Minnesota Evidence-based Practice Center. Physical Therapy for Knee Pain Secondary to Osteoarthritis, as part of the Agency for Healthcare Research and Quality’s (AHRQ) Effective Health Care (EHC) Program. Member of the Technical Expert Panel (TEP)

American College of Rheumatology 2008-2011.

Principal Investigator: Dr. Marc Hochberg, Department of Medicine, Johns Hopkins University. Guidelines for the Management of Osteoarthritis of the Hip, Knee and Hand. This is a collaborative effort with the Cochrane Musculoskeletal Group that is under the direction of Peter Tugwell, M.D. from the University of Ottawa and Tanveer Towheed, MD, MSc from the University of Ottawa. Role: Member of the Technical Expert Panel (TEP) to develop the guidelines.

TheriTeck Corporation Oatis (PI) 6/1996-6/1997

$40,000

Principal Investigator: Effectiveness of Field Effect Nerve Stimulation (FENS) in Relieving Symptoms Secondary to Osteoarthritis of the Knee,

The main goal of this project was to assess the effectiveness of an experimental treatment device in treating pain and dysfunction in individuals with knee osteoarthritis (OA). This was a randomized controlled study of 86 individuals with knee OA.

Eastern Pennsylvania Chapter of the Arthritis Foundation Oatis (PI) 7/1986- 7/1987

$7,810

Title: Effects of Heat and Cold on Knee Joint Stiffness in Normal Subjects and in Subjects with Arthritis,

The goal of this project was to use a new assessment of knee joint stiffness to measure the affects of superficially applied heat or cold in individuals with arthritis affecting the knee

Foundation for Physical Therapy Oatis (PI) 7/1984- 7/1987

$19,220

Includes Competitive Renewal, Liberty Mutual Insurance Co, A Feasibility Study of the Use of a Damped Spring Model to Evaluate Knee Function.

The goal of this project was to demonstrate the use of a clinically feasible assessment of knee joint stiffness in individuals with arthritis affecting the knee joint.

**Past Grant Activity:**

Use of Telemetry to Quantify the Forces of Impact and the Body's Shock Absorption Capabilities During Running. Orthopaedic Research and Education Foundation. Principal Investigator, 1980. Approved but not funded.

Analysis of the Shock Absorbing Capacity of Five Types of Cushion Insoles, Scholl, Inc. Principal Investigator. 1982-1983. Approved but not funded.

Development of a Commercially Viable Biomechanical Force Line Visualization System, Ben Franklin Partnership Fund, Pennsylvania Department of Commerce, Consultant, 1984.

How and Why People Come to Like or Dislike Exercise. Department of Psychology, University of Pennsylvania, MacArthur Foundation, Network on Health Related Behavior. Role Consultant, 1989-90.

The Impact of an Intensive Evidence-Based Practice Professional Training Program of Future

Rehabilitation Practitioners on Optimal Research Utilization in Rheumatology

Co-PI with L Brosseau ,Ph.D., epidemiologist/physical therapist (PI) Submitted to the ACR Research and Education Foundation, 2004. Not funded.

Defining post-TKR exercise and activity to maximize functional gain; RO1 submitted to NIAMS 10/05. Not funded. Patricia D. Franklin, MD, MBA, MPH, Department of Orthopedics and Physical Rehabilitation, University of Massachusetts Medical School, Principal Investigator. Role: Consultant. Not funded.

Comparison of stiffness and damping coefficients in individuals with and without knee osteoarthritis and their relationship to disease severity and symptoms. Submitted to the ACR Research and Education Foundation, 2006. Principal Investigator. Not funded.

**Research Focus:**

Physical therapy practice in the treatment of osteoarthritis. My current research focuses on the variability of PT interventions following total knee replacement and its effects on long term functional outcomes. This research focus is an outgrowth of a career long focus on the function and non-pharmacologic care of individuals with rheumatoid and osteoarthritis.

