



# healthyworkplaces<sup>^</sup>

## News from the HealthyWorkplaces experts

UNIVERSITY OF CALIFORNIA, BERKELEY

IN THIS ISSUE

## About Our Center



### Director's Note

The Interdisciplinary Center for Healthy Workplaces mission is "to re-invent the workplace by

*integrating and applying interdisciplinary sciences to achieve worker health and psychological well-being.*" This third issue features information on our researchers, affiliates, projects, and conferences. Visit our website for news and updates, including reviews of different topics on our blog, such as ROI of wellness programs, health technology in the workplaces, and our latest blog on sleep.

### Our Center has an interdisciplinary model of worker health and well-being.

The Interdisciplinary Center for Healthy Workplaces brings together knowledge from diverse disciplines into one place. Here, our subject matter experts, practitioners, and professionals are able to learn from what we know across those disciplines to get a wider perspective of worker health and well-being. In having an interdisciplinary understanding of worker health and well-being issues, we are able to develop holistic solutions to workplace design, organization, functioning, and worker health. As an interdisciplinary research center, we value the expertise of our researchers and their affiliated centers. This quarter, we spoke to experts who study the built environment. We spoke to experts

Antony Kim, doctoral student in architecture at UC Berkeley, Elizabeth Nelson, doctoral student in biomedical engineering at the University of Twente in the Netherlands, and Stefano Schiavon, PhD, Professor of Architecture at UC Berkeley.

Elizabeth Nelson recently completed a seven-month study following 124 employees where she introduced various environmental changes (one per month). She measured multiple aspects of productivity and cognitive functioning, and discovered important interventions in the workplace. A pivotal finding from her research is that when office lighting follows circadian rhythms, worker productivity increases, their mental effort optimize, and workers feel happy and highly energized. Elizabeth's forthcoming book in 2017 will detail her innovative studies and recommended organizational changes. Her book can be found at the following link: [www.thehealthyofficerevolution.com](http://www.thehealthyofficerevolution.com)

Doctoral student Antony Kim of UC Berkeley's College of Environmental Design is studying architectural lighting and circadian health. Antony spent a year at the Karolinska Institute developing a lighting lounge for those suffering Seasonal Affective Disorder. One of his research projects at UC Berkeley explores whether lighting can promote circadian health. We recently published a blog discussing Elizabeth and Antony's research – and concluded how the workplace can better suit human needs for cyclical lighting and sleep.

We feature expert and interdisciplinary team member Stefano Schiavon's interview on page 4.

About Our Center - Current newsletter focuses on the built environment

Page 1

The HealthyWorkplaces Model and Psychological States Framework

Page 2

Meet the Experts

Page 3

Featured Researcher - Stefano Schiavon

Page 4

Affiliate Center Updates

Page 4

Health and Well-Being Strategy Conference - We invite you to attend!

