

CURRICULUM VITAE

Robert N. Phalen, PhD, CIH, FAIHA

EDUCATION

- 2006 Ph.D. Environmental Health Science, with a specialization in Industrial Hygiene, from the University of California, Los Angeles. Dissertation title: *Surface Analysis for the Permeation of Captan through Glove Materials and on a Gloved Robotic Hand*
- 1995 B.A. Biology, from California State University Fullerton

CERTIFICATION

- 2006 - Present Certified Industrial Hygienist (CIH), Comprehensive Practice (CP 9179), American Board of Industrial Hygiene
- 1998 – 2004 Industrial Hygienist in Training (IHIT), American Board of Industrial Hygiene

PROFESSIONAL DEVELOPMENT

- 2021 Professional development course (4 hours) on *Industrial Hygiene Ethics*, IVE Inc., June 25, 2021.
- 2021 Professional development course (20 hours, 2.0 CEUs) on *CHMM Examination Preparation Course*, ISSM and Florida Institute of Technology, completed June 24, 2021.
- 2021 Professional development course (5 hours) on *2021 Virtual Gulf Coast PDC (AIHA/ASSP)*, Co-sponsors AIHA and ASSP, April 23, 2021.
- 2020 Greater Houston Industrial Hygiene Council (3-hour webinar) on *Safe Work Practices During the Ongoing COVID-19 Pandemic* via Southwest Center for Occupational and Environmental Health, October 15, 2020.
- 2019 Greater Houston Industrial Hygiene Council (6 hours) on *Heat Stress and Heat-Illness Prevention Strategies* at The Southwest Center for Occupational and Environmental Health, Houston, TX, February 21, 2019.

- 2018 Greater Houston Industrial Hygiene Council (6 hours) on *Current Issues in Industrial Hygiene and Occupational Health* at The Southwest Center for Occupational and Environmental Health, Houston, TX, October 18, 2018.
- 2018 Professional development course (7 hours) on *Exposure Judgment: Improving Inhalation Assessments* at the American Industrial Hygiene Conference and Exposition (AIHce), Philadelphia, PA, May 20, 2018.
- 2017 Professional development course (7 hours) on *Tools for Compliance with the OSHA Silica Standard* at the American Industrial Hygiene Conference and Exposition (AIHce), Seattle, WA, June 4, 2017.
- 2014 Professional Development Course (7 hours) on *Noise Control Engineering* at the American Industrial Hygiene Conference and Exposition (AIHce), San Antonio, TX, June 1, 2014.
- 2011 Professional Development Course (7 hours) on *Mold and Indoor Air Quality* at the American Industrial Hygiene Conference and Exposition (AIHce), Portland, OR, May 5, 2011.
- 1998 *Environmental Toxicology and Risk Assessment*, University of California Riverside Extension (3 credit hours)
- 1997 *Certificate in Occupational Safety & Health* from University of California, Irvine Continuing Education. Coursework in Fundamentals of Industrial Hygiene (3 credit hours), Occupational Safety and Health Regulations (3 credit hours), Industrial Hygiene Sampling and Instrumentation (1.5 credit hours), Occupational Safety and Health Auditing (3 credit hours), Basic Workers' Compensation Law of California (3 credit hours), Safety Engineering Techniques (4 credit hours) and Ergonomics (3 credit hours).

ACADEMIC & PROFESSIONAL EXPERIENCE

- 2021 – present Professor and Program Chair of Occupational Safety and Health Program, University of Houston Clear Lake, College of Science & Engineering Teach industrial hygiene courses at the undergraduate and graduate level. Conduct research on chemical protective clothing evaluating chemical permeation, chemical degradation, and penetration.
- 2015 – 2021 Associate Professor and Program Chair of Occupational Safety and Health Program, University of Houston Clear Lake, College of Science & Engineering Teach industrial hygiene courses at the undergraduate and graduate level. Conduct research on chemical protective clothing evaluating chemical permeation, chemical degradation, and penetration.

- 2012 – 2015 Associate Professor, California State University San Bernardino, Department of Health Science, Environmental Health Science Program
Taught environmental health science courses at the undergraduate and graduate levels. Conducted research on air pollution and chemical protective clothing evaluating chemical permeation, chemical degradation, and penetration.
- 2012 – 2015 Director, Palm Springs Institute for Environmental Sustainability at California State University San Bernardino (Board Member since 2007)
Directed institute activities involving air pollution research, organizing environmental symposia, and an environmental exposition.
- Environmental & Sustainability Expo 2010, 2011, 2012 and 2013
 - Chair of the Sustainable Goods Movement Symposium 2013
- 2006 – 2012 Assistant Professor, California State University San Bernardino, Department of Health Science, Environmental Health Science Program
Taught environmental health science courses at the undergraduate and graduate levels. Conducted research on air pollution and chemical protective clothing evaluating chemical permeation and penetration.
- 2002 – 2006 Graduate Student Researcher/TA/Special Reader, UCLA Environmental Health Sciences / Center for Occupational and Environmental Health.
Conducted research on pesticides and chemical protective clothing. Served as a teaching assistant for industrial hygiene courses (provided in teaching section).
- 2001 – 2006 Environmental Health and Safety Specialist (Ergonomics), UCLA Environment Health and Safety
Conducted ergonomic assessments for office workers, dining personnel, custodians, and groundskeepers. Assisted with the development of training materials.
- 1997 – 2001 Industrial Hygienist / Manager Loss Prevention & Control, The Stockman Group, Whittier, California
Conducted industrial hygiene and safety assessments for chemical exposures, indoor air quality, noise, and other stressors. Conducted health and safety inspections and worker training. Prepared safety and health manuals and injury and illness prevention plans for clientele. Provided industrial hygiene and safety services to industry and governmental agencies, including but not limited to the following:
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|-------------------------|---------------------------------|
| -Assembly | -Ergonomics |
| -Automotive repair | -Fire safety |
| -Back injury prevention | -Food services |
| -Ceramics | -Forklift safety |
| -Confined space entry | -Grocery (Food retail industry) |
| -Construction | -Hazardous waste sites |
| -Electroplating | -HAZWOPER training |

- Hospitals and medical facilities
- Housing and development
- Indoor air quality
- Lead in paint and electronics
- Machine operations and guarding
- Mold assessment
- Municipalities
- Noise and hearing conservation
- Plastics and polymers
- Personal protective equipment
- Pesticides
- Publishing and printing
- Warehousing and shipping
- Welding operations

- 1996 – 1997 Chemistry Technician, ACTA Laboratories, Aliso Viejo, California
 Conducted analytical testing of nutritional supplements, pharmaceuticals, and medical devices. Experience with U.S. Pharmacopeia (USP) testing methods for nutritional supplements, Good Laboratory Practices, infrared spectroscopy, and elemental analysis using inductively coupled plasma spectroscopy.
- 1994 – 1996 Technical Sales, Rentals and Service, Geotechnical Services, Tustin, California
 Sold, rented, and serviced geology, industrial hygiene and safety instrumentation, equipment, and supplies.

AFFILIATIONS

- American Industrial Hygiene Association – Member since 2000
 - Protective Clothing and Equipment Committee Chair, 2017
 - Protective Clothing and Equipment Committee Vice-Chair, 2016
 - Protective Clothing and Equipment Committee Secretary, 2015
 - Protective Clothing and Equipment Committee Member, 2010 to present
- American Industrial Hygiene Association Gulf Coast Chapter – Member
 - Board Member, Public Relations Officer, 2018 to present
 - Head Judge representing AIHA Gulf Coast at Houston Science Fair, 2016 to 2022
- American Conference of Governmental Industrial Hygienists – Member since 2022
- American Society of Safety Professionals – Member since 2022

AWARDS AND HONORS

- 2022 Outstanding Professor Award, University of Houston Clear Lake Alumni Association
- 2022 2022-23 Faculty Fellowship Award, University of Houston Clear Lake
- 2019 Elected Fellow of American Industrial Hygiene Association (FAIHA)
- 2017 UHCL Piper Award Finalist (Teaching)

- 2009 Michigan Industrial Hygiene Society Best Paper Award 2008 in *Journal of Occupational and Environmental Hygiene*, for “A Moving Robotic Hand System for Whole Glove Permeation and Penetration: Captan and Nitrile Gloves”
- 2006 Elected member, Delta Omega Society, Iota Chapter
- 2005 Dissertation Year-End Fellowship, University of California, Los Angeles
- 2004 Liberty Mutual Endowed Scholarship presented by the American Industrial Hygiene Foundation, Atlanta, Georgia, May 11, 2004
- 2000 – 2003 NIOSH Education and Research Center Industrial Hygiene Fellowship

PUBLICATIONS

Books - 2

- 2022 Phalen, R.N. and Maibach, H.I. (Eds.) *Protective Gloves for Occupational Use*, Third Edition, CRC Press (Taylor and Francis), published November 15, 2022.
- 2011 Phalen, R.F. and Phalen, R.N. *Introduction to Air Pollution Science: A Public Health Perspective*, Jones and Bartlett and American Public Health Association Press, November 10, 2011.