**Membership in Scientific/Professional Honorary Societies:**

American Physical Therapy Association 1973-Present

Section on Research, member 1978-Present

Orthopedics Section, member 1978-Present

Pennsylvania Physical Therapy Association

Member 1978-Present

Committee on Research 1984-1986

Southeastern District, PPTA

Member 1978-Present

American Society of Biomechanics 1987-Present

Association of Rheumatology Health Professionals

Member 1993-Present

American Association of University Professors 1993-2008

American Association of University Women 1993-2008

Editorial Board

Physical Therapy Practice 1991-1994

Journal of Stroke and Cerebrovascular

Diseases 1991-1992

Arthritis Care and Research, Associate Editor 2005-Present

Manuscript Reviewer

Arthritis Care and Research

J Orthopedic and Sports Physical Therapy

BioMed Central

Physiotherapy Theory and Practice

**Positions Held in Scientific/Professional Honorary Societies:**

American Physical Therapy Association

Section on Research, Secretary 1993-1997

Awards Committee-Research Subcommittee 1989-1992

-Publications Subcommittee 1996-1998

Clinical Research Center Review Task Force 1990-1991

Member, Task Force on Post-Baccalaureate 1990-1993 Entry-level Education

Consultant, Research Consultation Service June, 1994

CPA-APTA Joint Congress, Toronto, Can.

Observer, Coalition for Consensus, June, 1994

Division of Education, APTA, Raleigh, NC

Member, Task Force to Establish a Clinical Research Agenda 1998

Pennsylvania Physical Therapy Association

Delegate, National House of Delegates 1978, 1979

Southeastern District, PPTA

Co-chair, Committee on Research 1979-1984

Arthritis Foundation

ARHP Research Subcommittee, Grant reviewer 1986-1991

Clinical Sciences Study Section, Grant reviewer 1991-1993

Biomechanics/Technology Study Section, Grant Reviewer 1996-1998

Arthritis Foundation, Southeastern Pennsylvania Chapter

Medical Advisory and Professional Education Committee 2006-2008

Association of Rheumatology Health Professionals

Research Committee 1997-1999

Chair, Research Committee 2000-2001

Outcome Measures Resource Task Force 2000-2001

Executive Committee 2000-2002

## Member-at-large 2001-2002

Secretary/Treasurer 2002-2003

President-elect 2003-2004

President 2004-2005

Past-President 2005-2006

NP-PA Program Oversight Task Force 2006-2008

American College of Rheumatology

Committee on Research 2000-2001

Finance Committee 2002-2003

Board of Directors, Invited Guest 2003-2004

Member Strategic Plan Committee 2003-2004

Board of Directors, member 2004-2005

Nominations Committee 2005-2006

Quality of Care Committee 2012-2013

Rheumatology Research Foundation

Board of Trustees 2000-2002 and 2006-2009

Member, Blue Ribbon Panel 2008

Study Section D grant reviewer 2011-2013

US Bone and Joint Initiative

Experts in Arthritis Advisory Committee 2011-present

**Consultative and Advisory Positions Held:**

Charcot Marie Tooth Association

Consultant for Physical Therapy

and Biomechanics 1985-Present

Medical Advisory Board 1990-2012

Osteoarthritis Global Advisory Board, Glaxo Smith Kline 2006

International reviewer, Danish Council for Strategic Research 2009

Inaugural Advisory Board, invited member 2011

Cochrane Musculoskeletal Review Group

**Manuscript Reviewer:**

*Physical Therapy* 1985-Present

*Arthritis Care and Research* 1996-Present

*Clinical Rheumatology* 2000-Present

*Physiotherapy* 2010

*Physiotherapy Theory and Practice* 2010-Present

*Canadian Institutes of Health Research External peer reviewer* 2013

**Selected Scientific and Invited Presentations:**

Physical Therapy for the CMT patient. The CMTA East Coast Patient/Family Conference. A I duPont Institute, Wilmington, DE, April 24, 1993.

Postural Abnormalities and Muscle Length Changes, Department of Physical Therapy, Temple University, September 30 and October 13, 1993.

Achieving Optimal Gait in Neurological Rehabilitation, Cape Fear Valley Medical Center, Southeastern Regional Rehabilitation Center, Fayetteville, NC, March 31, 1994.

Physical Therapy for the CMT patient. The CMTA East Coast Patient/Family Conference. Children's Hospital of Philadelphia, Philadelphia, PA , September 10, 1994.