Page 6

Center Projects

Page 7

Conferences

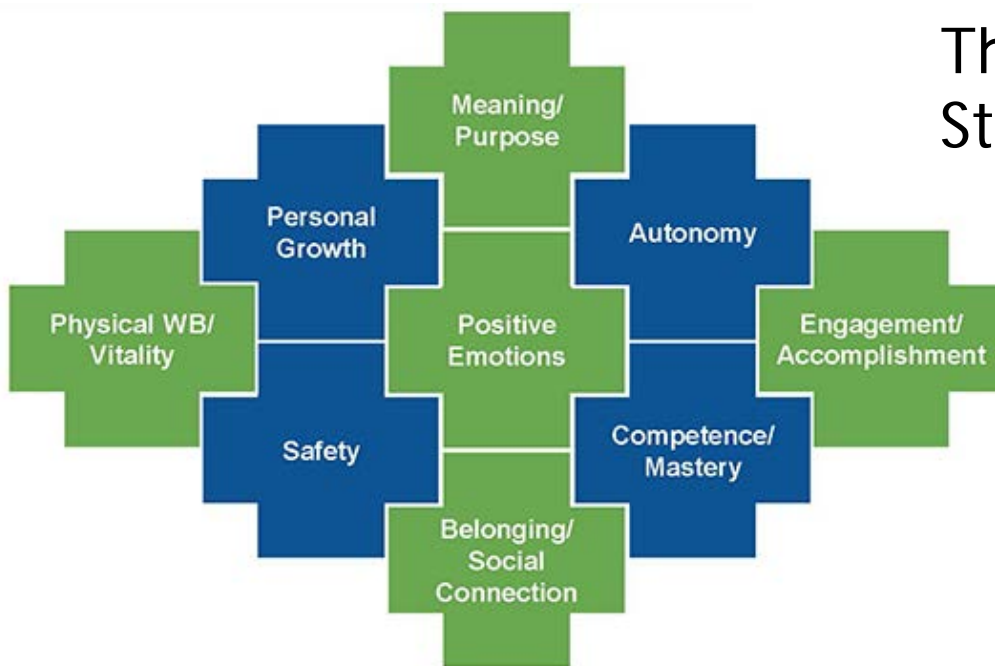
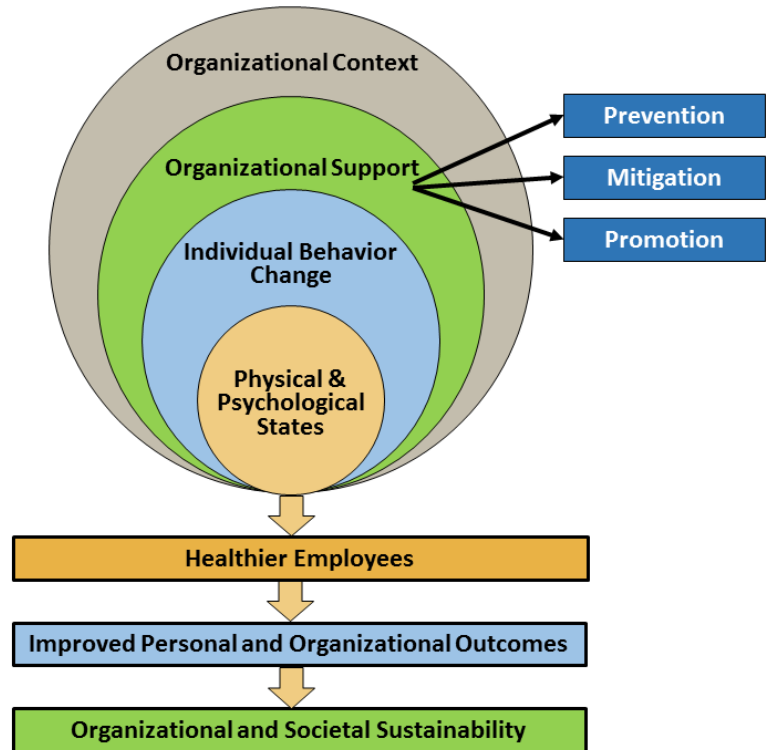
Page 7

Donate - Please support HealthyWorkplaces

Page 8

# The HealthyWorkplaces Model

Our fundamental proposition is that worker health and well-being is built on an understanding of the interaction between the worker and his or her work and workplace - specifically, how the work and workplace affect a worker's basic physical and psychological needs. We are advocating for a shift from single variable models of wellness to an interdisciplinary model of well-being that focuses on physical and psychological states that correlate with and give rise to sustainable worker health and well-being. The HealthyWorkplaces Model emphasizes that improved outcomes are a direct result of positive changes in individuals' physical and psychological states. We want to create positive psychological states within our workforces as these states produce physical and psychological outcomes that are good for people and for organizations.



*HealthyWorkplaces Psychological States Framework*

## The Psychological States Framework

As a result of our extensive and selective literature search, we have constructed a framework of well-being that posits a number of psychological states that correlate with well-being. Positive emotions are a central component of the framework and through which we ultimately experience well-being and build resilience. Positive emotions broaden our capabilities in the present and build social, physical, psychological, and emotional resources for the future. They also buffer us against the harmful effects of stress and help us recover more quickly.

