# Andrew Robert Karduna, PhD

# Revised April, 2012

Associate Professor phone: (541) 346-0438 Department of Human Physiology fax: (541) 346-2841

University of Oregon email: karduna@uoregon.edu

Eugene, OR 97403

### **EDUCATION**

BS, Massachusetts Institute of Technology, Mechanical Engineering, 1989 Bachelor's Thesis: "Efficiency of the Quadriceps using Functional Electrical Stimulation" Advisor: William F. Durfee, PhD

MSE, The Johns Hopkins University, Biomedical Engineering, 1991 Master's Thesis: "Transverse Stiffness and Constitutive Laws for Fiber Reinforced Elastomers" Advisor: Frank C. P. Yin, MD, PhD

PhD, University of Pennsylvania, Bioengineering, 1995

Dissertation: "Translation at the Natural and Prosthetically Reconstructed Glenohumeral Joint"

Advisor: John L. Williams, PhD; Co-Advisor: Joseph P. Iannotti, MD, PhD

#### **FACULTY APPOINTMENTS**

Department of Bioengineering, University of Pennsylvania, Philadelphia, PA Instructor, Fall 1995 – Spring 1996 Adjunct Assistant Professor, Spring 1999 – Fall 2000

School of Biomedical Engineering, Drexel University, Philadelphia, PA Adjunct Assistant Professor, Spring 1999 – 2002

Department of Rehabilitation Sciences, MCP Hahnemann University (currently Drexel University), Philadelphia, PA
Assistant Professor, Summer 1996 – Spring 2000
Associate Professor, Summer 2000 – Summer 2002
Adjunct Associate Professor, Summer 2002 – 2005

Department of Human Physiology, University of Oregon, Eugene, OR Assistant Professor, Fall 2002 – Fall 2008 Associate Professor, Fall 2008 – present Director of Graduate Studies

#### **GRANTS**

#### **Present Grants**

Principal Investigator, R01, *Centers for Disease Control and Prevention - National Institute of Occupational Safety and Health*: A Biomechanical Study of Work-Related Shoulder Disorders, March 2007 – February 2013, \$700,000 (direct costs).

#### Past Grants

Principal Investigator, *Oregon Medical Research Foundation*: Biomechanics of Rotator Cuff Tears, November 2003 – October 2006, \$24,000.

Principal Investigator, *Whitaker Foundation*: Consequences of Altered Scapular Orientation Associated with Shoulder Impingement Syndrome, September 2000 – June 2004, \$232,000.

Co-Investigator, *National Science Foundation*: Functional Restoration of the Intervertebral Disc Using Novel Hydrogel Copolymers as Nucleus Pulposus Replacements, October 2000 – September 2003, \$270,000.

Principal Investigator, R03, *Centers for Disease Control and Prevention - National Institute of Occupational Safety and Health*: The Biomechanics of Occupational Shoulder Injuries, August 2000 – July 2003, \$50,000.

Co-Investigator, *Drexel - MCP Hahnemann Intramural Synergies Program*: Associating Hydrogels as Artificial Articular Cartilage, July 2001 – June 2002, \$20,000.

Co-Investigator, *American Physical Therapy Association - Orthopaedic Section* Classification of Low Back Pain Patients based on Trunk Electromyographic and Kinematic Patterns, May 1999 – December 2001, \$5,000.

Co-Investigator, *Foundation for Physical Therapy*: The Effects of Physical Rehabilitation in Patients with Impingement Syndrome, September 1999 – September 2001, \$40,000.

Principal Investigator, *Drexel - MCP Hahnemann Intramural Synergies Program*: Hydrogel Replacement of the Nucleus Pulposus for Degenerative Disc Disease, May 1999 – May 2000, \$20,000.

Co-Investigator, *Arthritis Foundation*: Mechanisms Associated with Shoulder Impingement Syndrome, September 1998 – August 2000, \$50,000.

