

APRIL L HARKINS, PHD, MT(ASCP)

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EDUCATION

- 1998 Marquette University, Milwaukee, WI
B.S. Clinical Laboratory Science
- 2005 Medical University of South Carolina, Charleston, SC
Ph.D. Microbiology and Immunology

PROFESSIONAL EXPERIENCE

- | | |
|-----------------|--|
| 05/2005-Present | Assistant Professor
College of Health Sciences
Department of Clinical Lab Science
Marquette University, Milwaukee, WI |
| 02/1999-07/2000 | Medical Technologist, Special Chemistry
Lab Corp., Englewood, CO |
| 07/1998-01/1999 | Medical Technologist, Generalist
St. Joseph Medical Center, Ft. Wayne, IN |

Board Certification

American Society of Clinical Pathologists, 1998 Medical Technologist - 206412

PUBLICATIONS

Alexander Ng, PhD, April **Harkins**, PhD, Mary-Ellen Csuka, MD, Benjamin A. Ingraham, Brice Cleland, Molly Pitluck, FACSM, Douglas Woo, MD, and Paula Papanek, PT, PhD. Physical Activity and Bone Density in Persons with Multiple Sclerosis. *in preparation*.

Munson E, Schroeder ER, Ross KC, Yauck C, Bieganski T, Napierala M, **Harkins** AL. Effect of Pre-analytical Processing of ThinPrep specimens on high-risk human papillomavirus detection by APTIMA HPV. *Journal of Clinical Microbiology*. February, 2014 (Epub ahead of print). DOI: 10.1128/JCM.03624-13.

Harkins AL, Duri S, Kloth LC, Tran CD. Chitosan-Cellulose Composite for Wound Dressing Material. Part 2. Antimicrobial Activity, Blood Absorption Ability and Biocompatibility. *Journal of Biomedical Materials Research: Part B*. January, 2014 (Epub ahead of print). DOI: 10.1002/jbm.b.33103.

Mututuvvari T, **Harkins** AL, Tran CD. Facile Synthesis, characterization and antimicrobial activity of cellulose-chitosan-hydroxyapatite composite material, a potential material for bone tissue engineering. *Journal of Biomedical Materials Research, Part A*. 101(11): 3266-3277, 2013.

Tran CD, **Harkins** AL, Duri S. Recyclable synthesis, characterization and antimicrobial activity of chitosan-based polysaccharide composite materials. *Journal of Biomedical Materials Research, Part A*. 101(8): 2248-2257, 2013.

Harkins AL and Munson E. Molecular Diagnosis of Sexually-transmitted *Chlamydia trachomatis* in the United States. *Infectious Diseases in Obstetrics and Gynecology*. June 12, 2011 (Epub ahead of print). DOI: 10.5402/2011/279149.

Keller M, Pruse J, Yoon T, Schlinder De-Lap B, **Harkins** AL, and Hunter SK. Supraspinal fatigue is similar in men and women for a low-force fatiguing contraction. *Medicine & Science in Sports & Exercise*. 43(10), 1873-1883, 2011.

Hoeger Bement MK, Weyer A, Hartley S, Drewek B, **Harkins** AL, and Hunter SK. Pain Perception after Isometric Exercise in Women with Fibromyalgia. *Archives of Physical Medicine and Rehabilitation*. 92(1): 89-95, 2011.

Hoeger Bement M, Weyer A, Keller M, **Harkins** A, Hunter SK. Anxiety and stress can predict pain perception following a cognitive stress. *Physiology and Behavior*. 101(1): 87-92, 2010.

Harkins AL, Yuan G, London SD, Dolan JW. An oleate stimulated, calcium independent phospholipase D in *Schizosaccharomyces pombe*. *FEMS Yeast Res*. 10: 717-726, 2010.

Hoeger Bement M, Rasiarmos R, DiCapo R, Lewis A, Keller M, **Harkins A**, Hunter S. The role of the menstrual cycle phase in pain perception before and after an isometric fatiguing contraction, *European Journal of Applied Physiology*. 106: 105-112, 2009.

Yoon T, Keller ML, **Harkins A**, Schlinder-Delap B, Lepers R & Hunter SK. Sex differences in fatiguing motor performance in response to cognitive stress. *Journal of Applied Physiology*. 107: 1486-1496, 2009.

Harkins AL, London SD, Dolan JW. An Upstream Regulator and Downstream Target of Phospholipase D1 Activity During Pheromone Response in *Saccharomyces cerevisiae*. *FEMS Yeast Res.* 8: 237-244, 2008.