## ASSOCIATED CENTERS

*The following organizations support HealthyWorkplaces' mission by providing operational support, collaborating on research, or providing expert consultation.*

THE CENTER FOR INFORMATION TECHNOLOGY RESEARCH IN THE INTEREST OF SOCIETY (CITRIS)

INSTITUTE FOR RESEARCH ON LABOR AND EMPLOYMENT (IRLE)

THE CENTER FOR OCCUPATIONAL AND ENVIRONMENTAL HEALTH (COEH)

LABOR OCCUPATIONAL HEALTH PROGRAM (LOHP)

CENTER FOR THE BUILT ENVIRONMENT

THE BERKELEY POPULATION CENTER

THE BERKELEY FOOD INSTITUTE

THE GREATER GOOD SCIENCE CENTER

BERKELEY WELLNESS LETTER

NUTRITION POLICY INSTITUTE

HEALTH RESEARCH FOR ACTION

# Meet the Experts

## Cristina Banks, PhD



Dr. Banks is Director of the Interdisciplinary Center for Healthy Workplaces. In collaboration with Dr. Sheldon Zedeck, Dr. Banks leads a team of 30 researchers spanning multiple disciplines and 20+ affiliates in collecting and integrating known scientific findings and creating new research programs to advance our knowledge in this area. Dr. Banks brings her 35 years of experience in consulting and studies of work and organizational processes to the Interdisciplinary Team. She is a skilled facilitator, a nationally-recognized expert in employment law compliance, and a strategic leader in the development and implementation of large-scale projects. She is also a Senior Lecturer at the Haas School of Business.

## Sheldon Zedeck, PhD



Dr. Zedeck, Associate Director of the Interdisciplinary Center for Healthy Workplaces, Professor Emeritus of Psychology and former Vice Provost of Faculty for UCB, has nearly 50 years of experience as an academic and practitioner focused on workplace issues. He has published research on a variety of topics including employment discrimination, work/life balance, performance management, and employment law compliance. He has served as an advisor to government and state agencies such as the US Department of Justice, Department of Labor, and the Department of State. He has also advised many organizations and testified in numerous legal cases in an effort to reverse adverse impact against minorities.

## Interdisciplinary Team

The HealthyWorkplaces team members collaborate to develop and research the most effective workplace elements and practices that promote worker health and well-being. Team members also collaborate to integrate these elements for more effective and sustained positive outcomes in workers and organizations.

- ❖ Arthur Giacalone, PhD; Consulting Expert
- ❖ Michael Pearn, PhD; Consulting Expert
- ❖ Caitlin DeClercq, MS; UC Berkeley College of Environmental Design
- ❖ Isabelle Thibau, MPH; UC Berkeley HealthyWorkplaces
- ❖ Christina Maslach, PhD; UC Berkeley Department of Psychology
- ❖ David Lindeman, PhD; UC Berkeley Center for Information Technology Research in the Interest of Society, Center for Technology and Aging
- ❖ David Rempel, MD, PhD; UC Berkeley Department of Bioengineering; UCSF Department of Medicine
- ❖ Ed Yelin, PhD; UCSF School of Medicine
- ❖ Gail Brager, PhD; UC Berkeley College of Environmental Design, Center for the Built Environment
- ❖ Galen Cranz, PhD; UC Berkeley College of Environmental Design
- ❖ Gervais Tompkin, AIA, LEED AP; Gensler
- ❖ Jane Mauldon, PhD; UC Berkeley Goldman School of Public Policy
- ❖ John Swartzberg, MD, FACP; UC Berkeley School of Public Health; UCSF School of Medicine
- ❖ Ken Jacobs; UC Berkeley Labor Center
- ❖ Kristine Madsen, MD, MPH; UC Berkeley School of Public Health
- ❖ Laura Stock, MPH; UC Berkeley Labor Occupational Health Program
- ❖ Max Pittman; UC Berkeley HealthyWorkplaces
- ❖ Peiyi Ko, PhD, CPE; KoCreation Design
- ❖ Sally Augustin, PhD; Design with Science
- ❖ Stephen Shortell, PhD, MPH, MBA; UC Berkeley School of Public Health
- ❖ Steve Hargis, MCRw; Woods Bagot
- ❖ Sylvia Guendelman, PhD, MSW; UC Berkeley School of Public Health



# Featured Researcher - Dr. Stefano Schiavon



We are pleased to feature our Interdisciplinary Team member Dr. Stefano Schiavon in this newsletter.

Stefano Schiavon, PhD, is an Assistant Professor of Architecture at UC Berkeley and a researcher at the Center for the Built Environment (CBE). With a background in mechanical engineering and energy, his research and teaching focus on increasing buildings' indoor environmental quality and energy efficiency, and reducing impact on the global environment and on people – keeping in mind that the indoor environment significantly influences health, well-being, and safety during work.