Co-Investigator, *American Physical Therapy Association - Orthopaedic Section* Three-Dimensional Scapular Kinematics and Spinal Posture in Patients with Shoulder Impingement Syndrome, May 1997 – May 1998, \$5,000.

Graduate Student, *DePuy, Inc.* Kinematics of the Glenohumeral Joint: Effects of Glenoid Prosthetic Component Design and Rotator Cuff Deficiency, June 1992 – June 1996, \$200,000.

# **PUBLICATIONS**

Peer Reviewed Publications

- 1. **Karduna AR**, Williams GR, Williams JL, Iannotti JP. Kinematics of the glenohumeral joint: influences of muscle forces, ligamentous constraints, and articular geometry. *Journal of Orthopaedic Research.* 14(6): 986-993, 1996
- 2. Iannotti J, Williams J, **Karduna A**. Factors affecting the design of shoulder prosthesis. *Seminars in Arthroplasty.* 8: 260-267, 1997
- 3. **Karduna AR**, Halperin HR, Yin FC. Experimental and numerical analyses of indentation in finite-sized isotropic and anisotropic rubber-like materials. *Annals of Biomedical Engineering*. 25(6): 1009-1016, 1997
- 4. **Karduna AR**, Williams GR, Williams JL, Iannotti JP. Joint stability after total shoulder arthroplasty in a cadaver model. *Journal of Shoulder and Elbow Surgery*. 6(6): 506-511, 1997
- 5. **Karduna AR**, Williams GR, Williams JL, Iannotti JP. Glenohumeral joint translations before and after total shoulder arthroplasty. A study in cadavera. *Journal of Bone and Joint Surgery*. 79(8): 1166-1174, 1997
- 6. **Karduna AR**, Williams GR, Iannotti JP, Williams JL. Total shoulder arthroplasty biomechanics: a study of the forces and strains at the glenoid component. *Journal of Biomechanical Engineering*. 120(1): 92-99, 1998
- 7. Klimkiewicz JJ, Williams GR, Sher JS, **Karduna A**, Des Jardins J, Iannotti JP. The acromioclavicular capsule as a restraint to posterior translation of the clavicle: a biomechanical analysis. *Journal of Shoulder and Elbow Surgery*. 8(2): 119-124, 1999
- 8. **Karduna AR**, McClure PW, Michener LA. Scapular kinematics: effects of altering the Euler angle sequence of rotations. *Journal of Biomechanics*. 33(9): 1063-1068, 2000
- 9. Johnson MP, McClure PW, **Karduna AR**. New method to assess scapular upward rotation in subjects with shoulder pathology. *Journal of Orthopaedic and Sports Physical Therapy*. 31(2): 81-89, 2001
- 10. **Karduna AR**, McClure PW, Michener LA, Sennett B. Dynamic measurements of three-dimensional scapular kinematics: a validation study. *Journal of Biomechanical Engineering*. 123(2): 184-190, 2001