Book Chapters - 10

- 2022 Henry, N.W. and Phalen, R.N. U.S. Rules, Regulations, and Standards for Protective Gloves for Occupational Use in *Protective Gloves for Occupational Use*, Third Edition, Phalen, R.N. and Maibach, H.I. (Eds.). CRC Press (Taylor and Francis), 2022.
- 2022 Phalen, R.N. Testing of Protective Effect against Liquid Chemicals in *Protective Gloves for Occupational Use*, Third Edition, Phalen, R.N. and Maibach, H.I. (Eds.). CRC Press (Taylor and Francis), 2022.
- 2022 Phalen, R.N. and Hamidi, Y.K. Standard Quality Control Testing, Virus Penetration, and Glove Durability in *Protective Gloves for Occupational Use*, Third Edition, Phalen, R.N. and Maibach, H.I. (Eds.). CRC Press (Taylor and Francis), 2022.
- 2022 Phalen, R.N. and Ceballos, D.M. Glove Selection for Work with Acrylates Including those Cured by Ultraviolet, Visible Light, or Electron Beam in *Protective Gloves for Occupational Use*, Third Edition, Phalen, R.N. and Maibach, H.I. (Eds.). CRC Press (Taylor and Francis), 2022.

- 2022 Ceballos, D.M. and Phalen, R.N. Chemical Permeation through Disposable Gloves in *Protective Gloves for Occupational Use*, Third Edition, Phalen, R.N. and Maibach, H.I. (Eds.). CRC Press (Taylor and Francis), 2022.
- 2022 Nielsen, J.B. and Phalen, R.N. The Selection and Use of Gloves against Pesticides in *Protective Gloves for Occupational Use*, Third Edition, Phalen, R.N. and Maibach, H.I. (Eds.). CRC Press (Taylor and Francis), 2022.
- 2022 Phalen, R.N. Gloves as Protection against Microbial Contamination in *Protective Gloves for Occupational Use*, Third Edition, Phalen, R.N. and Maibach, H.I. (Eds.). CRC Press (Taylor and Francis), 2022.
- 2022 Phalen, R.N., Lachapelle, J-M. and Hamidi, Y.K. Extended Use and Disinfection of N95 Respirators and Exam Gloves During a Pandemic in *Protective Gloves for Occupational Use*, Third Edition, Phalen, R.N. and Maibach, H.I. (Eds.). CRC Press (Taylor and Francis), 2022.
- 2021 Phalen, R.N. Cannabis in *Patty's Industrial Hygiene*, Seventh Edition, Barbara Cohrsen (Ed.). John Wiley & Sons, Inc, 2021.
- 2012 Phalen, R.N. and Phalen, R.F., Risk Assessment for Air Pollutants. Chapter in Praeger Handbook of Environmental Health (Volume III, Chapter 11), Robert H. Friis (Ed.). Praeger, 2012.

Books (In Progress)

Newcomer, D. and Phalen, R.N. (Eds.), “Chemical Protective Clothing” Third Edition. AIHA Press (proposal accepted – in progress).

Book Chapters (In Progress)

Ratliff, J.C. and Phalen, R.N. Chemical Protective Clothing and the Skin: Practical Considerations, Chapter 1 in “Chemical Protective Clothing” Third Edition. AIHA Press (in progress).

Refereed Journal Articles (* corresponding author) - 22

- 2022 Nelson, D.I.*, Phalen, R.N.* (2022). Review of the performance, selection, and use of gloves for chemical protection. *ACS Chemical Health and Safety* 29(1): 39-48. DOI: 10.1021/acs.chas.1c00084.

- 2022 Shless, J.S., Crider, Y., Pitchikc, H., Qazi, A.S., Styczynski, A., LeMesurier, R., Haik, D., LeBoa, C., Bhattacharya, A., Hamidi, Y.K.,* Phalen, R.N. (2022). Evaluation of the effects of repeated disinfection on medical exam gloves: Part 1. Changes in physical integrity. *Journal of Occupational and Environmental Hygiene* DOI: 10.1080/15459624.2021.2015072.
- 2022 Phalen, R.N., Patterson, J., Cuadros Olave, J., Mansfield, S.A., Shless, J.S., Crider, Y., Pitchikc, H., Qazi, A.S., Styczynski, A., LeMesurier, R., Haik, D., LeBoa, C., Bhattacharya, A., Hamidi, Y.K.* (2022). Evaluation of the effects of repeated disinfection on medical exam gloves: Part 2. Changes in mechanical properties. *Journal of Occupational and Environmental Hygiene* DOI: 10.1080/15459624.2021.2015073.
- 2021 Patterson, J., Cuadros Olave, J., Mansfield, S.A., Phalen, R.N., Hamidi, Y.* (2021). Mechanical Performance of Latex and Nitrile Gloves Under Repeated Soap and Water Treatment. *American Journal of Advanced Research* 5(1):01-05. DOI: 10.5281/zenodo.5112602.
- 2021 Mansfield, S.A., Cuadros Olave, J., Patterson, J., Phalen, R.N., Hamidi, Y.* (2021). Repeated Bleach Sanitization Effects on Glove Mechanical Properties. *American Journal of Advanced Research* 5(1):13-17. DOI: 10.5281/zenodo.5817219.
- 2020 Brown, B., Dubrovskiy, A.V., Gvetadze, A. and Phalen, R.N.* Chemical permeation of similar disposable nitrile gloves exposed to volatile organic compounds with different polarities 1. Product variation. *Journal of Occupational and Environmental Hygiene*. DOI:10.1080/15459624.2020.1721510.
- 2020 Phalen, R.N.,* Dubrovskiy, A.V., Brown, B, Gvetadze, A., Bustillos, M. and Ogbonmwan, J. Chemical permeation of similar disposable nitrile gloves exposed to volatile organic compounds with different polarities 2. Predictive polymer properties. *Journal of Occupational and Environmental Hygiene*. DOI:10.1080/15459624.2020.1721511
- 2017 Steele, K., Pelham, T. and Phalen, R.N.* Evaluating polymer degradation with complex mixtures using a simplified surface area method. *Journal of Occupational and Environmental Hygiene*, 14 (2017) 720 – 726. DOI: 10.1080/15459624.2017.1322208
- 2016 Phalen, R.N., Cousins, K., Usher, T., Young, M., and Zhang, R.* Revising the formulization of the Narayanaswamy equation using the Adam-Gibbs theory. *Journal of Non-Crystalline Polymers*, 453 (2016) 59 – 65.
- 2015 Zhang, R.*, Phalen, R.N., Cataquis, A., Desta, M., and Kloesel, M. Study of highly porous polymers for H₂ fuel storage using positron annihilation lifetime spectroscopy. *International Journal of Hydrogen Energy*, 40 (2015) 8732 – 8741