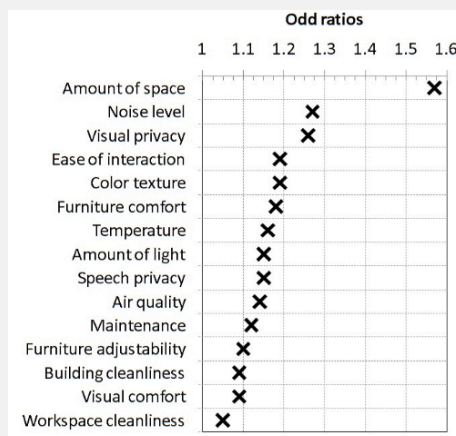
Dr. Schiavon was a contributor of the 2011 CBE Building Occupant Satisfaction Survey, which measured satisfaction of fifteen environmental factors. The study included 351 buildings, and 52,890 occupants. Findings show that all fifteen factors measured in the study play a role in occupant satisfaction including amount of space, noise level, visual privacy, and air quality, respectively (shown in Figure 1).

These findings indicate the relevance of Stefano's research on improving air quality in the workplace in an energy efficient way. He has worked on a number of projects related to air quality; in December 2016 he released a publication detailing the results of a tracking fan – which locates the occupant, determines the direction of air flow, and calculates the occupant-fan distance. The system provides more

comfort with less power. (Liu S, Yin L, Ho WK, Ling KV, Schiavon S. 2016). Stefano has also created an algorithm for clothing insulation as a function of indoor and outdoor temperatures, which allows buildings to regulate temperature more efficiently (Schiavon S., Lee K., 2013). His research on thermal comfort is a big player in improving workplace satisfaction and building efficiency.

Stefano has been an interdisciplinary team member since 2014 and his research and knowledge in the area of air quality and built environment has helped inform our own research and is helping us develop an assessment tool and inventory of workplace solutions. For example, results from the CBE survey indicate that "amount of space" is an ambiguous parameter among individuals, which begs the question -- does amount of space mean physical square feet, or the psychological perception of space? HealthyWorkplaces hopes to further investigate these questions.

Stefano is an invited speaker to the Health and Well-Being Strategy Conference for Business Leaders at UC Berkeley on February 1-3, 2017. He will provide expert knowledge on air quality and building sustainability and start discussions on how this intersects with Health and Well-Being.



**Figure 1. CBE Building Occupant Satisfaction Survey Odds Ratios**

# Affiliated Center Updates

## Institute for Research on Labor and Employment (IRLE)



In August 2016, the Center on Wage and Employment Dynamics (a subdivision of IRLE) released an article describing an investigation of employment rates of low-wage workers whose hourly wage was significantly raised by minimum wage increases. Researchers concluded that teenagers actually do not suffer job losses for the kinds of minimum wage increases that the US has experienced in past history. To access this policy brief visit: <http://irle.berkeley.edu/files/2016/Credible-research-designs-for-minimum-wage-studies.pdf>

## Center for Occupational and Environmental Health (COEH)



The Center for Occupational and Environmental Health at the University of California (COEH) and the Northern California Section of the American Industrial Hygiene Association hosted an IH Forum on November 29th, 2016 at the Elihu Harris State Office Building in Oakland, CA.

The forum was presented by Megan Canright Rabinowitz, MPH, CIH. Megan has a wide array of experience in the fields of Industrial Hygiene and Environmental, Health & Safety. As the Corporate Director of Scientific Operations with Forensic Analytical, she provides company-wide technical and operational direction and facilitates the internal Quality Assurance/Quality Control program.

This forum covered the basic framework for understanding the principles of the



recognition, evaluation, and control of Legionella in various water systems from the perspective of the industrial hygienist's role. An overview of technical strategies for environmental exposure and risk assessment were provided as well as discussion of data collection and interpretation in support of environmental source identification.