New Ways to think about Gait Analysis - Optimal Gait in the Clinical Setting. Maryland Chapter of the APTA, Ocean City, MD, October 11-13, 1996.

What is Stiffness? In Symposium: *Stiffness: Is It Good or Bad?* Annual Conference of the American Physical Therapy Association. San Diego, CA, June, 1997

Knee Joint Stiffness in Individuals with Osteoarthritis. In Symposium: *Stiffness: Is It Good or Bad?* Annual Conference of the American Physical Therapy Association. San Diego, CA. June, 1997

Managing the Executive Back. Advanced Management Program, Wharton School of the University of Pennsylvania. Given two to three times yearly, 1985-2010.

Preventing Back Pain On and Off the Golf Course. United States Golf Association, New England Golf Course Superintendents Association. Worcester, MA, March 26, 1998

ARHP Journal Club: Regression Analysis. 33rd Association of Rheumatology Health Professionals National Scientific Meeting, San Diego, CA. Nov 8-12, 1998.

Designing your Research Career: Grant Writing and Strategic Planning. A Workshop. 33rd Association of Rheumatology Health Professionals National Scientific Meeting, San Diego, CA. Nov 8-12, 1998.

Establishing Clinical Relevance, 34th Annual Scientific Meeting of the Association of Rheumatology Health Professionals, Boston, MA, Nov.12-17, 1999

Successful Grant Writing. A workshop. 35th annual American College of Rheumatology-Association of Rheumatology Health Professionals National Scientific Meeting, Phila, PA. Oct 29-Nov. 2, 2000.

Application of Biomechanical Evidence to Rehabilitation Practices. 35th annual American College of Rheumatology-Association of Rheumatology Health Professionals National Scientific Meeting, Phila, PA. Oct 28-Nov. 2, 2000.

Developing an Evidence-Based Practice. 36th annual American College of Rheumatology-Association of Rheumatology Health Professionals National Scientific Meeting, San Francisco, CA. Nov. 11 - 15, 2001.

Applying the Tools of Evidence-Based Practice. 37th Annual Scientific Meeting of the American College of Rheumatology/Association of Rheumatology Health Professionals. New Orleans, Oct 24-29, 2002.

Meet the Expert: Applying the Tools of Evidence-Based Practice. 38th Annual Scientific Meeting of the American College of Rheumatology/Association of Rheumatology Health Professionals. Orlando, Oct 24-28, 2003.

How to Evaluate, Choose and Use Outcome Measures. A Workshop. 38th Annual Scientific Meeting of the American College of Rheumatology/Association of Rheumatology Health Professionals. Orlando, Oct 24-28, 2003.

Cost of Disability: A Case for Physical Activity. Invited speaker to the Decade of the Bone and Joint Conference sponsored by the Southeastern Chapter of the Arthritis Foundation, Philadelphia, PA, Sept. 26-28, 2004

Let’s Liven up this Joint! Invited speaker at the Living Well with Lupus Seminar, presented by the Lupus Foundation of America, Southeaster Pennsylvania Chapter, Inc. Conshohocken, PA, Oct 2, 2004

Solving Clinical Dilemmas: A Workshop. 39th Annual Scientific Meeting of the American College of Rheumatology/Association of Rheumatology Health Professionals. San Antonio, Oct 17-21, 2004.

Review of Gait Analysis. Moss Rehabilitation Hospital Physical Therapy Neurology Residency Program, April 7. 2005, Philadelphia, PA

Gait Assessment. Invited presenter at Foot and Ankle Update, University of Pennsylvania Health System, Penn Orthopaedics, April 9-10, 2005, Philadelphia, PA

Evidence Based Clinical Practice Guidelines: Risks and Barriers. Invited presenter at the international consensus meeting on non-pharmacologic care in rheumatology, Care III, in Toronto, May 12-14, 2005.

Presidential Address: ARHP: An Interprofessional Organization. 40th Annual Scientific Meeting of the Association of Rheumatology Health Professionals, San Diego, CA, November 12-17, 2005.

Evidence-Based Practice: Solving Clinical Dilemmas. Combined Sections Meeting of the American Physical Therapy Association, San Diego, CA, February 1-5, 2006.

The Role of Physical Therapy in the Management of Knee Osteoarthritis. Wilmington, DE, Feb 16, 2006. Glaxo Smith Kline.