- 11. McClure PW, Michener LA, Sennett BJ, **Karduna AR**. Direct 3-dimensional measurement of scapular kinematics during dynamic movements in vivo. *Journal of Shoulder and Elbow Surgery*. 10(3): 269-277, 2001
- 12. Williams GR, Jr., Naranja J, Klimkiewicz J, **Karduna A**, Iannotti JP, Ramsey M. The floating shoulder: a biomechanical basis for classification and management. *Journal of Bone and Joint Surgery*. 83-A(8): 1182-1187, 2001
- 13. Williams GR, Jr., Wong KL, Pepe MD, Tan V, Silverberg D, Ramsey ML, **Karduna A**, Iannotti JP. The effect of articular malposition after total shoulder arthroplasty on glenohumeral translations, range of motion, and subacromial impingement. *Journal of Shoulder and Elbow Surgery*. 10(5): 399-409, 2001
- 14. Michener LA, McClure PW, **Karduna AR**. Anatomical and biomechanical mechanisms of subacromial impingement syndrome. *Clinical Biomechanics*. 18(5): 369-379, 2003
- 15. Tsai NT, McClure PW, **Karduna AR**. Effects of muscle fatigue on 3-dimensional scapular kinematics. *Archives of Physical Medicine and Rehabilitation*. 84(7): 1000-1005, 2003
- 16. McClure PW, Bialker J, Neff N, Williams G, **Karduna A**. Shoulder function and 3-dimensional kinematics in people with shoulder impingement syndrome before and after a 6-week exercise program. *Physical Therapy*. 84(9): 832-848, 2004
- 17. Su KP, Johnson MP, Gracely EJ, **Karduna AR**. Scapular rotation in swimmers with and without impingement syndrome: practice effects. *Medicine and Science in Sports and Exercise*. 36(7): 1117-1123, 2004
- 18. Dayanidhi S, Orlin M, Kozin S, Duff S, **Karduna A**. Scapular kinematics during humeral elevation in adults and children. *Clinical Biomechanics*. 20(6): 600-606, 2005
- 19. Ebaugh DD, McClure PW, **Karduna AR**. Three-dimensional scapulothoracic motion during active and passive arm elevation. *Clinical Biomechanics*. 20(7): 700-709, 2005
- 20. Joshi A, Mehta S, Vresilovic E, **Karduna A**, Marcolongo M. Nucleus implant parameters significantly change the compressive stiffness of the human lumbar intervertebral disc. *Journal of Biomechanical Engineering*. 127(3): 536-540, 2005
- 21. **Karduna AR**, Kerner PJ, Lazarus MD. Contact forces in the subacromial space: effects of scapular orientation. *Journal of Shoulder and Elbow Surgery*. 14(4): 393-399, 2005
- 22. McCully SP, Kumar N, Lazarus MD, **Karduna AR**. Internal and external rotation of the shoulder: effects of plane, end-range determination, and scapular motion. *Journal of Shoulder and Elbow Surgery*. 14(6): 602-610, 2005

- 23. Silfies SP, Squillante D, Maurer P, Westcott S, **Karduna AR**. Trunk muscle recruitment patterns in specific chronic low back pain populations. *Clinical Biomechanics*. 20(5): 465-473, 2005
- 24. Wu G, van der Helm FC, Veeger HE, Makhsous M, Van Roy P, Anglin C, Nagels J, **Karduna AR**, McQuade K, Wang X, Werner FW, Buchholz B, International Society of B. ISB recommendation on definitions of joint coordinate systems of various joints for the reporting of human joint motion--Part II: shoulder, elbow, wrist and hand. *Journal of Biomechanics*. 38(5): 981-992, 2005
- 25. Ebaugh DD, McClure PW, **Karduna AR**. Scapulothoracic and glenohumeral kinematics following an external rotation fatigue protocol. *Journal of Orthopaedic and Sports Physical Therapy*. 36(8): 557-571, 2006
- 26. Ebaugh DD, McClure PW, **Karduna AR**. Effects of shoulder muscle fatigue caused by repetitive overhead activities on scapulothoracic and glenohumeral kinematics. *Journal of Electromyography and Kinesiology*. 16(3): 224-235, 2006
- 27. Joshi A, Fussell G, Thomas J, Hsuan A, Lowman A, **Karduna A**, Vresilovic E, Marcolongo M. Functional compressive mechanics of a PVA/PVP nucleus pulposus replacement. *Biomaterials*. 27(2): 176-184, 2006
- 28. McClure PW, Michener LA, **Karduna AR**. Shoulder function and 3-dimensional scapular kinematics in people with and without shoulder impingement syndrome. *Physical Therapy*. 86(8): 1075-1090, 2006
- 29. McCully SP, Suprak DN, Kosek P, **Karduna AR**. Suprascapular nerve block disrupts the normal pattern of scapular kinematics. *Clinical Biomechanics*. 21(6): 545-553, 2006
- 30. Suprak DN, Osternig LR, van Donkelaar P, **Karduna AR**. Shoulder joint position sense improves with elevation angle in a novel, unconstrained task. *Journal of Orthopaedic Research*. 24(3): 559-568, 2006
- 31. McCully SP, Suprak DN, Kosek P, **Karduna AR**. Suprascapular nerve block results in a compensatory increase in deltoid muscle activity. *Journal of Biomechanics*. 40(8): 1839-1846, 2007
- 32. Suprak DN, Osternig LR, van Donkelaar P, **Karduna AR**. Shoulder joint position sense improves with external load. *Journal of Motor Behavior*. 39(6): 517-525, 2007
- 33. Amasay T, **Karduna AR**. Scapular kinematics in constrained and functional upper extremity movements. *Journal of Orthopaedic and Sports Physical Therapy*. 39(8): 618-627, 2009