BOOK CHAPTERS

Harkins AL, Opportunistic Atypical Fungus: *Pneumocystis jirovecii*. In P. Tille (Ed.), *Bailey & Scott's Diagnostic Microbiology* (13th ed) pp. 768-770. Mosby, Inc., St. Louis, MO, 2013.

Harkins AL, The Yeasts. In P. Tille (Ed.), *Bailey & Scott's Diagnostic Microbiology* (13th ed) pp. 771-782. Mosby, Inc., St. Louis, MO, 2013.

ORAL PRESENTATIONS

Local

Beyond Bread and Beer: Yeast in the Research World, College of Health Sciences Summer Research Program, Marquette University, Milwaukee, WI 2009.

The Role of Phospholipase D1 and Phosphatidic Acid in Yeast Cell Polarity, College of Health Sciences Summer Research Program, Marquette University, Milwaukee, WI, 2007.

Functional Interaction Between PLD1 and STE20 in *Saccharomyces cerevisiae*, Medical University of South Carolina Student Research Day, Charleston, SC, 2003.

Regional

It's Not About Beer and Bread Anymore: Clinical Yeast Update, American Society for Clinical Laboratory Science – Wisconsin Annual Meeting, Madison, WI, April, 2013.

Yeast on the Rise, American Society for Clinical Laboratory Science – Wisconsin Annual Meeting, Waukesha, WI, April, 2011.

Beyond Beer and Bread: The Important Role of Yeast in the Clinical and Research Labs, Racine/Kenosha Regional Society for Clinical Laboratory Science, Kenosha, WI, 2006.

Characterizing PLD1 Activity in *Schizosaccharomyces pombe*, South Eastern Regional Yeast Meeting, Memphis, TN, 2004.

National

Physical Activity and Biomarkers of Bone Mineral Density in Persons with Multiple Sclerosis, Papanek P, Harkins AL, Csuka ME, Igraham BA, Cleland B, Pitluck, M, Ng AV, Interdisciplinary Symposium on Osteoporosis, National Osteoporosis Foundation, Chicago, IL, April 2013.

Yeast on the Rise, American Society for Clinical Laboratory Science, Los Angeles, CA, July, 2012.

Tricks of the Trade: Laboratory Techniques for the Molecular Classroom, Clinical Laboratory Educators National Conference, Biloxi, MS, February, 2010.

Bridging the Gap: Clinical Lab Experience for the Non-laboratorians, Clinical Laboratory Educators National Conference, Savannah, GA, February, 2008.

ABSTRACTS

Peer Reviewed

Stacy Stolzman, Katherine Hoffmeister, Melissa Coate, April **Harkins**, Michael Danduran, Paula Papanek, Amy Drendel and Marie Hoeger Bement. Adolescents with higher inflammatory levels have greater adiposity, report less pain, and are less physically fit. American College of Sports Medicine, Orlando, FL, May, 2014.

Jonathon Senefeld, Alison R. Harmer, Hugo Pereira, Tejin Yoon, Bonnie Schindler-DeLap, Rita Deering, Anna Buzzard, April **Harkins**, Mike Danduran, Steven Magill, Srividya Kidambi, and Sandra K Hunter. Neuromuscular fatigue in individuals with and without type 2 Diabetes. American College of Sports Medicine, Orlando, FL, May, 2014.

Harkins, A., E. Schroeder, K. Ross, C. Yauck, T. Bieganski, R. Amrhein, P. Patel, M. Napierala, and E. Munson. Pre-analytical considerations related to high-risk human papillomavirus detection via APTIMA HPV. 113th General Meeting of the American Society for Microbiology. Denver, CO, June, 2013.

April L **Harkins**, Stephen Wright and Ryan Miskulin. Analysis of Adhesive and Biofilm Abilities of non-albicans *Candida*. American Society for Clinical Laboratory Science Annual Meeting, Los Angeles, CA, July, 2012.

April L **Harkins**, Douglas Woo, Mary Ellen Csuka, Benjamin A Ingraham, Brice Cleland, Molly Pitluck, Paula Papanek, Alexander Ng. Analysis of Bone Mineral Density Biomarkers and Physical Activity in MS. American Society for Clinical Laboratory Science Annual Meeting, Atlanta, GA, July, 2011.