- 2015 Phalen, R.N.* and Wong, W.K., Polymer Properties Associated with Chemical Permeation Performance of Disposable Nitrile Rubber Gloves. *Journal of Applied Polymer Science*, 132 (2015) 44149. DOI: 10.1002/app.41449
- 2015 Pham, B., Phalen, R.N., Tol, J., Oh, J. and Zhang, R.* Study of the Mechanism on the Permeation of Ethanol in Nitrile Rubber Gloves Using Positron Annihilation Lifetime Spectroscopy. *Journal of Applied Polymer Science*, 132 (2015) 41282. DOI: 10.1002/app.41282
- 2014 Phalen, R.N.*, Le, T., and Wong, W.K., Changes in chemical permeation of disposable latex, nitrile and vinyl gloves exposed to simulated movement. *Journal of Occupational and Environmental Hygiene*, 11 (2014) 716-721. DOI:10.1080/15459624.2014.908259
- 2012 Phalen, R.N.* and Coleman T., Evaluation of coarse and fine particulate sources using a portable aerosol monitor in a desert community. *Bulletin of Environmental Contamination and Toxicology* 89 (2012) 380-383.
- 2012 Phalen, R.N.* and Wong W.K., Chemical Resistance of disposable nitrile gloves exposed to simulated movement. *Journal of Occupational and Environmental Hygiene* 9 (2012) 630-639.
- 2012 Phalen, R.N.* and Wong, W.K., Tensile Properties and Integrity of Cleanroom and Low-modulus Disposable Nitrile Gloves: A Comparison of Two Dissimilar Glove Types. *Annals of Occupational Hygiene* 56 (2012) 450-457.
- 2011 Phalen, R.N.* and Wong, W.K., Integrity of Disposable Nitrile Exam Gloves Exposed to Simulated Movement, *Journal of Occupational and Environmental Hygiene*. 8 (2011) 289-299.
- 2008 Phalen, R.N.* and Que Hee, S.S., A moving robotic hand system for whole glove permeation and penetration: Captan and nitrile gloves, *Journal of Occupational and Environmental Hygiene*. 5 (2008) 258.
- 2007 Phalen, R.N.* and Que Hee, S.S., Variability in surface infrared reflectance of thirteen nitrile rubber gloves at key wavelengths for analysis of captan, submitted to *Applied Spectroscopy*. 61 (2007) 204.
- 2007 Phalen, R.N.*, Que Hee, S.S., Xu, W. and Wong, W.K., Acrylonitrile content as a predictor of the captan permeation resistance for disposable nitrile rubber gloves. *Journal of Applied Polymer Science*, 103 (2007) 2057.
- 2005 Phalen, R.N.* and Que Hee, S.S., Analysis of captan on nitrile glove surfaces using a portable ATR-FTIR. *Applied Spectroscopy* 59 (2005) 724.
- 2003 Phalen, R.N.* and Que Hee, S.S., Permeation of captan through disposable nitrile glove. *Journal of Hazardous Materials* B100 (2003) 95.

Professional Magazine Articles - 8

- 2021 Phalen, R.N., Hamidi, Y. K. “Extended Use and Disinfection of PPE: Current Summary of N95 Respirators and Exam Gloves” The Synergist (American Industrial Hygiene Association), December 2021. [Feature Article]
- 2020 Phalen, R.N. and Besmar, C.L. “Heat Stress: Assessment and Prevention” The Synergist (American Industrial Hygiene Association), April 2020. [Feature Article]
- 2020 Henry, N., Hintz, C. and Phalen, R. “Chemical Protective Clothing 101” The Synergist (American Industrial Hygiene Association), April 2020. [Feature Article]
- 2018 Phalen, R.N. “Not All Gloves are Created Equal: Guidelines and Tools for Selecting and Using Chemical-Resistant Products” The Synergist (American Industrial Hygiene Association), December 2018. [Feature Article]
- 2018 Bolton, F. Brown, R., Phalen, R.N. and Hintz, C. “Continuity of Protection: Considerations for Decontaminating Personal Protective Equipment” The Synergist (American Industrial Hygiene Association), April 2018. [Feature Article]
- 2017 Tartaglia, M. and Phalen, R.N. “Protection in an Uncontrolled Environment: Emergency Responders and Opioids Exposures” The Synergist (American Industrial Hygiene Association), December 2017. [Feature Article]
- 2017 Lieberman, J., Brown, R., and Phalen, R.N. “Growing Pains: Personal Protective Equipment for Workers in the Emerging Cannabis Industry” The Synergist (American Industrial Hygiene Association), May 2017. [Feature Article]
- 2016 Phalen, R.N. and Gao, P. “Protecting workers against Zika” The Synergist (American Industrial Hygiene Association), September 2016. [Front Cover Article]

Conference Proceedings

- 2003 Burt, C. and Phalen, R., Practical ergonomic solutions for housekeeping and dining services, The National Ergonomics Conference Compendium 2003, HC5.

Other Publications

- 2022 “Model Fall Prevention Plan” (61-pages) and related 6-hour training workshop materials under OSHA Susan Harwood Training Grant, SH-39144-SH2.
- 2021 “COVID-19 and Pandemic Risk Assessment and Control Toolkit” (26-pages) and related 3-hour training workshop materials under OSHA Susan Harwood Training Grant, SH-99029-SH0.

- 2020 “Model Excavation and Trenching Safety Plan” (61-pages) and related 4-hour training workshop materials under OSHA Susan Harwood Training Grant, SH-05130-SH9.
- 2019 “Model Heat-Illness Prevention Plan” (65-pages) and related 4-hour training workshop materials under OSHA Susan Harwood Training Grant, SH-05032-SH8.
- 2018 “Model Fall Protection Plan” (61-pages) and related 4-hour training workshop materials under OSHA Susan Harwood Training Grant, SH-05130-SH9.
- 2011 Phalen, R.N. and Phalen, R.F. “*Illustrated Air Pollution Science: Figures for use by Teachers, Students, and Professionals*” Air Pollution Health Effects Laboratory Report Number 11-01.
- 2009 Phalen, RN, “*Evaluation of Coarse and Fine Particulate Sources in the Palm Springs Region*” by Palm Springs Institute for Environmental Sustainability, Spring 2009.
- 2008 Phalen, RN “*Proposed Air Quality Monitoring Station for the Palm Desert Campus: California State University San Bernardino*” by Palm Springs Institute for Environmental Sustainability, spring 2008.

GRANTS AND FELLOWSHIPS

Research Grants (In progress)

- 2022 OSHA Susan Harwood Training Grant; Phalen (PD), Akladios (co-PD)
Fall Prevention in Construction (Grant# SH-39144-SH2)
Role: Project Director (PD); **Awarded \$159,963**

Completed Research Support (Total \$878,060)

- 2020 OSHA Susan Harwood Training Grant; Phalen (PD), Akladios (co-PD)
COVID-19 and Pandemic Response (Grant# SH-99029-SH0)
Role: Project Director (PD); **Awarded \$111,900**
- 2019 OSHA Susan Harwood Training Grant; Phalen (PD), Akladios (co-PD)
Excavation and Trenching Safety (Grant# SH-05130-SH9)
Role: Project Director (PD); **Awarded \$123,464**
- 2018 OSHA Susan Harwood Training Grant; Phalen (PD), Akladios (co-PD)
Heat Stress Prevention (Grant# SH-05032-SH8)
Role: Project Director (PD); **Awarded \$114,494**
- 2017 OSHA Susan Harwood Training Grant; Phalen (PD), Akladios (co-PD)
Fall Prevention in Construction (Grant# SH-31228-SH7)
Role: Project Director (PD); **Awarded \$114,703**