- 34. Amasay T, Zodrow K, Kincl L, Hess J, **Karduna A**. Validation of tri-axial accelerometer for the calculation of elevation angles. *International Journal of Industrial Ergonomics*. 39(5): 783-789, 2009
- 35. Chapman J, Suprak DN, **Karduna AR**. Unconstrained shoulder joint position sense does not change with body orientation. *Journal of Orthopaedic Research*. 27(7): 885-890, 2009
- 36. Joshi A, Massey CJ, **Karduna A**, Vresilovic E, Marcolongo M. The effect of nucleus implant parameters on the compressive mechanics of the lumbar intervertebral disc: a finite element study. *Journal of Biomedical Materials Research. Part B, Applied Biomaterials*. 90(2): 596-607, 2009
- 37. Silfies SP, Mehta R, Smith SS, **Karduna AR**. Differences in feedforward trunk muscle activity in subgroups of patients with mechanical low back pain. *Archives of Physical Medicine and Rehabilitation*. 90(7): 1159-1169, 2009
- 38. Acuna M, Amasay T, **Karduna AR**. The reliability of side to side measurements of upper extremity activity levels in healthy subjects. *BMC Musculoskeletal Disorders*. 11: 168, 2010
- 39. Amasay T, Latteri M, **Karduna AR**. In vivo measurement of humeral elevation angles and exposure using a triaxial accelerometer. *Human Factors*. 52(6): 616-626, 2010
- 40. Helgadottir H, Kristjansson E, Mottram S, **Karduna AR**, Jonsson H, Jr. Altered scapular orientation during arm elevation in patients with insidious onset neck pain and whiplash-associated disorder. *Journal of Orthopaedic and Sports Physical Therapy*. 40(12): 784-791, 2010
- 41. San Juan JG, **Karduna AR**. Measuring humeral head translation using fluoroscopy: a validation study. *Journal of Biomechanics*. 43(4): 771-774, 2010
- 42. Helgadottir H, Kristjansson E, Einarsson E, **Karduna A**, Jonsson H, Jr. Altered activity of the serratus anterior during unilateral arm elevation in patients with cervical disorders. *Journal of Electromyography and Kinesiology*. 21(6): 947-953, 2011
- 43. Helgadottir H, Kristjansson E, Mottram S, **Karduna A**, Jonsson H, Jr. Altered alignment of the shoulder girdle and cervical spine in patients with insidious onset neck pain and whiplash-associated disorder. *Journal of Applied Biomechanics*. 27(3): 181-191, 2011
- 44. Erickson RI, **Karduna AR**. Three-dimensional repositioning tasks show differences in joint position sense between active and passive shoulder motion. *Journal of Orthopaedic Research*. 30(5): 787-792, 2012
- 45. Ettinger L, McClure P, Kincl L, **Karduna A**. Exposure to a workday environment results in an increase in anterior tilting of the scapula in dental hygienists with greater employment experience. *Clinical Biomechanics*. 27(4): 341-345, 2012

