

## **Andrew Robert Karduna, PhD**

**Revised September 2009**

Associate Professor  
Department of Human Physiology  
University of Oregon  
Eugene, OR 97403

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### **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

## 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 2011, \$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 A**, Williams G, Williams J, Iannotti J: Kinematics of the glenohumeral joint: influences of muscle forces, ligamentous constraints and articular geometry, *Journal of Orthopaedic Research*, 14, 986-993, 1996.
2. **Karduna A**, Williams G, Williams J, Iannotti J: Glenohumeral joint translations before and after total shoulder arthroplasty: a study in cadavera. *Journal of Bone and Joint Surgery* 79A, 1166-1174, 1997.
3. **Karduna A**, Halperin H, Yin F: Experimental and numerical analysis in finite-sized isotropic and anisotropic rubber-like materials. *Annals of Biomedical Engineering* 25, 1009-1016, 1997
4. **Karduna A**, Williams G, Williams J, Iannotti J: Joint stability after total shoulder arthroplasty in a cadaver model. *Journal of Shoulder and Elbow Surgery* 6, 506-511, 1997.
5. Iannotti J, Williams J, **Karduna A**: Factors affecting the design of shoulder prosthesis, *Seminars in Arthroplasty*, 8, 260-267, 1997.
6. **Karduna A**, Williams G, Iannotti J, Williams J: Total shoulder arthroplasty biomechanics: a study of the forces and strains at the glenoid component, *Journal of Biomechanical Engineering*, 120, 92-99, 1998.
7. Klimkiewicz J, Williams G., Sher J, **Karduna A**, DesJardins J., Iannotti J: The acromioclavicular capsule as a restraint to posterior translation of the clavicle: a biomechanical analysis, *Journal of Shoulder and Elbow Surgery*, 8, 119-124, 1999.
8. **Karduna A**, McClure P, Michener L: Scapular kinematics: Effects of altering the Euler angle sequence of rotations, *Journal of Biomechanics*, 33, 1063-1068, 2000.
9. Williams GR, 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*, 83A, 1182-7, 2001.
10. 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 Bone and Joint Surgery*, 10, 399-409, 2001.

11. **Karduna A**, McClure P, Michener L, Sennett B: Dynamic measurements of three-dimensional scapular kinematics: a validation study, *Journal of Biomechanical Engineering*, 123, 184-90, 2001.
12. Johnson M, McClure P, **Karduna A**: New method to assess scapular upward rotation in subjects with shoulder pathology, *Journal of Orthopaedic and Sports Physical Therapy*, 31, 81-89, 2001.
13. McClure P, Michener L, Sennett B, **Karduna A**: Direct three-dimensional measurement of scapular kinematics during dynamic movement in-vivo, *Journal of Shoulder and Elbow Surgery*, 10, 269-77, 2001.
14. Michener L, McClure P, **Karduna A**, Anatomical and biomechanical mechanisms of subacromial impingement syndrome, *Clinical Biomechanics*, 18, 369-379, 2003.
15. Tsai N-T, McClure P, **Karduna A**, Effects of muscle fatigue on 3-dimensional scapular kinematics, *Archives of Physical Medicine and Rehabilitation*, 84, 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, 832-848, 2004
17. Su KP, Johnson MP, Gracely EJ, **Karduna A**, Scapular rotation in swimmers with and without impingement syndrome: practice effects, *Medicine and Science in Sports and Exercise*, 36, 1117-1123, 2004.
18. Silfies S, Squillante D, Maurer P, Westcott S, **Karduna A**: Trunk muscle recruitment patterns in specific chronic low back pain populations, *Clinical Biomechanics*, 20, 465-473, 2005.
19. Wu G, van der Helm, F, Veeger HEJ, Makhsouse M, Roy PV, Anglin C, Nagelsh J, **Karduna A**, McQuade K, Wang X, Werner F, Buchholz 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, 981-992, 2005.
20. Dayanidhi S, Orlin M, Kozin S, Duff S, **Karduna A.**: Scapular kinematics during humeral elevation in adults and children. *Clinical Biomechanics*, 20, 600-606, 2005.
21. **Karduna A**, Kerner P, Lazarus M, Contact forces in the subacromial space: Effects of scapular orientation, *Journal of Shoulder and Elbow Surgery*, 14, 393-399, 2005..
22. Ebaugh D, McClure P, **Karduna A**: Three-dimensional scapulothoracic motion during active and passive arm elevation, *Clinical Biomechanics*, 20, 700-709, 2005.