- 2015 Faculty Research Support Funds (FRSF); Phalen (PI)
Criteria for establishing optimal chemical resistance of chemical protective gloves
Role: PI; **Awarded: \$5,000**
- 2013 Symposium Grant; Phalen (Co-PI)
Southern California Association of Governments
Sustainable goods movement: maintaining the environment, economy & equity
Role: Symposium Chair; **Awarded: \$20,000**
- 2009 – 2012 1 R21 OH009327; Phalen (PI)
Centers for Disease Control and Prevention (CDC); National Institute for
Occupational Safety and Health (NIOSH); and National Institutes of Health (NIH)
NIH Exploratory/Developmental Research Grant Award (R21)
Whole-glove integrity and chemical resistance of disposable nitrile gloves
Role: PI; **Awarded: \$275,000**
- 2008 – 2009 5 G11 HD052368-02; Phalen (Subproject PI) / Haddock (PD)
National Institutes of Health (NIH)
Extramural Associates Research Development Award (EARDA) Pilot Grant
A sensitive electrical conductance test for measuring whole-glove integrity
Role: Subproject PI; **Awarded: \$10,000**
- 2008 Mini-Grant; Phalen (PI)
CSUSB Academic Affairs (Internal Grant Funding)
Effects of Water Vapor on Portable Direct-reading Gas Detectors Equipped with Aerosol
Filters; Goal to determine the optimal aerosol filter type and pore size for use with
portable direct-reading gas detectors.
Role: PI; **Awarded: \$4,150**
- 2008 Research Pod; Phalen (PI)
CSUSB College of Natural Sciences (Internal Grant Funding)
The Influence of Movement on Whole-glove Chemical Permeation
Role: PI; **Awarded: \$15,000**
- 2004-2006 T42/CCT924019; Phalen (Subproject PI) / Hinds (PD)
NIOSH Southern California Education and Research Center
National Occupational Research Agenda (NORA) Grant CDC/NIOSH
Quantitative surface analysis for the permeation of captan through gloves and
contaminated surfaces
Role: Subproject PI; **Awarded: \$62,128**
- 2005 T42/OH 008412; Phalen (Subproject PI) / Hinds (PD)
NIOSH Southern California Education and Research Center
Occupational Health and Safety Pilot Project Grant CDC/NIOSH
Influence of biomechanical work factors on the permeation of captan through
nitrile gloves using robotic hands.
Role: Subproject PI; **Awarded: \$20,520**

2002 T42/CCT981726; Phalen (Subproject PI)
NIOSH Southern California Education and Research Center, Pilot Project
Research Grant 785950-V6-29866 (CDC/NIOSH)
Permeation of captan through glove materials
Role: Subproject PI; **Awarded: \$1,700**

INVITED TALKS AND WEBINARS - 15

- 2022 Invited Instructor, on “*Hearing Conservation*” presented as an 8-hour workshop for the Gulf Coast Safety Institute (GSCI) on November 18, 2022.
- 2022 Invited Speaker, on “*Preventative Measures for Heat Stress*” presented at the Workplace Heat Stress Webinar for the Southwest Center for Occupational and Environmental Health (UT Health) on August 25, 2022.
- 2022 Invited Speaker, on “*Preventative Measures for Heat Stress: Lessons for Miners*” presented at the University of New Mexico Health Sciences - Project ECHO on May 11, 2022.
- 2022 Invited Instructor, on “*Heat Illness Protection*” presented as an 8-hour workshop for the Gulf Coast Safety Institute (GSCI) on May 6, 2022.
- 2022 Invited Presenter, on “*Working in Extreme Temperatures (Panel Discussion)*” presented at the American Industrial Hygiene Association Saint Louis Professional Development Conference on March 7, 2022.
- 2022 Invited Presenter, on “*Not All Gloves are Created Equal: Guidelines and Tools for Selecting Chemical Resistant Products*” presented at the American Industrial Hygiene Association Gulf Coast Meeting on March 3, 2022.
- 2020 Invited Presenter, on “*Heat Stress: Assessment and Prevention*” presented as a 2-hour webinar via the Gulf Coast Safety Institute (GSCI) on April 28, 2020.
- 2020 Invited Presenter, on “*Heat Stress: Assessment and Prevention*” presented as a 1.5-hour webinar via the American Industrial Hygiene Association (AIHA) on April 23, 2020.
- 2018 Invited Speaker, on “*Not All Gloves are Created Equal: Guidelines and Tools for Selecting Chemical Resistant Products*” presented at ExxonMobil, safety meetings, Baytown, TX on June 13 and 18, 2018.
- 2017 Invited Speaker, on “*PPE and Permeation/Degradation*” presented at the Texas Chemical Council, Industrial Health Committee, Pasadena, TX on October 13, 2017.

- 2014 Invited Speaker, on Ergonomics “*Simple Rules for Preventing Back Injuries at Work and Improving Productivity*” presented at the Orange County AIHA/ASSE Joint Technical Symposium, Carson, CA, October 22, 2014.
- 2013 Guest Speaker, on “*Sustainable Goods Movement: Maintaining the Environment, Economy and Equity*” presented at the 11th Annual San Bernardino County Rideshare Luncheon, November 7, 2013.
- 2013 Invited Speaker, on “*How the Environment We Live in Affects Our Mental Health and Well-Being*” presented at the World Day of Mental Health at the request of the Ministry of Health (Ministerio de Salud), Costa Rica, October 10, 2013.
- 2013 Invited Speaker, on “*How the Environment We Live in Affects Our Mental Health and Well-Being*” presented at UNIBE to medical students and faculty, October 10, 2013. (San Jose, Costa Rica)
- 2012 Invited Speaker, on Hand Safety “*Integrity and Chemical Resistance of Disposable Nitrile Exam Gloves Exposed to Simulated Movement*” presented at the Orange County AIHA/ASSE/NIOSH Joint Breakfast, Fullerton, CA, February 14, 2012.

CONFERENCE ACTIVITY/PARTICIPATION

Symposia and Meetings Organized

- 2019 Event Organizer & Presenter, Greater Houston Industrial Hygiene Council continuing education event on “Heat Stress and Heat-Illness Prevention Strategies”
- One-day event, February 21, 2019
 - Six speakers
- 2015 Conference Organizer, California State University Disadvantaged Communities Center Conference: “Environmental Justice issues within the Coachella Valley”
- One-day conference, July 23, 2015
 - Media coverage (Local TV and newspaper)
 - 15+ speakers
- 2013 Symposium Chair and Organizer, Sustainable Goods Movement: Maintaining the Environment, Economy, and Equity.
- Two-day symposium, November 21-22, 2013
 - Media coverage (news article in Desert Sun)
 - 21 speakers; 49 in attendance

National Conferences (peer-reviewed) - 20

- 2022 Co-Speaker (Maibach and Phalen): “Protective Glove Use” presented at the Western Occupational Health Conference (WOHC) in Napa Valley, CA on October 6, 2022.

- 2018 Speaker: “Not All Gloves are Created Equal: Guidelines and Tools for Selecting Chemical Resistant Products” presented at the American Industrial Hygiene Conference and Exposition in Philadelphia, PA on May 21, 2018.
- 2017 Co-Author: “*Chemical permeation of ten disposable nitrile gloves exposed to solvents with different polarities*” presented by graduate student Brittany Brown at the American Industrial Hygiene Conference and Exposition in Seattle, Washington on June 5, 2017.
- 2016 Speaker: “*Development of a New Assessment Tool for Musculoskeletal Disorders Associated with Lifting and Bending*” presented at the American Industrial Hygiene Conference and Exposition in Baltimore, Maryland on May 25, 2016.
- 2015 Co-Author (Speaker): “*Surface Area as a Method for the Determination of Glove Degradation*” presented for graduate student Kandace Steele at the American Industrial Hygiene Conference and Exposition in Salt Lake City, Utah on June 3, 2015.
- 2015 Co-Author (Speaker): “*Degradation of Protection Glove Materials Exposed to Commercial Products: A Comparative Study of Tensile Strength And Gravimetric Analyses*” presented for graduate student Todd Pelham at the American Industrial Hygiene Conference and Exposition in Salt Lake City, Utah on June 3, 2015.
- 2013 Poster: “*Incorporation of Toxicology and Risk Assessment Principles into an Environmental Health Course*” presented at the Society of Toxicology 52nd Annual Meeting in San Antonio, TX on March 13, 2013. Abstract 2209.
- 2012 Speaker: “*Chemical Resistance of Thirty Disposable Nitrile Gloves Exposed to Simulated Movement*” presented at the American Industrial Hygiene Conference and Exposition in Indianapolis, Indiana on June 20, 2012. Abstract SR 118-7.
- 2011 Speaker: “*Integrity of Disposable Nitrile Exam Gloves Exposed to Simulated Movement*” presented at the American Industrial Hygiene Conference and Exposition in Portland, Oregon on May 17, 2011. Abstract PO 114-5.
- 2010 Speaker: “*The Detection of Holes in Disposable Nitrile Gloves by Electrical Resistance*” presented at the American Industrial Hygiene Conference, Denver, Colorado, May 27, 2010. Abstract 208.
- 2009 Speaker: “*Whole-glove permeation testing of disposable gloves with simulated movement*” presented at the American Industrial Hygiene Conference, Toronto, Canada, June 2009. Abstract 164.
- 2008 Speaker: “*The Effect of Water Vapor on Photoionization Detector (PID) Filters*” presented at the American Industrial Hygiene Conference, Minneapolis, Minnesota, June 3, 2008. Abstract 120.