COEH and AIHA will host additional IH Forums over the upcoming year. Please visit [www.coeh-cc](http://www.coeh-cc) for updates and to register. You can subscribe to the COEH newsletter, Bridges, at: <http://coeh.berkeley.edu/bridges/index.html>

## Labor Occupational Health Program (LOHP)



At the request of the Department of Industrial Relations, LOHP convened a round table discussion and prepared a summary report documenting the issues, challenges, and recommendations for addressing concerns related to the aging workforce in California and proposing initial steps towards promoting age-friendly workplaces for all workers. The roundtable was held on November 13, 2015 and included representatives from unions, community-based organizations, private businesses, employer associations, insurance agencies, universities, and state agencies. The summary report documenting the data from a literature review and the issues and recommendations raised at the round table is now available for comment on the DIR website for a limited time. To read the report and to provide comments, go to: <http://www.dir.ca.gov/chswc/PublicCommentsAndFeedback.html>.

## Center for Built Environment

David Lehrer of CBE investigated the pros and cons of open plan offices in his HPB magazine article. See an excerpt of a longer piece in the works. <http://www.hpbmagazine.org/Working-Outside-the-Box-Pros-Cons-of-Open-Plan-Offices/>

In addition, Doctoral candidate Antony Kim of CBE focuses his research on lighting

and circadian health. He plans to research whether architectural lighting design can aid our circadian health, using three lighting models to aid a regenerative circadian effect.

Prior to his research at UC Berkeley he worked at the Karolinska Institute to design a lighting lounge to treat seasonal affective disorder. His findings at Karolinska indicate that a lighting lounge can be effective in treating lack of sunlight. Now, he is interested in the role of lighting in proper sleep. He is running a study on circadian lighting, investigating how to measure it with wearable sensors.

## The Berkeley Population Center



Daniel Schneider and Kristen Harknett of The Berkeley Population Center released research findings on how work schedules are related to health and parenting practices. The brief investigates the effects of the 2015 San Francisco Retail Workers Bill of Rights, which requires retail companies to provide workers with a two-week notice of work schedules and provide part-time workers with access to more hours before hiring part-time workers. The results show that unpredictable work schedules are consistent with negative outcomes including poor health, higher parenting stress, and less time with children. Therefore, the findings indicate that stable schedules have both health and parenting benefits. For more information, see the full report:

<http://equitablegrowth.org/working-papers/schedule-instability-and-unpredictability/>

## The Berkeley Food Institute



The Berkeley Food Institute raised \$8,000 to delve into their equity food systems campaign. Researchers plan to "map" the food system at UC Berkeley – with the hope of identifying barriers for equitable food such as cost, distance, quality, and workers' rights.

If you are interested in getting involved, contact the Food Institute. The Institute has a weekly newsletter that you could subscribe to and plenty of information on their activities. For more information, visit: <http://food.berkeley.edu/equity-and-inclusion/>

## Health Research for Action



In May, Professor Linda Neuhauser and Eve Wen-Jing Lee of Health Research for Action (HRA) received the IHA International Award for Outstanding Achievement in Health Literacy for their ongoing Wellness Guide for Chinese Workers.

The guide, which is part of the Changzhou Worker Wellness Project, was recognized as an innovative collaboration across continents and languages at the 15th annual Institute for Health Advancement Health Literacy Conference.

The ongoing project aimed to improve the health knowledge of migrant factory workers in China, most of whom have only elementary schooling and limited ability to understand and act on information related to their health and life issues. To address this challenge, HRA helped its Chinese partners adapt "the Berkeley Participatory Model" to develop the guide—a process that engaged factory workers and other stakeholders to identify worker problems and solutions to address them. Participants created and tested the guide's content and format through many iterations. Over 20,000 workers in 16 factories have used the guide, and it will be distributed to 1.5 million workers in the city. Researchers are finding high enthusiasm and improved management of health and social issues among workers. The project is being considered for national expansion."

For more information, visit: <http://healthresearchforaction.org/wellness-guide-chinese-workers-wins-health-literacy-award>

The Interdisciplinary Center for Healthy Workplaces invites you to attend the Health and Well-Being Strategy for Business Leaders Conference, which will be held at UC Berkeley Campus on **February 1-3, 2017**. To apply to the conference, use the following link: <http://healthyworkplaces.berkeley.edu/conference/>. Bring your partners for a discounted price.