23. McCully S, Kumar N, Lazarus M, **Karduna A**: Internal and external rotation of the shoulder: Effects of plane, end range determination, and scapular motion, *Journal of Shoulder and Elbow Surgery*, 14, 602-610, 2005.
24. 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, 536-540, 2005.
25. Joshi A, Fussel G, Thomas J, Hsuan A, Lowman, **Karduna A**, Vresilovic E, Marcolongo M: Functional compressive mechanics of a PVA/PVP nucleus pulposus replacement, *Biomaterials*, 27, 176-184, 2006.
26. Suprak D, Osternig L, van Donkelaar P, **Karduna A**: Shoulder joint position sense improves with elevation angle in a novel, unconstrained task, *Journal of Orthopaedic Research* 24:559-568, 2006.
27. McCully S, Suprak D, Kosek P, **Karduna A**: Suprascapular nerve block disrupts the normal pattern of scapular kinematics, *Clinical Biomechanics*, 21:545-53, 2006.
28. Ebaugh D, McClure P, **Karduna A**: Effects of shoulder muscle fatigue caused by repetitive overhead activities on scapulothoracic and glenohumeral kinematics, *Journal of Electromyography and Kinesiology*, 16:224-35, 2006.
29. Ebaugh DD McClure P, **Karduna A**: Scapulothoracic and glenohumeral kinematics following an external rotation fatigue protocol. *Journal of Orthopaedic and Sports Physical Therapy*, 36: 557-71, 2006.
29. McClure P, Michener L, **Karduna A**: Shoulder function and 3-dimensional scapular kinematics in people with and without shoulder impingement syndrome, *Physical Therapy*, 86: 1075-90, 2006.
30. McCully S, Suprak D, Kosek P, **Karduna A**: Suprascapular nerve block results in a compensatory increase in deltoid muscle activity, *Journal of Biomechanics*, 40: 1839-46, 2006.
31. Suprak D, Osternig L, van Donkelaar P, **Karduna A**: Shoulder joint position sense improves with external load, *Journal of Motor Behavior*, 39: 517-25, 2007.
32. Chapman J, Suprak D, **Karduna A**: Unconstrained shoulder joint position sense does not change with body orientation. *Journal of Orthopaedic Research*, 27(7): 885-90, 2009.
33. Joshi A, Massey C, **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*, Accepted for Publication, 90(2): 596-607, 2009.

34. Silfies S, Mehta R, Smith S, **Karduna A**: Differences in feedforward trunk muscle activity in subgroups of patients with mechanical low back pain, *Archives of Physical Medicine and Rehabilitation*, 90(7): 1159-69, 2009.
35. 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* 2009; DOI: <http://dx.doi.org/10.1016/j.ergon.2009.03.005>.
36. Amasay T, **Karduna A**. Scapular kinematics in constrained and functional upper extremity movements, *Journal of Orthopaedic and Sports Physical Therapy*, 39(8):618-27, 2009.

### *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 PARTICIPATION

### *Presentations By Invitation*

**Karduna A**, Williams G, Iannotti J, Williams J: Kinematics of the glenohumeral joint after shoulder arthroplasty, *ASME Winter Annual Meeting*, San Francisco, November 1995.

**Karduna A**, Williams G, Iannotti J, Williams J: An in-vitro study of glenoid component strains after total shoulder arthroplasty, *ASME Summer Bioengineering Conference*, Sun River, June 1997.

**Karduna A**, McClure P, Michener L: Scapular Kinematics: Effects of altering Euler angle sequence of rotations, *ASME Summer Bioengineering Conference*, Big Sky, June 1999.

**Karduna A**, McClure P: Moment arm calculations from in-vivo kinematic data: Application to the Trapezius, *ASME Winter Annual Meeting*, Orlando, November 2000.

**Karduna A**, Wu CY, Ebaugh D: Effects of low-load, high repetition motion on scapular kinematics, *IV World Congress of Biomechanics*, Calgary, August 2002.

**Karduna A**, Wu CY, Ebaugh D: The pattern of scapulohumeral motion – how stable is it?, *IV World Congress of Biomechanics*, Calgary, August 2002.

McCully S, Suprak D, Kosek P, **Karduna A**: Suprascapular nerve block disrupts the normal pattern of scapular kinematics, *International Society of Biomechanics*, Cleveland, August, 2005.

*Presentations By Peer-Review*

**Karduna A**, Williams G, Williams J, Iannotti J: A quantitative comparison of active and passive glenohumeral joint kinematics, *Orthopaedic Research Society*, New Orleans, February 1994.

**Karduna A**, Williams J, Williams G, Iannotti J: Active and passive glenohumeral joint kinematics, *Second World Congress of Biomechanics*, Amsterdam, July 1994.

**Karduna A**, Williams G, Iannotti J, Williams J: The effect of component conformity in total shoulder arthroplasty, *ASME Summer Bioengineering Conference*, Beaver Creek, June 1995.

**Karduna A**, Williams G, Williams J, Iannotti J: Kinematics of the glenohumeral joint before and after total shoulder arthroplasty, *Orthopaedic Research Society*, Atlanta, February 1996.

**Karduna A**, McClure P, Michener L: A new technique for non-invasive, three dimensional measurement of scapulohumeral kinematics, *Combined Sections Meeting of the American Physical Therapy Association*, Boston, February 1998.