- 2007 Speaker: “*The Influence of Hand Movement on the Permeation and Penetration of Captan through Disposable Nitrile Rubber Gloves*” presented at the American Industrial Hygiene Conference, Philadelphia, Pennsylvania, June 4, 2007. Abstract 3.
- 2006 Speaker: “*Development of a Robotic Hand to Test Influence of Hand Movement on the Permeation of Captan through Nitrile Gloves*” presented at the American Industrial Hygiene Conference, Chicago, Illinois, May 17, 2006. Abstract 132.
- 2005 Speaker: “*Acrylonitrile Content as a Predictor of Captan Permeation Resistance for Disposable Nitrile Gloves*” presented at the American Industrial Hygiene Conference, Anaheim, California, May 26, 2005. Abstract 167.
- 2004 Speaker: “*Are All Gloves Created Equal: Through the Eyes of Surface Infrared Reflectance*” presented at the American Industrial Hygiene Conference, Atlanta, Georgia, May 12, 2004. Abstract 174.
- 2003 Speaker: “*Practical ergonomic solutions for housekeeping and dining services*” presented at the National Ergonomics Conference, Las Vegas, Nevada, December 11, 2003. Session HC5.
- 2003 Speaker: “*Quantitative Analysis of Captan on Nitrile Glove with Field Portable FTIR-ATR*” presented at the American Industrial Hygiene Conference, Dallas, Texas, May 14, 2003. Abstract 139.
- 2003 Abstract, co-author: M. Boeniger, J. Stull, S.S. Que Hee, R. Phalen, T. Buckley, D. Ana, Y. Lui, E. Vo, P. Gao, *Recent methods, developments, and informational needs for chemical protective clothing*, Eighth International Symposium on Performance of Protective Clothing: Global Needs and Emerging Markets.
- 2002 Speaker: “*Permeation of Captan Formulation through Nitrile Protective Glove Material*” presented at the American Industrial Hygiene Conference, San Diego, California, June 6, 2002. Abstract 136.

Symposia (peer-reviewed)

- 2013 Speaker: “*Alternative Strategies for Reducing Near-Road Exposures*” presented at the Sustainable Goods Movement Symposium, Palm Desert, CA, November 22, 2013.

Regional Meetings

- 2019 Speaker: “*Model Heat-Illness Prevention Plan*” presented at the Greater Houston Industrial Hygiene Council in Houston, TX on February 21, 2019.
- 2019 Speaker: “*On-site Heat Stress Hazard Assessment Tool*” presented at the Greater Houston Industrial Hygiene Council in Houston, TX on February 21, 2019.

NIOSH Stakeholder Meetings

- 2011 Poster: Phalen, R.N. and Wong, W.K. “*Tensile Properties and Integrity of Cleanroom and Low-modulus Nitrile Exam Glove Formulations*” presented at 2011 NIOSH Personal Protective Technology Program (NPPTP), March 29, Pittsburgh, PA.
- 2010 Poster: Phalen, R.N. and Ung, H. “*Detection of Holes in Disposable Nitrile Gloves by Electrical Resistance*” presented at 2010 NPPTP, March 2-3 in Pittsburgh, PA.
- 2010 Poster: Phalen, R.N., Le, T. and Ung, H. “*Detection of Holes in Variations in Glove Integrity and Chemical Resistance between Classes of Disposable Nitrile Gloves*” presented at 2010 NPPTP, March 2-3 in Pittsburgh, PA.

CAMPUS OR DEPARTMENTAL TALKS

- 2013 Presentation: “*Sustainable Goods Movement: Maintaining the Environment, Economy and Equity*” at 4th Environmental and Sustainability Expo, Palm Desert, CA, May 9.
- 2012 Presentation: “*Indoor and Outdoor Air Quality in Coachella Valley*” presented at 3rd Environmental and Sustainability Expo, Palm Desert, CA, May 10.
- 2010 Presentation: “*Epidemiology and Toxicology of Asbestos*” as part of the annual asbestos awareness training attended by facilities employees on October 14, 2010.

TEACHING EXPERIENCE

University of Houston Clear Lake (2015—Present)

Undergraduate Courses - 9

1. INDH 3311 Industrial Health and Hygiene
Taught: fall 2015, spring 2017, and fall 2018
Most recent instructor evaluation (out of 5): Average 4.8; Median 5
2. OSHE 3340 Techniques of Safety Engineering and Analysis
Taught: spring 2021
Most recent instructor evaluation (out of 5): Average 4; Median 4.5
3. INDH 4311 / OSHE 4411 (with lab) Noise and Hearing Conservation
Taught: spring 2016, summer 2017, and fall 2018, 2020, and 2022
Most recent instructor evaluation (out of 5): Average 4.86; Median 5

4. INDH 4313 / OSHE 4413 (with lab) Industrial Ventilation
Taught: fall 2015, spring 2017 (as INDH 4391) and fall 2019 and 2021
Most recent instructor evaluation (out of 5): Average 4.9; Median 5
5. INDH / OSHE 4315 Industrial Radiological Health
Taught: summer 2016, 2017, 2019, 2020, 2021, and 2022
Most recent instructor evaluation (out of 5): Average 4.83; Median 5
6. INDH / OSHE 4321 Ergonomics, Human Factors, and Workplace Design
Taught: fall 2016, spring 2018, and fall 2019
Most recent instructor evaluation (out of 5): Average 4.9; Median 5
7. OSHE 4331 Air Pollution Science
Taught: summer 2020 (new course development), 2021, and 2022
Most recent instructor evaluation (out of 5): Average 5; Median 5
8. INDH 4322 / OSHE 4422 (with lab) Industrial Hygiene Sampling and Analysis
Taught: fall 2016 and 2017; spring 2020, 2021, and 2022
Most recent instructor evaluation (out of 5): Average 5; Median 5
9. OSHE 4391 Special Topics: Industrial Toxicology
Taught: fall 2022 (new course development)
Most recent instructor evaluation (out of 5): Average 4.90; Median 5

Graduate courses - 9

10. INDH / OSHE 5131 Control of Occupational and Environmental Hazards
Taught: spring 2017 and fall 2018, 2020, and 2022
Most recent instructor evaluation (out of 5): Average 5; Median 5
11. INDH 5135 Statistical Analysis
Taught: spring 2018 (new course development)
Instructor evaluation (out of 5): Average 4.7; Median 5
12. INDH / OSHE 5233 Recognition of Occupational Diseases
Taught: summer 2016, spring 2018, and fall 2019 and 2021
Most recent instructor evaluation (out of 5): Average 5; Median 5
13. INDH / OSHE 5333 Air Pollution
Taught: fall 2016, 2017, spring 2019, summer 2020, and spring 2021
Most recent instructor evaluation (out of 5): Average 4.6; Median 4.8
14. INDH / OSHE 6315 Radiation Protection
Taught: spring 2016 and summer 2017, 2019, 2020, 2021, and 2022
Most recent instructor evaluation (out of 5): Average 5; Median 5

15. INDH 6232 / OSHE 6242 (with lab) Analytical Methods for Analysis of Health Hazards
Taught: spring 2016, fall 2017, and spring 2020, 2021, and 2022
Most recent instructor evaluation (out of 5): Average 5; Median 5
16. OSHE 6332 Safety Engineering
Taught: spring 2021
Most recent instructor evaluation (out of 5): Average 5; Median 5
17. OSHE 5234 Hazardous Materials Management
Taught: spring 2020 (new course development) and 2022
Instructor evaluation (out of 5): Average 4.84; Median 5
18. OSHE 5931 Research Topics: Industrial Toxicology
Taught: fall 2022 (new course development)
Most recent instructor evaluation (out of 5): Average 5; Median 5

