

Curriculum Vitae

Vincent Berardi

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Education

Ph.D., Computational Science, Claremont Graduate University/San Diego State University, 2016

Thesis: Analytic Framework for the Design, Implementation, and Analysis of Dynamic, Real-Time Health Interventions

Co-Advisors: Dr. Melbourne Hovell and Dr. Ricardo Carretero

M.S., Applied Mathematics, San Diego State University, 2013

Concentration: Nonlinear Dynamical Systems

Thesis: Wave Propagation and Ratcheting in a One-Dimensional Lattice of Beads

Advisor: Dr. Ricardo Carretero

B.S., Mathematics, Saint Peter's College, Jersey City, NJ, 2003

Research Interests

My research interests lie in using a blend of novel technology, applied behavioral analysis, and machine learning and other data-centric methodologies to transform health behavior interventions from static, discrete programs into real-time, adaptable systems. Auxiliary projects include the application of inferential statistics to more traditional studies and contributions to the theory of health behavior maintenance.

Peer Reviewed Publications:

- **V. Berardi**, R. Carretero-González, N. Klepeis, A. Palacios, J. Bellettiere, S. Hughes, S. Obayashi, M. Hovell. *Proper Orthogonal Decomposition Methods for Air Particle Time-Series in Residences: Exploring Peak Clustering by Occupant Behavior Patterns*. Journal of Computational Science, 11 (2015) 102-111.
- **V. Berardi**, J. Bellettiere, O. Nativ, S. Ladislav, M. Hovell, & O. Baron-Epel. *Fatalism, Diabetes Management Outcomes, and the Role of Religiosity*. Journal of Religion and Health (2015), 1-16. 10.1007/s10943-015-0067-9
- O. Baron-Epel, **V. Berardi**, J. Bellettiere, W. Shalata. *The relation between discrimination, sense of coherence and health varies according to ethnicity; a study among three distinct population groups living in Israel*. Journal of Immigrant and Minority Health. (In Press)
- J. Bellettiere, J. Carlson, D. Rosenberg, A. Singhania, Loki Natarajan, **V. Berardi**, A. LaCroix, A. Sears, D. Moran, K. Crist, J. Kerr. *Gender and Age Differences in Hourly and Daily Patterns of Sedentary Time in Older Adults living in Retirement Communities*. PLOS ONE 10.8 (2015): e0136161.
- J. Bellettiere, S. Hughes, S. Liles, M. Boman-Davis, N. Klepeis, J. Mills, S. Obayashi, E. Blumberg, **V. Berardi**, & M. Hovell. *Developing and Selecting Auditory Alerts for a Real-Time Behavioral Intervention*. American Journal of Public Health Research, 2.6 (2014), 232-238.

- **V. Berardi**, J. Lydon, P.G. Kevrekidis, C, Daraio, & R. Carretero-González. *Directed Ratchet Transport in Granular Crystals*. Physical Review E 88.5 (2013): 052202.

In Review

- **V. Berardi**, R. Carretero-González, M. Adams, J. Bellettiere, S. Hughes, M. Hovell. *Detection of Behavioral Patterns in Data-Intensive Single-Case Designs*. Psychological Methods.
- M. Hovell, **V. Berardi**, J. Bellettiere, S. Liles, S. Hughes, A. Stotts, D. Ding, L. Rosen. *Maintaining healthy behaviors by engineering environmental consequences*. Health Promotion International.
- J. Logue, W. Fisk, N. Klepeis, **V. Berardi**, B. Singer. *Analysis of PM2.5 emission events in the residential environment: Part 1 Event characteristics in California Multi-family Low-Income Housing*. Indoor Air.

Awards and Scholarships

- ARCS Foundation Scholar, 2014-2016
- NSF Institute for Pure and Applied Mathematics (UCLA) Fellowship for Culture Analytics Long Program, Spring 2016
- San Diego State University/University of California, San Diego Cancer Center Comprehensive Partnership, Internal Advisory Committee Stipend, 2013-2014
- Los Alamos National Laboratory Award at Computational Science Curriculum Development Forum and ACSESS for Industry, April 17, 2015
- ESET Award at Computational Science Curriculum Development Forum and ACSESS for Industry, March 28, 2014
- San Diego State University Academic Achievement in Applied Mathematics, May 2013
- St. Peters College Kruze Award for Excellence in Mathematics, May 2003
- Full Academic Scholarship – Saint Peter’s College, 1999-2003

Academic Experience

Post-Doctoral Fellow, July 2016-Present

San Diego State University Center for Behavioral Epidemiology and Community Health
Description: Develop machine learning and other related approaches for analyzing health interventions in fields such as physical activity promotion and tobacco control. Prepare funding journal articles and grant applications to advance future work.