## Health and Wellbeing Strategy for Business Leaders

February 1-3, 2017

This conference will help employers set their employee health and well-being strategy based on the latest science and on wisdom learned from the best practices. Unlike other conferences, this program covers nearly all relevant areas of knowledge that are critical to fully understanding how employee health and well-being is affected by the built environment, organizational policies and processes, workspace design, technology, and culture. Moreover, this program dives deep into what employers can do to promote employee health and well-being strategically and operationally while achieving higher levels of employee engagement, productivity, retention, and other high-value employee outcomes.

### SPEAKERS



**Cristina Banks, PhD**  
Director, the Interdisciplinary Center for Healthy Workplaces, and Senior Lecturer, Haas School of Business, UC Berkeley



**Gregory La Blanc**  
Lecturer in Finance, Strategy, & Law Haas Finance Group, Haas Economic Analysis & Policy Group, Director of Data Science Initiative, IBI, UC Berkeley



**Dacher Keltner, PhD**  
Professor of Psychology, and Co-Director of the Greater Good Science Center, UC Berkeley



**Galen Cranz, PhD**  
Professor of Architecture, UC Berkeley; Associate Director, Center for the Built Environment, UC Berkeley



**Stefano Schiavon, PhD**  
Assistant Professor of Architecture, UC Berkeley



**Barry Schwartz, PhD**  
Emeritus Professor of Psychology, Swarthmore College and Visiting Professor, Haas School of Business, UC Berkeley



**Gail Brager, PhD**  
Professor, Dept of Architecture; Associate Director, Center for the Built Environment, UC Berkeley



**John Swartzberg, PhD**  
Clinical Professor Emeritus, Public Health, UC Berkeley



**Sally Augustin, PhD**  
Principal, Design With Science Author, *Place Advantage*



**David Rempel, MD, MHP**  
Professor, Division of Occupational & Environmental Medicine, UC San Francisco; Professor, Department of Bioengineering, UC Berkeley; Director, Ergonomics Graduate Training Program, UC Berkeley



**David Lindeman, PhD**  
Director of Health, Center for Information Technology Research in the Interest of Society (CITRIS), UC Berkeley; Director, Center for Technology and Aging (CTA)



**Franklin Becker, PhD**  
Professor Emeritus Design and Environmental Analysis, Cornell University



**Patricia Crawford, DrPh, RD**  
Senior Director of Research, Nutrition Policy Institute Cooperative Extension Nutrition Specialist, UC Berkeley

# Center Project

## Transamerica Center for Health Studies Project

INVESTIGATORS: CRISTINA BANKS

The objective is to understand and identify successful determinants of employee engagement and participation in behavior change and wellness programs. The primary outcome of this project is an employer guide for employee engagement in healthy behavior change for small and medium-sized business.

## Office Ergonomic Research Committee Project

INVESTIGATORS: CRISTINA BANKS

The objective of this project is to create an inventory of scientifically-sound criterion measures for use in human factors/ergonomic research studies.

## UC Berkeley Graduate Student Survey on Well-Being

INVESTIGATORS: CRISTINA BANKS, SHELDON ZEDECK, ISABELLE THIBAU, MAX PITTMAN

The aim of this project is to collect information on graduate student well-being as a function of their study environments. The survey, developed by HealthyWorkplaces, has been administered to UC Berkeley graduate students campus-wide (except students from the College of Letters and Science and Law School).

HealthyWorkplaces will use the results of this survey to understand the current student work environment and examine relationships between this environment and student health and well-being outcomes.

## Healthy Universities

INVESTIGATORS: CHRISTINA MASLACH, CRISTINA BANKS, SIW TONE INNSTRAND, CHRISTOPHER LOWENSTEIN, ISABELLE THIBAU, INTERDISCIPLINARY RESEARCH TEAMS

The objective is to create a way to assess the degree to which a university campus embodies a healthy workplace for its students, staff, and faculty, and to provide guidance on how to build or change workplace factors in order to improve the health of those on university campuses. We are analyzing the results of a survey (Knowledge Intensive Work Environment Survey Target) used by a Norwegian intervention program as a tool for promotion of psychosocial factors in the work environment. Visiting scholar and Norwegian University of Science and Technology professor Siw Tone Innstrand is working with HealthyWorkplaces to collect and analyze the survey data.