The Future of CARE: A perspective with a PANLAR filter. Invited presenter at the international consensus meeting on non-pharmacologic care in rheumatology, Care IV, in Leeds, England, September 8-10, 2006.

What’s New and Noteworthy in 2007: A Review of Rheumatology Research for Health Professionals. Invited presenter at the 42nd Annual Scientific meeting of the Association of Rheumatology Health

Professionals Boston, MA. Nov. 7-11, 2007.

Gait Analysis: Hip , Knee and Foot Effects on Gait and How to Assess Them. Workshop presentation at the 42nd Annual Scientific meeting of the Association of Rheumatology Health

Professionals Boston, MA. Nov. 7-11, 2007.

Our Best Foot Forward: Practical Perspectives from the Front Line of Population-Based Foot Research. Workshop at the 42nd Annual Scientific meeting of the Association of Rheumatology Health

Professionals Boston, MA. Nov. 7-11, 2007.

Physical and Occupational Therapy for Rheumatologists. First Year Rheumatology Fellows Conference, University of Pennsylvania Health System, Sponsored by the Arthritis Foundation, Southeastern Pennsylvania Chapter, July 21-23, 2008.

Strategic Planning: A Master Class in Leadership. Workshop at the 43nd Annual Scientific meeting of the Association of Rheumatology Health Professionals San Francisco, CA. Oct. 24-28, 2008.

Do Scholarly Publications Inform Practice? Guest discussant in Writing to Enhance Practice (RHSC 581), Rehabilitation Science Online Programs, Master of Rehabilitation Science Program, University of British Columbia, June 22-26, 2009, Vancouver, BC

Physical and Occupational Therapy for Rheumatologists. First Year Rheumatology Fellows Conference, University of Pennsylvania Health System, Sponsored by the Arthritis Foundation, Southeastern Pennsylvania Chapter, July 20-22, 2009.

Writing an Abstract: A mentoring Session. Workshop at the 44nd Annual Scientific meeting of the Association of Rheumatology Health Professionals Philadelphia, PA. Oct. 18-21, 2009.

Experts in Arthritis: A Meeting of World-Renowned Health Care Professionals and Researchers For Patients and Their Families, Washington DC, Oct 22, 2009 Sponsored by the Arthritis Foundation, US Bone and Joint Decade, American Academy of Pediatrics, and American Physical Therapy Association.

Evidence-Based Non-pharmacological Treatment for Hip, Knee, and Hand OA: The New ACR guidelines. Annual Scientific Meeting of the American College of Rheumatology and Association of Rheumatology Health Professionals, Nov 6-11, 2010, Atlanta

Putting ACR Osteoarthritis Guidelines into Practice: Clinical Applications for the Hip and Knee. Annual Scientific Meeting of the American College of Rheumatology and Association of Rheumatology Health Professionals, Nov 6-11, 2010, Atlanta, GA

Experts in Arthritis: An educational forum for patients and families with world-renowned health care professionals and researchers, Atlanta, GA, Nov 6, 2010. Sponsored by the Arthritis Foundation, US Bone and Joint Decade, American Academy of Pediatrics, and American Physical Therapy Association.

DMOADs, Glucosamine/Chondroitin and Non-pharmacologic Treatment of Osteoarthritis. Invited presentation. Annual Scientific Meeting of the American College of Rheumatology and Association of Rheumatology Health Professionals, Nov 5-9, 2011, Chicago, IL

KOA Practice Guidelines. Invited presentation in Conservative Management of Knee Osteoarthritis, Hospital for Special Surgery, March 9, 2012, New York, NY

Total knee arthroplasty rehabilitation: Factors influencing outcomes and best practice recommendations. Annual Scientific Meeting of the American College of Rheumatology and Association of Rheumatology Health Professionals, Nov 10-14, 2012, Washington, DC.

Invited speaker, “Mechanical Stiffness” at the Movement System Impairment Syndromes Retreat. St. Louis, MO, Mar. 2-4, 2013.

Invited speaker, “Hip Extensor Muscles” at the Movement System Impairment Syndromes Retreat. St. Louis, MO, Mar. 2-4, 2013.