CSU San Bernardino (2006 to 2015) – 12

More recent 2013-15 instructor evaluation scores provided

1. Air Pollution
Taught: fall 2008; winter 2010, 2012 and 2014
Most recent instructor evaluation (out of 6): Average 5.8; Median 6
2. Environmental and Occupational Health – *graduate course*
Taught: winter 2009
3. Environmental Health Management
Taught: fall 2007, 2008, 2009, 2010, 2011, and 2013
Most recent instructor evaluation (out of 6): Average 5.8; Median 6
4. Food-borne Illnesses and Their Prevention
Taught: spring 2008, 2009, 2011, 2012, 2013 and 2014
Most recent instructor evaluation (out of 6): Average 6; Median 6
5. Hazardous Material Control – *graduate-level course*
Taught: fall 2009, 2011, and 2013
Most recent instructor evaluation (out of 6): Average 5.5; Median 6
6. Health and Human Ecology – *environmental science course*
Taught: summer 2007; fall 2007-08; winter 2008-10; spring 2008-09 and 2011-12
7. Health and Society: An Ecological Approach
Taught: fall 2007

8. Human Disease Mechanisms – *pathophysiology course*
Taught: summer 2009, 2012, 2013, 2014 & 2015; fall 2009; winter 2014 and spring 2014
Most recent instructor evaluation (out of 6): Average 5.8; Median 6
9. Occupational Health with Lab – *industrial hygiene course*
Taught: winter 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015
Most recent instructor evaluation (out of 6): Average 6; Median 6
10. Occupational Safety – *industrial hygiene course*
Taught: fall 2010 and 2012
11. Radiological Health and Safety – *industrial hygiene course*
Taught: winter 2008, 2011, 2013 and 2015
Most recent instructor evaluation (out of 6): Average 5.5; Median 6
12. Statistics for the Health Sciences
Taught: fall 2013 and 2015; spring 2014; summer 2014
Most recent instructor evaluation (out of 6): Average 5.7; Median 6

NIOSH Southern California Education and Research Center (Continuing Education)

1. Chemistry Review (CIH Review Course)
Taught: August 2006
2. Heat Illness Prevention (a half-day course)
Taught: April 2015
3. Noise and Hearing Conservation (CIH Review Course) – *3 hour review*
Taught: March 2007, 2008, 2009, 2010, 2011, 2012, 2013 and 2014; Sept. 2009 and 2011
4. Noise and Hearing Conservation (a one-day course)
Taught: August 2016 and 2017
5. Personal Protective Equipment (CIH Review Course)
Taught: August 2006
6. Personal Protective Equipment (a half-day course)
Taught: April 2015
7. Pesticide Safety and Awareness (a one-day course)
Taught: April 2015
8. Respiratory Protection (CIH Review Course)
Taught: August 2006
9. Sampling and Analysis for Gases and Vapors (CIH Review Course)
Taught: August 2006

10. Sampling and Instrumentation (a two-day course)
Taught: Jan., July & Dec. 2012; June 2013; Sept. 2014; Aug. 2015, 2016, 2017 & 2018

11. Ventilation (a two-day course)
Taught: August 2017 and 2018

American Industrial Hygiene Association Professional Development Courses

2016 Co-instructor: PDC 302 Selection and Use of Chemical Protective Clothing, American Industrial Hygiene Conference and Exposition, Baltimore, MD, May 22, 2016.

Teaching Assistant Experience at UCLA Environmental Health Sciences

1. Identification and Measurement of Gases and Vapors (2003, 2004)
2. Industrial Hygiene Measurements Laboratory (2003, 2004)
3. Industrial and Environmental Hygiene Assessment (2003, 2004)
4. Biological and Health Surveillance Monitoring (2003)
5. Instrumental Methods in Environmental Sciences (2003, 2004)
6. Instrumental Methods Laboratory (2003)
7. Identification and Analysis of Hazardous Waste (2005)

Student Mentored Research Presentations - 20

2022 Oral: Patterson, J. (Presenter & Author), Cuadros Olave, J. (Author Only), Phalen, R. N. (Author Only), Hamidi, Y. (Leader), "Effect of Repeated Alcohol-Based Hand Rub Disinfectant Treatments on the Mechanical Integrity of Disposable Nitrile and Latex Exam Gloves," Texas Academy of Science 125th Annual Meeting, Houston, TX. (February 25, 2022).

2022 Oral: Patterson, J. (Presenter & Author), Phalen, R. N. (Author Only), Hamidi, Y. (Leader), Kuates, J. (Author Only), "Effect of Multiple Decontaminations on Tensile Properties of Disposable Vinyl Exam Gloves," Texas Academy of Science 125th Annual Meeting, Houston, TX. (February 25, 2022).

2021 Oral: Patterson, J. (Presenter & Author), Mansfield, S. A. (Author Only), Cuadros Olave, J. (Author Only), Phalen, R. N. (Author Only), Hamidi, Y. (Leader), The 2021 International Conference of Advanced Research in Applied Science, Engineering and Technology (ICCRASET'21), "Mechanical Performance of Latex and Nitrile Gloves Under Repeated Soap and Water Treatment," Institute of Business Intelligence Innovation, Houston, TX. (April 2, 2021).

- 2021 Oral: Mansfield, S. A. (Presenter & Author), Patterson, J. (Author Only), Cuadros Olave, J. (Author Only), Phalen, R. N. (Author Only), Hamidi, Y. (Leader), The 2021 International Conference of Advanced Research in Applied Science, Engineering and Technology (ICCRASET'21), "Repeated Bleach Sanitization Effects on Glove Mechanical Properties," Institute of Business Intelligence Innovation, Houston, TX. (April 2, 2021).
- 2019 Podium: Ansari M. "Evaluating the Effects of Environmental Conditions on Woven Fall Protection Equipment" presented at the Gulf Coast American Industrial Hygiene Association (AIHA) and American Society of Safety Professionals (ASSP) joint meeting in Houston, TX, October 3, 2019.
- 2019 Podium: Besmar, C. "Analysis of WBGT Applications for Heat Stress" presented at the Gulf Coast American Industrial Hygiene Association (AIHA) and American Society of Safety Professionals (ASSP) joint meeting in Houston, TX, September 5, 2019.
- 2019 Poster: Besmar, C.L., and Phalen, R.N. "Analysis of WBGT Applications for Heat Stress" presented at the American Industrial Hygiene Conference and Exposition (AIHce) in Minneapolis, MN, May 20-22 2019.
- 2019 Podium: Besmar, C.L. "Evaluation of WBGT Apps and Software" presented at the Greater Houston Industrial Hygiene Council, Southwest Center for Occupational and Environmental Health, Houston, TX, February 21, 2019.
- 2018 Poster: Osayande, E, and Phalen, R.N. "Rapid On-site Degradation Testing of Protective Clothing" presented at Safety 2018 in San Antonio, TX, June 2018.
- 2018 Poster: Bustillos, M, and Phalen, R.N. "Infrared spectroscopy can help predict the chemical resistance of disposable nitrile gloves" presented at the American Industrial Hygiene Conference and Exposition (AIHce) in Philadelphia, PA, May 2018.
- 2017 Podium: Brown, B, Gvetadze, A. and Phalen, R.N. "Variation in chemical permeation of ten disposable nitrile gloves exposed to solvents with different polarities" presented at the American Industrial Hygiene Conference and Exposition (AIHce) in Seattle, Washington, June 2017.
- 2015 Poster: Newman, M. and Phalen, R.N. "*A Case Study on Controlling Formaldehyde Exposures in a Teaching Lab*" presented at the American Industrial Hygiene Conference and Exposition (AIHce) in Salt Lake City, Utah, June 2015.
- 2014 Podium: Finneseth, J. and Phalen, R.N. "*Removal of arsenic from water under static-state conditions*" presented at the 78th National Environmental Health Association (NEHA) Annual Education Conference (AEC), Student Research Presentations, in Las Vegas, NV, July 9, 2014.

