Sarah M. Richart, Ph.D.

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EDUCATION

Colorado State University — 1996-2001
Fort Collins, Colorado
Doctor of Philosophy, Microbiology

University of Illinois — 1990-1994
Urbana, Illinois
Bachelor of Science, Biochemistry

PROFESSIONAL EXPERIENCE

Azusa Pacific University — 2006-present
Azusa, California
Professor

The King's University College — 2004-2006
Edmonton, Alberta, Canada
Assistant Professor

University of Alberta — 2002-2004
Edmonton, Alberta, Canada
Post-doctoral Fellow

Colorado State University — 2001-2002
Fort Collins, Colorado
Post-doctoral Fellow

PUBLICATIONS

***** Underlined names denote undergraduate students

S. M. Richart, Y.-L. Lin, Y. Mizushina, Y.-Y. Chang, T.-Y. Chung, G.-H. Chen, J. Tzen, K.-S. Shia, and W.-L. Hsu. 2018. Synergic effect of curcumin and its structural analogue (Monoacetylcurcumin) on anti-influenza virus infection. *Journal of Food and Drug Analysis* 26: 1015-1023.

G. Hansen, T. Laird, E. Woertz, D. Ojala, D. Glanzer, K. Ring and **S. Richart**. 2016. *Aspergillus sclerotiorum* fungus is lethal to both western drywood (*Incisitermes minor*) and western subterranean (*Reticulitermes hesperus*) termites. *Fine Focus* **2**(1):23-38

P. Loprinzi and **S. Richart**. 2014. White blood cell counts mediate the effects of physical activity on prostate-specific antigen levels. *Research Quarterly for Exercise and Sport* **85**(3):409-13

H.C. Chiou, **S. Richart**, W.L. Hsu, and H.J. Liu. 2014. The interplay of reovirus with autophagy. *BioMed Research International* **2014**: 1-8

S. Kinnes and **S. Richart**. 2012. *What Would Pasteur Do?* (2nd edition). Kendall Hunt Publishers, Dubuque, Iowa

S. Kinnes and **S. Richart**. 2009. *Microbiology Laboratory Manual.* Bent Tree Press, Reno, Nevada

S. Richart, S. Simpson, C. Krummenacher, C. Whitbeck, L. Pizer, G. Cohen, R. Eisenberg, and C. Wilcox. 2003. Entry of herpes simplex virus type 1 into primary sensory neurons in vitro is mediated by Nectin-1/HveC. *Journal of Virology* **77**(5):3307-11

RECENT PRESENTATIONS

***Bolded names** denote presenters, underlined names denote undergraduate students

S. M. Richart. "Exploring connections between environmental plastics and microorganisms and beyond: a semester-long assignment engaging learning, faith and action." American Scientific Affiliation Annual Meeting, Wheaton, IL, 2019.

F. Lovcik and S. M. Richart. "Ochratoxin A not detected in strain of entomopathogenic *Aspergillus sclerotiorum* fungus." Beta Beta Beta National Biological Honor Society Pacific District Convention, San Francisco, CA, 2019. (poster presentation)

H. Valencia and S. M. Richart. "Determining the effects of *Aspergillus sclerotiorum* on cell cycle progression in *Drosophila* cells." Beta Beta Beta National Biological Honor Society Pacific District Convention, San Francisco, CA, 2019. (poster presentation—*awarded 1st place*)

D. Hussey, J. Carter, R. Viloria, and S. M. Richart. "Investigating the mode of death of *Drosophila melanogaster* (fruit fly) cells in response to treatment of *Aspergillus sclerotiorum* (fungus) by determining the activation of the apoptosis-specific proteins drICE and DCP-1." Beta Beta Beta National Biological Honor Society Pacific District Convention, San Francisco, CA, 2019. (poster presentation)

S. M. Richart. "Our Plastic Footprint: Plastics, Microorganisms and Climate Change." Azusa Pacific University's Common Day of Learning, 2019.

S. M. Richart. "Integrating marine plastics into an undergraduate general microbiology class." Southern California Branch American Society for Microbiology Conference, La Jolla, CA, 2018.