Phyu Thwe and April L **Harkins**. Analysis of PLD1 activity and biofilm formation of *Candida albicans* in respiratory samples. American Society for Clinical Laboratory Science Annual Meeting, Anaheim, CA, July, 2010.

Dentino A, Lee D, Wen G, Hefti A, Sutkeiwicz F, and A **Harkins**. Inhibition of *Candida albicans* biofilms on antimicrobially loaded phosphated poly(methyl-methacrylate). International Association for Dental Research, Barcelona, Spain, July, 2010.

Alexander V Ng, Douglas Woo, April **Harkins**, Mary Ellen Csuka, Benjamin A Ingraham, Brice Cleland, Molly Pitluck, Paula Papanek. Moderate Physical Activity is Associated with Bone Density in Persons with MS. The Consortium of Multiple Sclerosis Centers Annual Meeting, June, 2010.

Wagner N, Miskulin D and **Harkins** AL. Phospholipase D1 analysis during biofilm formation of *Candida albicans*. *Clinical Laboratory Science* 22(3); 161, 2009. American Society for Clinical Laboratory Science Annual Meeting, Chicago, IL, July, 2009.

Michael Lukowski and April **Harkins**. Analysis of PLD1 activity during phenotypic switching and pseudohyphal growth of *Candida glabrata*. *Clinical Laboratory Science* 22(3); 161, 2009. American Society for Clinical Laboratory Science Annual Meeting, Chicago, IL, July, 2009.

Ingraham, B.A., Woo, D., Heyer, E., **Harkins**, A., Dixon, J., and A.V. Ng. Cortisol contributes to symptomatic fatigue and heart rate variability in persons with multiple sclerosis. American College of Sports Medicine Annual Meeting, 2009, *Med Sci Sports Exerc* 41: S417, 2009.

Ng. A.V., Woo, D., **Harkins**, A., Csuka, M.E., Ingraham, B.A., Dixon, J., and P.E. Papanek. Determinants of bone mineral density in persons with multiple sclerosis. American College of Sports Medicine Annual Meeting, 2009, *Med Sci Sports Exerc* 41: S592, 2009.

Miskulin D, Munson E, and **Harkins** AL. Characterizing Phospholipase D1 Activity in *Candida albicans* Isolates from Different Host Sites. *Clinical Laboratory Science* 21(2), pg 143; 2008. American Society for Clinical Laboratory Science Annual Meeting, Washington DC, 2008.

Hoeger Bement MK, Keller ML, **Harkins** AL, Hunter SK. Cortisol levels before and after isometric contractions are not influenced by the menstrual cycle. American Pain Society national meeting, Tampa, FL, May, 2008.

Keller ML, **Harkins** AL, Yoon T, Schlinder-Delap B, Hunter SK. Cognitive and physical stressor increases salivary cortisol before and after a low-force fatiguing contraction. *Medicine and Science in Sports and Exercise* 40(5), S349; 2008. American College of Sports Medicine National Annual Meeting, Indianapolis, IN, May, 2008.

Harkins AL and Dolan JW. Upstream Regulators and Downstream Targets of Phospholipase D1 During Pheromone Response. South Eastern Regional Yeast Meeting, Gatlinburg, TN, 2002.

Non-Peer Reviewed

Frazier AJ, Mututuvuri T, Duri S, Tran CD, **Harkins** AL. Characterization of a novel wound dressing material: analysis of bactericidal activity and fibroblast proliferation. College of Health Sciences Summer Research Program, Marquette University, Milwaukee, WI, 2012.

Miskulin N, Senefeld J, Hunter SK, Hoeger Bement MK, **Harkins** AL. Does APOE genetic variance predict declines in motor function with age? College of Health Sciences Summer Research Program, Marquette University, Milwaukee, WI, 2012.

Miskulin R and **Harkins** AL. Increased PLD1 activity in biofilms of low adherent strains of *Candida albicans* clinical isolates. College of Health Sciences Summer Research Program, Marquette University, Milwaukee, WI, 2011.

Wright S and **Harkins** AL. Analysis of adhesive properties of non-albicans *Candida*. College of Health Sciences Summer Research Program, Marquette University, Milwaukee, WI, 2011.

Phyu Thwe and April L **Harkins**. Analysis of PLD1 activity and biofilm formation of *Candida albicans* in respiratory samples. American Society for Clinical Laboratory Science – WI, Stevens Point, WI, 2010.

Wright S and **Harkins** AL. Analyzing adherence and biofilm formation of *Candida albicans*. College of Health Sciences Summer Research Program, Marquette University, Milwaukee, WI, 2010.