- 46. Timmons MK, Thigpen CA, Seitz AL, **Karduna AR**, Arnold BL, Michener LA. Scapular Kinematics and Subacromial Impingement Syndrome: A Meta-Analysis. *Journal of Sport Rehabilitation*. Epub Date March 5, 2012
- 47. Acuna M, A K. Wrist activity monitor counts are correlated with dynamic, but not static assessments of arm elevation exposure made with a triaxial accelerometer. *Ergonomics*. (accepted for publication), 2012
- 48. **Karduna A**. Understanding the biomechanical nature of musculoskeletal tissue. *Journal of Hand Therapy*. (accepted for publication), 2012

### **Book Chapters**

Marcolongo M, Kambin P, Lowman A, **Karduna A**: Experience with minimally invasive nucleus replacement. In *Arthroscopic and Endoscopic Spinal Surgery*, Edited by: P Kambin, Publisher: Humana Press, 2005.

**Karduna A**: Introduction to Biomechanical Analysis. In: *Kinesiology: Mechanics and Pathomechanics of Human Motion*, Edited by: Carol Oatis, Publisher: Lippincott Williams and Wilkins, 1<sup>st</sup> edition, 2003, 2<sup>nd</sup> edition, 2009

#### **CONFERENCE ORGANIZATION**

Session Chairing

ASME Winter Annual Meeting, Kinematic Analysis, Orlando, November 2000.

American Society of Biomechanics, Orthopaedics I: Basic Science, Portland, September, 2004.

Northwest Biomechaninics Symposium, Upper Extremity, Seattle, May, 2005.

*International Society of Biomechanics*, Motor Control – Upper Extremity, Cleveland, September, 2005.

American Society of Biomechanics, Shoulder, Blacksburg, September, 2006.

American Society of Biomechanics, Methods II, Palo Alto, August, 2007.

Northwest Biomechaninics Symposium, Injury, Pulman, June, 2009.

American Society of Biomechanics, Upper Extremity, State College, August, 2009.

American Society of Biomechanics, Teaching Biomechanics Symposium, Long Beach, August, 20011.

### Abstract Reviewing

2004 – Reviewed top 10% of submitted abstracts for consideration for American Society of Biomechanics society awards

2006-20012 – Reviewed abstracts for American Society of Biomechanics meeting 2010, 2012 – Reviewed abstracts for International Shoulder Group meeting

# Conference Organization

Local Organization Committee, *American Society of Biomechanics*, Portland, September, 2004.

Co-Chair, Northwest Biomechaninics Symposium, Seattle, May, 2005.

Co-Chair, Northwest Biomechaninics Symposium, Eugene, May, 2012.

#### HONOR AND AWARDS

Finalist, Clinical Biomechanics Award, American Society of Biomechanics, 1998, 1999 Research Award, Pennsylvania Physical Therapy Association, 1998 Alpha Eta, Health Care Educator Honor Society, 2000

### MANUSCRIPT REVIEWER

### Regular Reviewer

Clinical Biomechanics, 2002 – present
Journal of Applied Biomechanics, 2008 – present
Journal of Biomechanics, 2001 – present
Journal of Bone and Joint Surgery, 2008 – present
Journal of Orthopaedic and Sports Physical Therapy, 1997 – present
Journal of Shoulder and Elbow Surgery, 1997 – present

#### Ad-hoc Reviewer

American Journal of Sports Medicine, 2005, 2007, 2008, 2010, 2011 Annals of Biomedical Engineering, 2005, 2010, 2011 Archives of Physical Medicine and Rehabilitation, 2001, 2008, 2009, 2010, 2011, 2012 Biomechanics and Modeling in Mechanobiology, 2006 Computer Methods in Biomechanics and Biomedical Engineering, 2008