N. W. Manetta and S. M. Richart. "Confirming the presence of antifungal gene GNBP1 in termite species *Reticulitermes hesperus* and *Incisitermes minor*." APU's STEM Symposium, 2018. (poster presentation)

H. Valencia and S. M. Richart. "Determining the effects of *Aspergillus sclerotiorum* on cell cycle progression in *Drosophila* cells." APU's STEM Symposium, 2018.

S. M. Richart. "Human Produced Plastics: Counterproductive to Ecological Shalom?" Azusa Pacific University's Common Day of Learning, 2018.

L. Grasioso and S. M. Richart. "Exploring cytotoxic mechanisms of *Aspergillus sclerotiorum* in insect and mammalian cell lines." Southern California branch American Society for Microbiology meeting, La Jolla, CA, 2017, and APU's Fall Research Day, 2017. (poster presentation)

T. Ellstrom and S. M. Richart. "Investigation of the presence of termite genes for the production of termicin, GNBP1 and GNBP2 in two termite species." APU's Fall Research Day, 2017.

L. Mordicini and S. M. Richart. "Sequencing antimicrobials, termicin and GNBP, in termites." APU's Fall Research Day, 2016.

T. S. Laird and S. M. Richart. "The entomopathogenic fungus *Aspergillus sclerotiorum* as a potential biocontrol agent of western subterranean termites (*Reticulitermes hesperus*)." American Society for Microbiology general meeting, Boson, MA, 2016. (poster presentation)

S. M. Richart. "The practice of smallpox inoculation in Colonial Boston and the response from the medical and religious communites in the colonies and Britain, 1721-30." American Society for Microbiology general meeting, Boson, MA, 2016. (poster presentation)

***T. S. Laird** and S. M. Richart. "Entomopathogenecity of the fungus (*Aspergillus sclerotiorum*) on subterranean termites (*Reticulitermes hesperus*) and the effect of glucono delta lactone on termite survival." Beta Beta Beta National Biological Honor Society National Convention, St. Paul, MN, 2016 (oral presentation—*won Frank G. Brooks award for top presentation in microbiology*)

K. Uehara, T. S. Laird and S. M. Richart. "Testing the cytotoxicity of components of an entomopathogenic fungus on an insect cell line." Beta Beta Beta National Biological Honor Society Pacific District Convention, Pomona, CA, 2016. (poster presentation)

L. Capers, T. S. Laird, K. Uehara, and S. M. Richart. "Determining the sequences of antifungal genes in *R. hesperus* and *I. minor*." Beta Beta Beta National Biological Honor Society Pacific District Convention, Pomona, CA, 2016. (poster presentation)

T. S. Laird and S. M. Richart. "*Aspergillus sclerotiorum* entomopathogenic fungus is able to be transmitted from infected to uninfected subterranean termites in planar arenas." Fall Research Day, APU, 2015. (poster presentation)

S. M. Richart. "Anti-influenza virus activity mediated by monoacetylcurcumin." International Conference on Antiviral Research, Rome, Italy, 2015. (poster presentation)

***T. S. Laird** and S. M. Richart. "Entomopathogenicity and transmissibility of the fungus (*Aspergillus sclerotiorum*) on subterranean termites, and the development of planar arenas to better replicate field conditions." Beta Beta Beta National Biological Honor Society Pacific District Convention, Monterey Bay, CA, 2015. (oral presentation— *won Frank G. Brooks award for top presentation in organismal/ecological section*)

T. S. Laird and S. M. Richart. "Entomopathogenicity and transmissibility of *Aspergillus sclerotiorum* on subterranean termites." Fall Research Day, APU, 2014. (oral presentation)

J. Rose and S. M. Richart. "Entomopathogenic properties of *Aspergillus sclerotiorum.*" Fall Research Day, APU, 2014. (poster presentation)

L. Capers and S. M. Richart. "Determining the sequences of antifungal genes in *R. hesperus* and *I. minor*." Fall Research Day, APU, 2014. (poster presentation)