- 2014 Poster: Finneseth, J. and Phalen, R.N. “*Removal of arsenic from water under static-state conditions*” presented at the 2014 Water Resources and Policy Initiatives Conference, Student Posters, in San Francisco, CA, June 16-17, 2014.
- 2013 Poster: Saltis, M. and Phalen, R.N. “*Removal of Arsenic from Contaminated Ground Water using a Nicaraguan Ceramic Filter*” presented at the 2013 Water Resources and Policy Initiatives Conference, Student Posters, in Long Beach, CA, June 20, 2013.
- 2011 Poster: Metu, C., Phalen, R.N., Nguyen, L. and Le, T. “*The Influence of Acrylonitrile Content on the Chemical Resistance of Nitrile Exam Gloves*” presented at the American Industrial Hygiene Conference and Exposition (AIHce) in Portland, Oregon, May 2011.
- 2011 Poster: Tran, C., Phalen, R.N. and Le, T. “*The Effects of Movement on Tensile Strength and Chemical Permeation of Nitrile Exam Gloves*” presented at the American Industrial Hygiene Conference and Exposition (AIHce) in Portland, Oregon, May 2011.
- 2010 Poster: Le, T., Phalen, R.N., Metu, C. and Gaeta, J. “*The Influence of Movement on Different Classes of Disposable Nitrile Gloves*” presented at the American Industrial Hygiene Conference and Exposition (AIHce) in Denver, Colorado, May 2010.
- 2010 Poster: Ung, H., Phalen, R.N., Le, T. and Metu, C. “*Chemical Resistance and Tensile Properties of Disposable Nitrile Glove Formulations*” presented at the American Industrial Hygiene Conference and Exposition (AIHce) in Denver, Colorado, May 2010.
- 2009 Poster: Le, T., and Phalen “*Whole-Glove Movement and the Chemical Permeation of Disposable Glove Materials*” presented at the American Industrial Hygiene Conference and Exposition (AIHce) in Toronto, Canada in June 2009.

Faculty Advisor on Completed Master’s Research Projects - 30

CSUSB - 3

1. Todd Pelham: Degradation of Protection Glove Materials Exposed to Commercial Products: A Comparative Study of Tensile Strength and Gravimetric Analyses
2. Kandice Steele: Evaluating Polymer Degradation with Complex Mixtures Using a Simplified Surface Area Method
3. Rominna Valentine Vecorena: Arsenic Concentration Analysis: Comparative Arsenic Groundwater Concentration in Relation to Soil and Vegetation

UHCL - 27

1. Ali Alabdulmuhsin: Improving Lab Fume Hood Performance by Equipment Placement and Work Layout Modification (Fall 2016)
2. Tasmeya Ahmad: Product Variation in Chemical Permeation of Latex Gloves (Fall 2018)

3. Megan Ansari: Development of Non-Destructive Methods for Evaluating the Degradation of Woven Nylon Fabrics Used with Fall Protection Harnesses (Fall 2019)
4. Laura Bakari: Assessing The Level of Protection of Healthcare Providers Against Commonly Used Chemicals (Fall 2017)
5. Catherine Besmar: Muse Effectiveness in Reducing Heart Rate Variability and Perceived Stress Level (Fall 2020)
6. Brice Bloodworth: Noise Exposures Associated with Logging Operations (Fall 2021)
7. Brittany Brown: Chemical Permeation of Ten Disposable Nitrile Gloves Exposed to Solvents with Different Polarities (Spring 2018)
8. Mariela Bustillos: The Effects of High Humidity on the Performance of Photoionization Detector Monitors (Fall 2018)
9. John Cuadros: Effect of Repeated Alcohol-based Hand Rub Disinfectant Treatments on the Mechanical Integrity of Disposable Nitrile and Latex Exam Gloves (Fall 2021)
10. Jermin Deane: Comparison between OSHA-NIOSH Heat Safety Tool app and WBGT-Based Flag System to Assess Military Troops Heat Stress Illnesses (Spring 2022)
11. Samantha Englestad: Evaluation of Fit Testing Systems for Hearing Protection (Fall 2021)
12. Adetejuola Gbosi: The Effects of In-Use Conditions on the Longevity and Effectiveness of DEET on Treated Clothing (Fall 2017)
13. Bernadette Guillermo: Assessing Water Vapor Interference in Direct-Reading Portable Organic Vapor Meters with Photoionization Detectors (Fall 2016)
14. Alexandre Gvetadze: Effect of Crosslinking Density on Non-Polar Solvent Permeation Through Disposable Nitrile Gloves (Fall 2016)
15. Murad Hooda: Evaluation of Available Wet-Bulb Globe Temperature Devices for Heat Stress Monitoring (Fall 2019)
16. Victor Kimeng: A Revision of the Current 1000 MI Water Leak Test for Use With Disposable Nitrile Gloves (Fall 2017)
17. Joseph Kuate: Effect of Multiple Decontaminations on the Tensile Properties of Disposable Vinyl Exam Gloves (Fall 2021)
18. Priscilla Mata: The Analysis of Impurities in Consumer Petroleum-Derived Solvents (Spring 2016)
19. Katy Nelson: Determining a Shorter Controlled Negative Pressure Protocol for Respirator Fit Testing (Spring 2019)
20. Pricila M. Nolasco: The Integrity of Vinyl Medical Exam Gloves Exposed to Disinfecting Agents (Fall 2021)
21. Daysha O'Pry: Challenges and Feasible Solutions for Addressing Covid-19 in the Workplace (Fall 2021)
22. Evelyn Osayande: Rapid On-Site Degradation Testing of Protective Clothing Against Complex Mixtures (Spring 2018)

23. Kayla Parker: Perchloroethylene in Dry Cleaning Solvents (Spring 2019)
24. Gowri Rapati: Using Body Weight Distribution to Approximate Forces on the Lower Lumbar Region (Fall 2016)
25. Christopher Robb: Chemical Permeation in Disposable Vinyl Gloves (Fall 2016)
26. Kashap Suratia: Evaluation of Gloves with Finger Flex Technology to Reduce Hand Fatigue, Muscle Activity, and Grip Strength (Fall 2016)
27. Lalithangi Venkata: Rapid On-Site Permeation Testing of Protective Clothing Against Complex Chemical Mixtures using a Portable Direct-Reading Instrument (Spring 2018)

DEPARTMENTAL / UNIVERSITY SERVICE

University / College Service

2022	<u>Member:</u> Promotion and Tenure Peer Review Committee, Biology
2022	<u>Member:</u> Promotion and Tenure Peer Review Committee, Chemistry
2020	<u>Member:</u> Tenure and Promotion Committee, Chemistry Faculty
2019	<u>Member:</u> Visiting Professor Search Committee, Chemistry
2019	<u>Member:</u> Grade Appeal Committee
2019	<u>Member:</u> Tenure and Promotion Committee, Environmental Science
2018—present	<u>Member:</u> College Curriculum Committee
2018—2019	<u>Member:</u> CSE Internship Committee
2019	<u>Member:</u> Third-Year Review Committee, Chemistry
2017 – present	Program Chair: Occupational Safety and Health Program
2016—present	<u>Member:</u> Committee for the Protection of Human Subjects (IRB)
2016—2017	<u>Member:</u> Faculty Senate - Curriculum and Teaching Committee - Facilities and Support Services Committee
2015—present	<u>Member:</u> UHCL College of Science and Engineering Safety Committee
2015—present	<u>Member:</u> UHCL Lab Safety Committee

- 2016—present Member: UHCL Laser Safety Committee
- 2016—present Member: UHCL Radiation Safety Committee
- 2015—2019 Radiation Safety Officer (RSO) for University: UHCL
- 2015—2016 Member: Foundations of Excellence; Improvement Committee (UHCL)
- 2007 – 2015 Member: Palm Springs Institute for Environmental Sustainability (PSIES) at CSUSB
- 2009 – 2015 Member: Institutional Review Board (IRB), two Faculty Senate appointments at CSUSB
- 2009 – 2015 Member: Professional Awards Committee, two Faculty Senate appointments at CSUSB
- 2009-2015 Member: Student Research Competition Committee, two Faculty Senate appointments. I serve as a moderator and judge for 1-2 student research competitions per year at CSUSB
- 2010 – 2012 Member: National Children’s Study (NCS) Leadership Committee, a 5% appointment at CSUSB
- 2009 – 2011 Member: Water Resource Institute (WRI) Faculty Council at CSUSB
- 2009 – 2010 Member: Campus Sustainability Committee at CSUSB

Department / Program Service at UHCL

- 2021-2022 Chair: OSH Asst./Assoc. Professor Search Committee
- 2017 – present Chair: Industrial Hygiene and Safety Advisory Board
- 2021-2022 Chair: Search Committee for IH/Safety Assistant/Associate Professor
- 2016 Chair: Search committee for IH/Safety Assistant/Associate Professor
- 2015 - 2016 Member: Search committee for IH/Safety Assistant Professor (UHCL)
- 2016 Member: Physical and Applied Sciences Teaching Assistant Committee

Departmental Service at CSUSB

- 2014 Chair: Faculty search committee for Public Health Education position.