Invited Speaker, Clinical Gait Analysis, Theraplay Inc Continuing Education Day, Villanova, PA, May 3, 2013.

Invited panelist,  “Mentoring to success: How to find a good mentor?” Association of Rheumatology Health Professionals webinar, August 14, 2013.

Invited Speaker, "Which perspective: The joint, the person, or both?" Association of Rheumatology Health Professionals Clinical Focus Course, San Diego, Oct. 26, 2013.

Invited Speaker, “Keynote Address”, Arcadia University Phi Chapter Induction Ceremony, Alpha Epsilon Lambda, Graduate Student Honor Society.

Exercise after Total Knee Arthroplasty: Let's Be Progressive. Annual Scientific Meeting of the American College of Rheumatology and Association of Rheumatology Health Professionals, Nov 7-12, 2015, San Francisco, CA.

Invited Speaker, “Stiffness” quale ruolo nel Sistema de Movimento?” Sinergia & Sviluppo srl, Nov. 21, 2015.

**Honors and Awards:**

1969 Hoosier Scholar, State of Indiana Scholarship

1969-73 Academic Scholarship, Marquette University

1969-73 Easter Seal Society Scholarship

1972 Gamma Pi Epsilon National Jesuit Honor Society for Women

1972-1973 Who's Who Among Students in American Universities and Colleges

1973 Scholastic Achievement Award, Program in Physical Therapy, Marquette University.

1977 NIH Graduate Fellow

1983 Outstanding Young Woman of America

1992 Advisor of the Year Award, Faculty Advisor, Student Physical Therapy Association, Beaver College

1. Christian R. and Mary F. Lindback Award for Distinguished Teaching

1999 Distinguished Alumna, Program in Physical Therapy, Marquette University

2000 Phi Kappa Phi Honorary Society

2011 Lloyd M. Abernathy Faculty Outstanding Service Award, Arcadia University

2012 Master Educator Award, Association of Rheumatology Health Professionals

**College Service:**

1991-1994 Faculty Advisor, Student Physical Therapy Association

1992-1993 Committee for the Protection of Research Subjects

1992-1995 Graduate Academic Program Committee

1993-1994, 1996-97 AAUP, Beaver College chapter president

1993-1997 Faculty Compensation Committee

1995-1996 Chair

1995 Search Committee, Chair person for Physician Assistant Program

1997 Search Committee, Department of Sociology faculty

* 1. Faculty Council (Sabbatical leave for 1998-99)

Chair, 2000

2000-2002 Faculty Compensation Committee

Chair, 2001-02

2005-07 Member, Promotion and Tenure Committee

2006 Member, Health Benefits Task Force

2008-11 Member, Faculty Compensation Committee

2009-11 Chair

2009-11 Faculty representative to the Finance Committee of the Board of Trustees

2008 Middle States Work Group, Student support services

2011-12 Search Committee member, Program in Public Health

Search Committee member, Department of Chemistry and Physical Sciences

2011-13 Faculty Compensation Committee, Chair

2011-2013 Health Benefits Task Force, member

2012-13 Search Committee, Co-Chair, Dean of College of Arts and Sciences

2014-15 University Finance Committee, Member

2015-2016 Benefits Committee, Member

2016 Search Committee member, Human Resources, Benefits Manager and Compliance Officer

**Dissertation Committees:**

Lin Bo, Ph.D. “A 3-D Musculoskeletal Model for Occupational Workstation Optimization,” Department of Mechanical Engineering, Drexel University, 1993.

Lori A. Michener, Ph.D. "Relationships between impairments, 3-dimensional kinematics, functional limitation, and disability inpatients with subacromial impingement syndrome,"  Department of Rehabilitation Sciences, College of Nursing and Health Professions, MCP Hahnemann, Dec, 2001.

Kathryn Hemsley, PhD, “Neuromuscular and Psychological Influences on Range of Motion Recovery in Anterior Cruciate Ligament Reconstruction Rehabilitation Patients,” Department of Kinesiology, Temple University, August, 2007

Mary Jane Bentley, PhD, University of Massachusetts Medical School, GSBS Clinical and Population Health Program, “Evaluation of Composite Disease Activity Measures in Rheumatoid Arthritis,” January, 2010.