***G. M.Hansen**, B. Bledsoe and S. M. Richart. "Identity and lethality of an *Aspergillus* fungus shown to be pathogenic to the drywood termite, *Incisitermes minor*." Beta Beta Beta National Biological Honor Society National Convention, Erie, PA, 2014. (oral presentation— *won Frank G. Brooks award for top presentation in his section*)

S. M. Richart. "A semester-long project in reducing student personal plastic usage." American Society for Microbiology Conference for Undergraduate Educators, Danvers, MA, 2014. (oral presentation)

T. S. Laird, G. M. Hansen, and S. M. Richart. "Entomopathogenicity and transmissibility of a strain of *Aspergillus* on subterranean termites and fruit flies." West Coast Biological Sciences Undergraduate Research Conference, APU, 2014. (poster presentation)

T. S. Laird, G. M. Hansen, and S. M. Richart. "Entomopathogenicity and transmissibility of a strain of *Aspergillus* on subterranean termites and fruit flies." Fall Research Day, APU, 2013. (poster presentation)

M. Diaz and S. M. Richart. "Analysis of DNA and protein identification of the influenza A virus subunits PB1, PB2, and PA." Fall Research Day, APU, 2013. (poster presentation)

G. Hansen, K. M. Ring, B. S. Bledsoe and S. M. Richart. "Identity and lethality of an *Aspergillus* fungus shown to be pathogenic to the drywood termite, *Incisitermes minor*." American Society for Microbiology General Meeting, Denver, CO, 2013. (poster presentation)

K. Ring and S. M. Richart. "Testing lethality of *Aspergillus* fungus on drywood (*Incisitermes minor*) and subterranean termites (*Reticulitermes* sp)." Beta Beta Beta National Biological Honor Society Pacific District Convention, APU, 2013. (poster presentation)

***G. Hansen**, B. Bledsoe and S. Richart. "Identity and lethality of an *Aspergillus* fungus shown to be pathogenic to the drywood termite, *Incisitermes minor*." Beta Beta Beta National Biological Honor Society Pacific District Convention, APU, 2013. (oral presentation-- *won Frank G. Brooks award for top presentation in organismal/ecology section*)

D. Ojala, Rae Graham-Howard, Caleb Scarth, Gregory Hanson, Erica Woertz, and Sarah Richart. "Isolation and Characterization of an *Aspergillus* Species Found to be Pathogenic to *Incisitermes minor* Drywood Termites." American Society for Microbiology General Meeting, San Francisco, 2012. (poster presentation)

M. Woodward and S. Richart. "The expression and purification of the three protein subunits of the Influenza A polymerase." Fall Research Day, APU, 2011. (poster presentation)

R. Graham-Howard, C. Scarth, and S. Richart. "Determining lethality, transferability, and specificity of *Aspergillus* species in the control of termites." Fall Research Day, APU, 2011 (oral presentation)

D. Ojala and S. Richart. "ATCC *Aspergillus* strain and APU isolate are shown to be entomopathogenic to *I. minor in vitro*." Fall Research Day, APU, 2011. (poster presentation)

E. Woertz, R. Maland, K. Paulson, and S. Richart. "Development of an *in vitro* assay for testing herbal substances that interfere with the influenza A virus polymerase." West Coast Biological Sciences Undergraduate Research Conference, Santa Clara, CA, 2010.

K. Paulson, E. Woertz and S. Richart. "A Strategy for Developing an In Vitro Essay for Testing Drugs that Interfere with Avian Influenza Virus Polymerase." National Collegiate Honors Council Meeting, Washington, D.C., 2009

K. Paulson and S. Richart. "Summer Research on Influenza A RNA polymerase." Fall Research Day, APU, 2009

R. Maland, S. M. Richart. "The cloning of influenza A virus RNA polymerase subunit PB1 to use in an *in vitro* assay for testing potential anti-influenza compounds." Fall Research Day, APU, 2009

A. Schneider and S. M. Richart. "Isolation of DNA from the Termite Gut in an Attempt to Identify the Bacterial Species that Reside There," presented at Fall Research Day, APU, 2008