- 2014 Member: Dean search committee for our Palm Desert Campus
- 2013 – present Member: Department Evaluation Committee: retention, tenure promotion
- 2009 – present Evaluator: Department evaluation committee for adjunct part-time, temporary faculty. I performed classroom visits and evaluations.
- 2006 – present Member: Environmental Health Science Advisory Board
- 2007 – 2010 Member: Department marketing committee. I updated and produced the current marketing presentation for the department.

SERVICE TO PROFESSION

NIH and NIOSH Reviews (NIH format) - 6

- 2020 Reviewer: South West Center for Occupational and Environmental Health (SWCOEH): Pilot Projects Research Training Program.
- 2013 – 2014 Reviewer: NIH Center for Scientific Review (CSR): Community Influences on Health Behavior Study Section (CIHB). Review of R01 and R21 proposals dealing with environmental health issues. I participated in the October 2013 and June 2014 meetings.
- 2013 Reviewer: NIOSH Nanotechnology Research Center (NTRC) internal project proposal, completed May 2013.
- 2013 Reviewer: NIOSH ERC Workplace Health and Safety Research Training Pilot Project Grant proposal, September 2013.
- 2012 Reviewer: NIOSH ERC Occupational Health and Safety Research Training Pilot Project Grant proposal, August 2012.
- 2011 Reviewer: NIOSH ERC Occupational Health and Safety Research Training Pilot Project Grant proposal, September 2011.

Book Reviews (Peer-Review) - 3

- 2011 *Essentials of Sustainability* (Business), Sage Press, reviewed six chapters
- 2010 *Environmental Management, Second Edition*, Michael V. Russo (Editor), Sage Press, reviewed the entire text
- 2010 *Your Health and the Environment*, Jones and Bartlett, reviewed three book chapters and table of contents

Journal Reviews (Peer-Review) - 42

- 2022 *ACS Chemical Health and Safety*
BMJ Open
Journal of Occupational and Environmental Hygiene
Polymer Testing
Safety and Health at Work
- 2021 *Journal of Occupational and Environmental Hygiene (2)*
- 2020 *Journal of Occupational and Environmental Hygiene*
Mining, Metallurgy & Exploration
Proceedings of Singapore Healthcare
- 2019 *Journal of Occupational and Environmental Hygiene (4)*
- 2018 *Journal of Industrial Textiles*
Journal of Occupational and Environmental Hygiene (3)
- 2017 *American Journal of Infection Control (2)*
Journal of Industrial Textiles (2)
Journal of Occupational and Environmental Hygiene
- 2016 *Journal of Industrial Textiles*
Journal of Occupational and Environmental Hygiene (5)
Polymer Testing
- 2015 *Journal of Industrial Textiles (2)*
Journal of Occupational and Environmental Hygiene
- 2013 *Journal of Occupational and Environmental Hygiene*
- 2012 *Journal of Occupational and Environmental Hygiene*
- 2011 *Archives of Environmental Contamination and Toxicology*
Journal of Occupational and Environmental Hygiene
- 2010 *Journal of Occupational and Environmental Hygiene*
- 2009 *Journal of Occupational and Environmental Hygiene*
- 2007 *Spectroscopy Letters*
Journal of Hazardous Materials
- 2006 *Annals of Occupational Hygiene*

Professional Committees and Volunteer Service

- 2022 - present Commissioner: Accreditation Board for Engineering and Technology (ABET) under the society American Industrial Hygiene Association (AIHA) for Industrial Hygiene and Environmental, Safety and Health.
- 2021 Alternate Commissioner: Accreditation Board for Engineering and Technology (ABET) under the society American Industrial Hygiene Association (AIHA) for Industrial Hygiene and Environmental, Safety and Health.
- 2019 - 2020 Commissioner: Accreditation Board for Engineering and Technology (ABET) under the society American Industrial Hygiene Association (AIHA) for Industrial Hygiene and Environmental, Safety and Health. Also, on Forms Committee.
- 2018 – present Board Member and Public Affairs Officer: American Industrial Hygiene Association, Gulf Coast Chapter.
- 2018 - 2019 Past-Chair: American Industrial Hygiene Association (AIHA) Protective Clothing and Equipment Committee
- 2018 Volunteer Monitor: Professional development course on “*Exposure Judgment: Improving Inhalation Assessments*” at the American Industrial Hygiene Conference and Exposition (AIHce), Philadelphia, PA, May 20, 2018.
- 2017 - 2018 Chair: American Industrial Hygiene Association (AIHA) Protective Clothing and Equipment Committee
- 2017 Volunteer Monitor: Professional development course on “*Tools for Compliance with the OSHA Silica Standard*” at the American Industrial Hygiene Conference and Exposition (AIHce), Seattle, WA, June 4, 2017.
- 2016 - present Program Evaluator (2016-2022) and Team Chair (2019-2021): Accreditation Board for Engineering and Technology (ABET) under the society American Industrial Hygiene Association (AIHA) for Industrial Hygiene and Environmental, Safety and Health
- 2015 - 2016 Vice Chair: American Industrial Hygiene Association (AIHA) Protective Clothing and Equipment Committee
- 2015 Secretary: American Industrial Hygiene Association (AIHA) Protective Clothing and Equipment Committee
- 2010 – present Committee member: American Industrial Hygiene Association (AIHA) Protective Clothing and Equipment Committee

- 2014 Moderator: Podium session on “*Considerations When Selecting Chemical Protective Gloves*” at the American Industrial Hygiene Conference and Exposition (AIHce), San Antonio, TX, June 4, 2014.
- 2014 Volunteer Monitor: Professional Development Course on “*Noise Control Engineering*” at the American Industrial Hygiene Conference and Exposition (AIHce), San Antonio, TX, June 1, 2014.
- 2011 Committee Member: Mohave Desert Air Quality Management District’s AB 2766 Grants Review Committee on July 14, 2011.
- 2011 Volunteer Monitor: Professional Development Course on Mold and Indoor Air Quality at the American Industrial Hygiene Conference and Exposition (AIHce), Portland, OR, May 5, 2011.
- 2007 Committee Member: Mohave Desert Air Quality Management District’s Mobile Emission Reduction Committee on November 26, 2007.

Community Service

- 2022 Head Judge representing Gulf Coast American Industrial Hygiene Association at Science and Engineering Fair Houston (SEFH), February 2022.
- 2021 Head Judge representing Gulf Coast American Industrial Hygiene Association at Science and Engineering Fair Houston (SEFH), February 2021.
- 2015 - 2021 Board Member: San Jacinto Community College Environmental Health and Safety Advisory Board.
- 2020 Head Judge representing Gulf Coast American Industrial Hygiene Association at Science and Engineering Fair Houston (SEFH), February 2020.
- 2019 Volunteer representing Gulf Coast American Industrial Hygiene Association at Boy Scouts of America’s Scout Fair, April 6, 2019.
- 2019 Head Judge representing Gulf Coast American Industrial Hygiene Association at Science and Engineering Fair Houston (SEFH), February 23, 2019.
- 2018 Judge at Seabrook Intermediate Science Fair, December 3, 2018
- 2018 Head Judge representing Gulf Coast American Industrial Hygiene Association at Science and Engineering Fair Houston (SEFH), February 24, 2018.
- 2017 Judge at Seabrook Intermediate Science Fair, December 4, 2017

- 2017 Head Judge representing Gulf Coast American Industrial Hygiene Association at Science and Engineering Fair Houston (SEFH), February 25, 2017.
- 2016 Judge at Seabrook Intermediate Science Fair, December 5, 2016
- 2016 Head Judge representing Gulf Coast American Industrial Hygiene Association at Science and Engineering Fair Houston (SEFH), February 27, 2016