Wagner N and **Harkins** AL. Phospholipase D1 analysis during biofilm formation of *Candida albicans*. College of Health Sciences Summer Research Program, Marquette University, Milwaukee, WI, 2009.

Michael Lukowski and April **Harkins**. Analysis of PLD1 activity during phenotypic switching and pseudohyphal growth of *Candida glabrata*. American Society for Clinical Laboratory Science – WI Annual Meeting, Appleton, WI, 2009.

Quella AL, Drewek BT, Roe JT, **Harkins** A, Hunter SK, Hoeger Bement MK. The role of cortisol in the exercise response in fibromyalgia subjects. College of Health Sciences Summer Research Program, Marquette University, Milwaukee, WI, 2009.

Miskulin D, Yuan G, Munson E, **Harkins** AL. Characterizing virulence factors of *Candida albicans* clinical isolates through hyphal development and biofilm formation. College of Health Sciences Summer Research Program, Marquette University, Milwaukee, WI, 2008.

Harkins AL, Miskulin D, Ru Y, Weerasekera R., and Schläppi M. Analysis of a novel class of plant specific antifungal proteins. Marquette University Forward Thinking Poster Session and Colloquy, Milwaukee, WI, December 2, 2008.

Dalal M, Josse F, Schneider S, **Harkins** AL. Work in progress: Monitoring mold growth using acoustic wave devices. Marquette University, Sigma Xi Symposium local meeting, April, 2008.

Miskulin D, Yuan G, **Harkins** AL. Characterizing PLD1 activity at different time-points during induced dimorphic transition in various clinical yeast isolates. College of Health Sciences Summer Research Program, Marquette University, Milwaukee, WI, 2007.

GRANT SUPPORT

A. Funded

Pilot Grant 2014-2016
Clinical and Translational Science Institute of Southeast Wisconsin
National Institute of Health
Heart rate variability and Apolipoprotein-E $\epsilon 4$ as indices of brain activation and cognition functioning in middle age and older adulthood (PI: KA Nielson)
\$50,000
Role: Co-Investigator

Pilot Grant 2013-2015
National Institutes of Health
Clinical and Translational Science Institute of Southeast Wisconsin
Inflammatory Markers, Physical Fitness, and Pain in Children (PI: M Hoeger-Bement)
\$50,000
Role: Co-Investigator 5% Effort

Aurora Health Care Inc, Patient Centered Research (Aurora Cancer Care Research Award) <i>Physician-Directed, Goal-Oriented Exercise Designed to Improve Quality of Life and Modulate Inflammation after Systemic Breast Cancer Treatment</i> (PI: J Tjoe, MD) \$25,000 Role: Consultant	2014-2015
National Institute of Health (R15) <i>Polysaccharide Ecocomposite Materials: Recyclable Synthesis and Applications</i> (PI: CD Tran) \$300,000 Role: Co-Investigator 8% Effort	2012-2015
American Society for Clinical Laboratory Science <i>The Effect of Cytokines on Polymicrobial Biofilm Growth and Laboratory Identification</i> \$5,000 Role: Co-PI	2012-2013
National Institute of Health (R15) <i>Neuromuscular Fatigue: Age and Sex Differences</i> (PI: SK Hunter) \$273,000 Role: Co-Investigator 5% Effort	2011-2014
American Society for Clinical Laboratory Science <i>Analysis of a Potential Virulence Factor During Biofilm Formation of Candida albicans</i> \$5,000 Role: PI	2010-2012
National Multiple Sclerosis Society <i>Bone mineral density in MS: Endogenous and Exogenous factors</i> (PI: AV Ng) \$40,000 Role: Co-Investigator 5% Effort	2007-2010

TEACHING

A. Course Director

- CLLS 2050 Forensic Science, 3 credit hours
- CLLS 3160 Molecular Diagnostics: Laboratory Techniques, 3 credit hours
- CLLS 4185 Clinical Hemostasis (2009 – 2011), 3 credit hours
- CLLS 4187 Clinical Immunology and Serology, 2 credit hours
- CLLS 4995 Research Techniques, 1-3 credit hours

- CEEN 6995 Molecular Microbiology Techniques (Fall 2009 Only), 3 credit hours
- CLLS 3124 (Fall 2008 Only), 4 credit hours
- CTRH 6320 Molecular and Biochemical Techniques in Rehabilitation Health Sciences, co-coordinator with P. Papanek, 1 credit hour