Clinical Anatomy, 2005

Clinical Orthopaedics and Related Research, 1997 – 2006, 2009

Human Movement Science, 2003, 2007, 2008, 2009, 2010, 2011

IEEE Transactions on Biomedical Engineering, 2008

Journal of Biomechanical Engineering, 1998, 2003, 2005, 2006, 2008, 2009, 2011

Journal of Orthopaedic Research, 1995, 2000, 2005, 2006, 2007, 2008, 2010, 2011

Journal of Sport Rehabilitation, 2009, 2010, 2011, 2012

Journal of Sports Science and Medicine, 2004

Medical & Biological Engineering & Computing, 2008

Medicine & Science in Sports & Exercise, 2005, 2006, 2008, 2010, 2011

Physical Therapy in Sport, 2007, 2009

### **GRANT REVIEWING**

Drexel University, Synergy Program, 2000

Department of Veterans Affairs, 2001

Swiss National Science Foundation, 2003

U.S. Army Medical Research, 2005, 2006, 2007

National Athletic Trainers' Association, 2006

Health Research Board, Ireland, 2007, 2011

National Institutes of Health: Musculoskeletal Rehabilitation Sciences Study Section, phone reviewer (2008, 2009, 2010), ad hoc reviewer (2010, 2011)

# PROFESSIONAL SOCIETIES

American Society of Mechanical Engineering, 1989 – 2007

International Society of Biomechanics, 2001 – present

American Society of Biomechanics, 1988 – present

Newsletter editor and executive board member, 2003 – 2006

Communications chair and executive board member, 2006 – 2009

International Shoulder Research Group, 1995 – present

Committee on standardization of shoulder motion, 2001 – 2005

Board members, 2005 – present

#### UNIVERSITY SERVICE

MCP Hahnemann University (Drexel University)

Student/Resources Task Force, 1997

Graduate Admissions and Standards Committee, 1998 – 2000

Appointments and Promotions Committee, 2000 – 2002

Research Committee, 2002

# University of Oregon

# College/University

Operations Committee for TSA, Summer 2003 – present

University Library Committee, Fall 2007 – Spring 2009

Institutional Review Board, Social-Behavior Panel, Fall 2008 – Spring 2011 (full member), Fall 2006 – Spring 2008 (alternate)

Institutional Review Board, Biomedical Panel, Fall 2006 – Spring 2011 (alternate)

Institutional Review Board, currently (alternate)

Scholastic Review Committee, Spring 2005 – Spring 2007, and currently

TSA Machine Shop Committee, 2003 – currently

Goldwater Scholarship committee, 2008 – currently

Librarian Appointment Review working group, Fall 2009

Search Committee for Head of TSA Machine Shop, Spring 2003

# **Department**

Search Committee for Open Faculty Position, Fall 2006 – Winter 2007

Search Committee for Muscle Faculty Position, Fall 2007 – Winter 2008

Search Committee for Athletic Training Faculty Position, Fall 2008 – Winter 2009

Chair Search Committee for Neuro Control Faculty Position, Fall 2009 – Winter 2010

Chair Search Committee for Neuro Control Faculty Position, Fall 2010 – Winter 2011

Chair Search Committee for Neuro Control Faculty Position, Fall 2011 – Winter 2012

Graduate Admissions Committee, Fall 2007 - presently

Coordinator of Department Website, Fall 2008 - presently

Director of Graduate Studies, Spring 2011 - presently

# **GRADUATE STUDENTS**

### **Doctoral Students**

Lori Michener (co-advisor with Phil McClure), Relationships Between Impairments, Three-Dimensional Kinematics, Functional Limitation, and Disability in Patients with Subacromial Impingement Syndrome, MCP Hahnemann University, graduated 2001

Sheri Silfies, Trunk Muscle and Motor Control Impairments in Patients with Lumbar Instability, MCP Hahnemann University, graduated 2002

David Ebaugh (co-advisor with Phil McClure), The Effects of Muscle Activity and Fatigue on Three-Dimensional Scapulothoracic and Glenohumeral Kinematics, MCP Hahnemann University, graduated 2004