M. Estes and S. M. Richart. "A Strategy for Developing an *In Vitro* Assay for Testing Drugs that Interfere with Avian Influenza Virus Polymerase," presented at Fall Research Day, APU, 2008

A. Mercado and S. M. Richart. "The Expression and Purification Scheme of PB2, an Influenza Virus Polymerase Subunit," presented at Fall Research Day, APU, 2008

S. M. Richart. "Great Questions in the Sciences," presented at the Fall College of Liberal Arts and Sciences Fall Retreat, APU, 2008

M. Estes and S. Richart. "A Strategy for Developing an *In Vitro* Assay for Testing Drugs that Interfere with Avian Influenza Virus Polymerase," presented at the West Coast Biological Sciences Undergraduate Research Conference, Point Loma University, 2008

M. Estes and S. Richart. "The Cloning and Harvesting of PB1 in an Effort to Find a Treatment for Avian Influenza," Presented at Fall Research Day, APU, 2007

L. Bennett and S. Richart. "Influenza Virus: Polymerase Basic Protein 2," presented at Fall Research Day, APU, 2007

S. M. Richart. "Oncogenic Retroviruses," presented at National Chung Hsing University, Taichung, Taiwan, 2007

GRANTS/FELLOWSHIPS

American Society for Microbiology Undergraduate Research Fellowship, $6,000 2019
Fellowship to work with Hannah Valencia ('20)

Innovative Teaching Grant, $3,000 2017
Grant paid for equipment to integrate authentic research into microbiology labs.

Beta Beta Beta National Biological Honors Society, $1,846 funded 2014, 2015, 2018
Worked with three undergraduate research students to write 3 supplies grants

Faculty Research Council, 5 grants funded 2008, 2011, 2013, 2016-17

Assessment mini-grant, $300 funded 2008
Wrote a grant for faculty time to develop 4 assessment tools for departmental undergraduate research program, S2S.

UNIVERSITY SERVICE

Panel Moderator, Shalom for a Changing Climate 2019
Sponsored by Center for Research in Science

Advisory Board member 2018-present
Center for Research in Science

Environmental Studies program committee 2018-present
Member of committee working to start academic environmental studies program(s)

Student Club Faculty Advisor 2016-present
Pre-vet Club and Sustainability Club

Creation Care Council 2016-present
Member

"Mr. Darwin's Tree" play panel member 2016
Sponsored by Centers for Research on Ethics and Values

Workload and Compensation Committee 2015-present
Elected representative of CLAS

"Experiment with an Air Pump" table reading 2014
Co-sponsored with Rachel Tracie a Theater Arts-Biology event

Term Tenure and Rank Promotion Committee 2012-2015
Elected representative of CLAS

Philosophy and Science Colloquium 2011
Presented and led discussion on "Rights of Microbes"

Department Assessment 2008-2014
Established and implemented departmental assessment

EXTERNAL ACADEMIC SERVICE

Association of Christian Schools International Science Fair 2018
Azusa, CA
Judged 8th grade biology science fair posters.

Christian Higher Education: an International Journal of Research, Theory, and Practice 2017-present
Regular science reviewer.

Intel International Science and Engineering Fair 2017
Los Angeles, CA
Judged microbiology science fair posters.

Maranatha High School 2017
Pasadena, CA
Judged 9th grade biology science fair posters.

American Scientific Affiliation 2016
Azusa, CA
Co-hosted ASA's general meeting at APU.

Dalton Elementary School 2016
Azusa, CA
Led laboratory exercises and discussion on APU campus with 3rd grade students.

Giano Intermediate School 2013
Covina, CA
Taught on the scientific method and presented my termite research to 6th grade science students.

Sellers Elementary School 2010
Glendora, CA
Taught kindergarten immunology and germ lesson

Kabale Trinity College 2008, 2009
Kabale, Uganda
Biology Teacher Training

Women in Scholarship, Engineering, Science and Technology (WISEST) 2005
Edmonton, Canada
Role-model and mentor for high school student summer research program

PROFESSIONAL MEMBERSHIPS

American Association for the Advancement of Science

American Scientific Affiliation

American Society for Microbiology

Southern California Branch American Society for Microbiology