B. Guest lecturer/Laboratory Instructor

Medical Microbiology, Laboratory Instrumentation, CLLS Senior Seminar Series, Physician Assistant Studies, Young Scholar Program, the Health Careers Opportunity Program, and Clinical and Translational Rehabilitation Health courses

C. Summer Research Program

- Summer 2013 Anna Frazier
Matthew Ralls
- Summer 2012 Anna Frazier
Nicholas Miskulin
- Summer 2011 Ryan Miskulin
Stephen Wright
- Summer 2010 Rezvaneh Ghasemzadeh
Stephen Wright
- Summer 2009 Nathan Wagner
- Summer 2008 Danielle Miskulin
- Summer 2007 Danielle Miskulin
3rd place poster presentation

THESIS COMMITTEES

2013 – Present	PhD Committee Member Stacy Stolzman Clinical and Translational Rehabilitation Health Science
2010 – Present	Interdisciplinary PhD Committee Member Hugo Maxwell Pereira – “Motor Fatigue and Cognitive Demand with Age.”
2008 – 2010	Periodontics Masters Thesis Committee Member Kathryn Ryan - " <i>Candida albicans</i> adhesion and biofilm formation on phosphated and non-phosphate containing poly (methylemethacrylate) polymers."

SERVICE

A. Professional

2012 – 2013	Co-chair, Scientific Assemblies, American Society for Clinical Laboratory Science
2009 – 2012	Member, Product Development Committee, American Society for Clinical Laboratory Science
2009 – 2010	President, Milwaukee Society for Clinical Laboratory Science
2008 – 2009	President-Elect, Milwaukee Society for Clinical Laboratory Science
2008 – 2012	Board of Directors – Member at Large, American Society for Clinical Laboratory Science–WI
2007 – 2008	Co-Chair – Convention Committee American Society for Clinical Laboratory Science - WI Annual State Convention, April 2008
2006 – Present	Chair - National Laboratory Professionals Week and Public Relations, American Society for Clinical Laboratory Science–WI

Membership in Professional Societies

2005-Present	American Society for Clinical Laboratory Science
2005-Present	American Society for Clinical Laboratory Science - WI

Book Reviewer

Fundamentals of Molecular Diagnostics
Molecular Diagnostics, Fundamentals, Methods and Clinical Applications

B. University

2014	Member - University Task Force for Interprofessional Education for Health Related Professions
2005 – Present	Member - Marquette University Institutional Biosafety Committee

C. College of Health Sciences

2011	Member- Faculty Search Committee, Exercise Science Program
2010	Developed the Immunological and Biochemical Core Laboratory
2010	Member- Faculty Search Committee, Exercise Science Program
2006 – 2007	Member – Dean Search Committee, College of Health Sciences

D. Departmental

2009 – 2012	Faculty Mentor – CLS Student Council
2006 – Present	Undergraduate Student Advisor
2005 – Present	Member – Clinical and Program Curriculum Committee
2005 – Present	Member – CLS Promotions Committee

Recruitment Activities – Open Houses, Preview, High School Visits
Lecturer and Lab Instructor – Young Scholar Program
Instructor/Research Mentor – HCOP Program

HONORS AND AWARDS

A. National Awards

2013	American Society for Clinical Laboratory Science National Omicron Sigma Award <i>Presented to members who have provided outstanding service to ASCLS and the profession</i>
2012	American Society for Clinical Laboratory Science Annual Meeting 1 st Place Poster Competition Award <i>Analysis of adhesive and biofilm abilities of non-albicans Candida</i>
2009	American Society for Clinical Laboratory Science Annual Meeting 1 st Place Poster Competition Award <i>Phospholipase D1 analysis during biofilm formation of Candida albicans</i>
2008	American Society for Clinical Laboratory Science Annual Meeting 1 st Place Poster Competition Award <i>Phospholipase D1 activity in Candida albicans isolates from different host sites</i>
2006	American Society for Clinical Laboratory Science National Key to the Future <i>This award serves to recognize and reward ASCLS members who have demonstrated their leadership potential to the organization</i>

B. State Awards

2007 – 2012	Omicron Sigma Award
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American Society for Clinical Laboratory Science –
Wisconsin
*Presented to members who have provided outstanding service to
ASCLS-WI and the profession*

2006, 2008 – 2014 Board Service Award
American Society for Clinical Laboratory Science –
Wisconsin
*Given to those with outstanding service to ASCLS-WI and the
profession of clinical laboratory science*