**Karduna A**, McClure P, Michener L, Sennett B: Three-dimensional measurements of scapular kinematics: reliability and validity of a novel technique, *North American Congress on Biomechanics*, Waterloo, August 1998

**Karduna A**, McClure P, Michener L: The normal pattern of three-dimensional scapular kinematics, *Orthopaedic Research Society Meeting*, Anaheim, February 1999.

**Karduna A**, McClure P, Michener L: Scapular Kinematics, *International Shoulder Group Meeting*, Calgary, August 1999.

**Karduna A**, Kerner P, Lazarus M: Effects of scapular orientation on subacromial contact forces, *International Shoulder Group Meeting*, Cleveland, June 2002.

Ebaugh D, McClure P, **Karduna A**,: Effects of task intensity on changes in scapular kinematics, *American Society of Biomechanics*, Toledo, September 2003.

**Karduna A**, Kerner P, Lazarus M: Effects of scapular orientation on subacromial contact forces, *American Society of Biomechanics*, Toledo, September 2003.

McCully S, Kumar N, Lazarus M, **Karduna A**: Internal and external rotation of the shoulder: Effects of plane, end range determination, and scapular motion, *American Society of Biomechanics*, Portland, September, 2004.

Amasay T, **Karduna A**: Quantifying And Predicting Elevation Angle Error Using Tri-Axial Accelerometer During Dynamic Motion, *American Society of Biomechanics*, Ann Arbor, August, 2008.

Chapman J, Suprak D, **Karduna A**: Unconstrained Shoulder Joint Position Sense Does Not Change With Body Orientation, *American Society of Biomechanics*, Ann Arbor, August, 2008.

### *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.

### *Abstract Reviewing*

*American Society of Biomechanics*

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

2006-2009 – Reviewed abstracts in for inclusion in annual meeting

### *Conference Organization*

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

Co-Chair, *Northwest Biomechanics Symposium*, Seattle, May, 2005.

## **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 Biomechanics, 2001 – 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  
Annals of Biomedical Engineering, 2005  
Archives of Physical Medicine and Rehabilitation, 2001, 2008, 2009  
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  
IEEE Transactions on Biomedical Engineering, 2008  
Journal of Applied Biomechanics, 2001, 2008  
Journal of Biomechanical Engineering, 1998, 2003, 2005, 2006, 2008, 2009  
Journal of Bone and Joint Surgery, 2008, 2009  
Journal of Orthopaedic Research, 1995, 2000, 2005, 2006  
Journal of Sport Rehabilitation, 2009  
Journal of Sports Science and Medicine, 2004  
Medical & Biological Engineering & Computing, 2008  
Medicine & Science in Sports & Exercise, 2005, 2006, 2008  
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  
National Institutes of Health, 2008, 2009

## **PROFESSIONAL SOCIETIES**

American Society of Mechanical Engineering, 1989 – present  
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*

Operations Committee for TSA, Summer 2003 – present  
University Library Committee, Fall 2007 – Spring 2009  
Institutional Review Board, Social-Behavior Panel, presently (full member), Fall 2006 –  
    Spring 2008 (alternate)  
Institutional Review Board, Biomedical Panel, Fall 2006 – present (alternate)  
Scholastic Review Committee, Spring 2005 – Spring 2007  
Search Committee for Head of TSA Machine Shop, Spring 2003  
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 2007 – Winter 2008

## **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, University of Oregon, 2008

Bernardo San Juan, University of Oregon, 2009

Luke Ettinger, University of Oregon, current student

Elizabeth Harding, University of Oregon, current student

Jacqlyn Hyler, 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, 1999

Nian-Tuen Tsai, The Effect of Muscle Fatigue of the Infraspinatus and Teres Minor Muscles on Scapular Kinematics, MCP Hahnemann University, 1999

Eva Su, Changes in Scapular Rotation after Practice in Swimmers with and without Shoulder Impingement Syndrome, MCP Hahnemann University, 2000

Bessie Wu, Work Related Biomechanics of the Shoulder, MCP Hahnemann University, 2000

Sudarshan Dayanishi, Scapular Kinematics During Humeral Elevation in Adults and Children, MCP Hahnemann University, 2003

Sean McCully, Internal and External Rotation of the Shoulder: Effects of Plane, End Range Determination, and Scapular Motion, University of Oregon, 2003

Jason Chapman, Unconstrained Shoulder Joint Position Sense Does Not Change With Body Orientation, University of Oregon, 2006

Carl Erickson, University of Oregon, current student

*Past UO Undergraduate Thesis Students*

Brian Fedor  
Annie Fetcher  
Linden Lee  
Keely Zodrow  
Simon Yang

*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  
Heng-Ju Lee, PhD Student, University of Oregon, 2006  
Robert Catena, PhD Student, University of Oregon, 2008  
Sandy Saavedra, PhD Student, University of Oregon, present  
Vupul Lugade, PhD Student, University of Oregon, present  
Harpa Helgadóttir, PhD Student, Iceland University, present