- Abhijeet Joshi (co-advisor with Michele Marcolongo), Mechanical Behavior of the Human Lumbar Intervertebral Disc with Polymeric Hydrogel Nucleus Implant: An Experimental and Finite Element Study, Drexel University, graduated 2004
- David Suprak, Unconstrained Joint Position Sense in Healthy and Unstable Shoulder, University of Oregon, graduated 2006
- Tal Amasay, Unconstrained Humeral Elevation in Occupational Setting, University of Oregon, graduated 2008
- Bernardo San Juan, Measuring Humeral Head Translation After Suprascapular Nerve Block, University of Oregon, graduated 2009

Luke Ettinger, University of Oregon, current student

Jacqlyn Hyler, University of Oregon, current student

Yin-Liang Lin, University of Oregon, current student

#### Masters Students

- Michael Johnson, Reliability and Validity of a New Method to Assess Scapular Upward Rotation in Subjects with and without Shoulder Pathology, MCP Hahnemann University, graduated 1999
- Nian-Tuen Tsai, The Effect of Muscle Fatigue of the Infraspinatus and Teres Minor Muscles on Scapular Kinematics, MCP Hahnemann University, graduated 1999
- Eva Su, Changes in Scapular Rotation after Practice in Swimmers with and without Shoulder Impingement Syndrome, MCP Hahnemann University, graduated 2000
- Bessie Wu, Work Related Biomechanics of the Shoulder, MCP Hahnemann University, graduated 2000
- Sudarshan Dayanishi, Scapular Kinematics During Humeral Elevation in Adults and Children, MCP Hahnemann University, graduated 2003
- Sean McCully, Internal and External Rotation of the Shoulder: Effects of Plane, End Range Determination, and Scapular Motion, University of Oregon, graduated 2003
- Jason Chapman, Unconstrained Shoulder Joint Position Sense Does Not Change With Body Orientation, University of Oregon, graduated 2006
- Wade Soenksen, Shoulder Proprioception in Baseball Players, graduated, 2009

Carl Erickson, Unconstrained Repositioning Tasks show better Joint Position Sense in Active than in Passive Shoulder Motion, University of Oregon, graduated 2010

Elizabeth Harding, University of Oregon, current student

Kelleigh O'Neil, University of Oregon, current student

## Past UO Undergraduate Thesis Students

Brian Fedor Annie Fetcher Linden Lee Keely Zodrow Simon Yang Sara Garfinkel

## Current UO Undergraduate Thesis Students

Tayson Heward Elizabeth Gillespie

# Summer Program for Undergraduate Research

Claire Edwards, Smith College, 2007 Mikey Acuna, Cal State Chico, 2008 and 2009 Cameron Carter, Colado State University, 2010 Ismail Raslan, King Saud University, 2011

### Dissertation/Thesis Committees

Kelley Fitzgerald, PhD Student, MCP Hahnemann University, 1998
David Hutchinson, MS Student, MCP Hahnemann University, 1997
Yi-Liang Kuo, MS Student, MCP Hahnemann University, 1997
Saipin Prasersukdee, PhD Student, MCP Hahnemann University, 2001
Maiko Sakamoto, MS Student, MCP Hahnemann University, 2001
Wen-Yu Liu, PhD Student, MCP Hahnemann University, 2001
Renee Crossman, MS Student, MCP Hahnemann University, 2003
Margaret Finley, PhD Student, University of Maryland, 2003
Nuanlaor Thawinchai, MS/PhD Student, MCP Hahnemann University, 2004
Jeanne Langan, PhD Student, University of Oregon, 2006
Robert Catena, PhD Student, University of Oregon, 2008
Sandy Saavedra, PhD Student, University of Oregon, 2009
Harpa Helgadóttir, PhD Student, Iceland University, 2010
Robert Hermosillo, MS Student, University of Oregon, 2011

Vipul Lugade, PhD Student, University of Oregon, 2011 Scott Berloff, PhD Student, University of Oregon, present Jim Becker, PhD Student, University of Oregon, present Betty Chen, PhD Student, University of Oregon, present Shiu-Ling Chiu, PhD Student, University of Oregon, present Masa Fujimoto, PhD Student, University of Oregon, present