## Designing for a Healthy Office

INVESTIGATORS: CAITLIN DECLERCO, MAX PITTMAN, GALEN CRANZ, CRISTINA BANKS, ISABELLE THIBAU

The objective is to explore new ways of designing workspace from the perspective of psychological impact. HealthyWorkplaces

hosts focus groups to gather information on what elements to build into work environments that will promote certain drivers of health and well-being.

## Health and Well-Being Conferences

INVESTIGATORS: CRISTINA BANKS, SHELDON ZEDECK, GREGORY LABLANC

This project aims to hold continuing education conferences for practitioners and executives to disseminate the current state of knowledge on how to improve worker health and well-being based on science and practical information and how to translate the scientific knowledge into practice.

## Literature Review - Built Environment and Worker Health

INVESTIGATORS: MAX PITTMAN, SALLY AUGUSTIN, CRISTINA BANKS

The objective is to summarize what is known from the built environment literature on factors that affect worker health and well-being.

FOR MORE DETAILS about ongoing and completed projects, visit our projects page - <http://healthyworkplaces.berkeley.edu/projects/>

# Recent Conferences



December 3-5, 2016. Cristina Banks, Isabelle Thibau, Caitlin DeClercq, and Sally Augustin attended the University of Texas at Austin Psychology of Architecture Conference. Lindsay Graham of UC Berkeley's Center for the Built Environment presented for Gail Brager. The list of presentation titles are below:

CRISTINA BANKS presentation title: "An Integrated Approach to Healthy Workplaces."

ISABELLE THIBAU presentation title: "Healthy Workplaces' Survey of Work Environments on Health and Well-Being."

CAITLIN DECLERCO presentation title: "Designing for the Healthy Office."

SALLY AGUSTIN presentation title: "Living in an Impressionist World: Human Experience of Places."

LINDSAY GRAHAM presented for GAIL BRAGER, presentation title: "Using Occupant Feedback to Understand Building Success."

More information on the conference at <http://www.psychologyofarchitecture.org>



September 19-23, 2016. Cristina Banks, Isabelle Thibau, and Peiyi Ko attended the Human Factors and Ergonomics Society Annual Meeting. Interdisciplinary Team member David Rempel moderated several panels and participated in discussion groups

related to occupational ergonomics at this meeting. More information at <http://www.hfes.org/web/HFESMeetings/2016annualmeeting.html>.



October 16-19, 2016. Cristina Banks presented at the CoreNet Global Summit 2016 – North America. Cristina gave two presentations – one with Principal of Gensler San Francisco Gervais Tompkin on "Healthy Workplaces," the other on "Healthy Workplaces: Designing for Engagement." <http://www.corenetglobal.org/attend/PhiladelphiaSummit2016/index.aspx>



# DONATE - Please Support HealthyWorkplaces

HealthyWorkplaces is supported by contributions from UC Berkeley, IRLE, Berkeley Research Group, Gensler, and Lamorinda Consulting. We need further support to continue our research activities and public outreach. Please join our team of supporters!

Your gift supports the research and work of HealthyWorkplaces, such as:

- Graduate student assistantships to help members of the Interdisciplinary Team on cutting-edge research studies on different aspects of the HealthyWorkplaces Model
- Mini-conferences of subject matter experts to share state-of-the-art knowledge in their respective fields and to work together on implications for practice
- Publishing papers and guides to inform the general public of new ways of promoting health and well-being in the workplace
- Stakeholder “mixers” to promote information exchange and facilitate new relationships around mutual interests

HealthyWorkplaces operates independently as a non-profit under the banner of the University of California. Contributions to HealthyWorkplaces are fully tax-deductible.

Give online using your credit card:  
[healthyworkplaces.berkeley.edu/donate](http://healthyworkplaces.berkeley.edu/donate)

Checks should be written to “Regents of the University of California” with “ICHW” on the notes line. Donations should be mailed to:

HealthyWorkplaces  
IRLE  
2521 Channing Way #5555  
Berkeley, CA 94720-5555

If you would like to become a corporate member of HealthyWorkplaces, please contact us at  
[healthyworkplaces@berkeley.edu](mailto:healthyworkplaces@berkeley.edu).



## healthyworkplaces<sup>^</sup>

### News from the HealthyWorkplaces Experts

*WE ARE MOVING! Check our website for our current office address.*

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