Graduate Student Research Assistant, July 2012 – July 2016

San Diego State University, Computational Science Department

Description: Work within a large, multi-disciplinary team to develop data-centric models of human behavior that describe household’s response to a tobacco secondhand smoke intervention. Collaborate on behavioral/public health projects in related fields.

Teaching Experience

Lecturer, Fall 2014

San Diego State University – San Diego, CA
Course: Calculus for the Life Science II

Graduate Teaching Associate, 2012 - 2015

San Diego State University – San Diego, CA

Courses: Calculus for Life Sciences I/II (2012-2015), Behavioral Medicine (Fall 2013), Research Design & Methods (Spring 2014), Graduate Statistics for Political Science (Fall 2014)

Employment Experience

Consultant, September 2016 – Present

Arizona State University, Exercise Science and Health Promotion (Dr. Marc Adams)

Description: Develop machine learning methodologies for use within a physical activity promoting behavioral intervention.

Senior Project Manager, 2003 – 2011

Hydrotechnology Consultants, Inc. – Jersey City, NJ

Description: Analyze fate and transport models to develop soil and groundwater environmental remediation strategies.

Academic Service

- Guest post on R-statistics-blog: J. Bellettiere, **V.Berardi**, S. Estrada. *Using 2D Contour Plots within {ggplot2} to Visualize Relationships Between Three Variables*. <https://www.r-statistics.com/2016/07/using-2d-contour-plots-within-ggplot2-to-visualize-relationships-between-three-variables/>
- Manuscript Peer Review: Nicotine & Tobacco Research (3 articles)

Conference Presentations

- **V.Berardi**, M.Hovell, R. Carretero, S. Hughes, J. Bellettiere, N. Klepeis, S. Obayashi, J.Jones, S. Liles, M. Boman-Davis, B. Nguyen. *Big Data in Practice: A Health-Based Intervention*. Big Data Science at SDSU Lightning Talks and Forums, San Diego State University, San Diego, CA. March 7, 2015.
- **V. Berardi** and M. Hovell. *Dynamical Systems and Behavior*. In G. Green (Chair), Real-Time Data and Health- Behavior Interventions. Symposium conducted at the meeting of the California Association of Behavioral Analysts, San Diego, CA. February 19, 2015.
- **V. Berardi**, M. Hovell, R. Carretero-González & A. Palacios. *A New Model for Behavioral Interventions*. Society for Chaos Theory in Psychology and Life Sciences, 23rd Annual Conference, Portland State University, Portland. OR, July 26, 2013.
- M. Hovell, **V. Berardi**, J. Bellettiere, S. Hughes, N. Klepeis, S. Obayashi, S. Liles, B. Nguyen, M. Boman-Davis, R. Hofstetter, T. Allen, E. Blumberg, M. Adams (2015). *The Behavioral Ecological Model: A Workshop*. Inequalities in Health

Promoting Environments: Physical Activity and Diet. University of Haifa, Haifa, Israel. June 11, 2015.

- M. Hovell, **V. Berardi**, J. Bellettiere, S. Hughes, N. Klepeis, S. Obayashi, S. Liles, B. Nguyen, M. Boman-Davis, R. Hofstetter, T. Allen, E. Blumberg, M. Adams (2015). *Measuring Behavior with Emerging Real Time Technologies*. Inequalities in Health Promoting Environments: Physical Activity and Diet. University of Haifa, Haifa, Israel. June 10, 2015.
- M.Hovell, S. Hughes, **V.Berardi**, J. Bellettiere, N. Klepeis, S. Obayashi, J.Jones, S. Liles, M. Boman-Davis. *Real Time Measures & Interventions: Setting the Stage for Engineering Human Behavior*. Big Data Science at SDSU Lightning Talks and Forums, San Diego State University, San Diego, CA. March 7, 2015.

Poster Presentations

- **V. Berardi**, R. Carretero-González, M. Hovell, A. Palacios, S. Hughes, & J. Bellettiere. *Analytic Framework for the Analysis of Dynamic, Real-Time Health Interventions*. International Conference on Applications in Nonlinear Dynamics, Denver, CO. August 31, 2016.
- **V. Berardi**, R. Carretero-González, M. Hovell, A. Palacios, S. Hughes, & J. Bellettiere. *POD Analysis of Real-Time Air Particle Data*. Computational Science Curriculum Development Forum and ACSESS for Industry, San Diego State University, San Diego, CA. April 17, 2015.
**Won Los Alamos National Laboratory Award for Achievement*
- **V. Berardi**, R. Carretero-González, M. Hovell, A. Palacios & J. Bellettiere. *POD Analysis of Real-Time Air Particle Data*. Computational Science Curriculum Development Forum and ACSESS for Industry, San Diego State University, San Diego, CA. March 28, 2014.
**Won ESET Award for Achievement*
- D. Petersen, J. Bellettiere, B. Nguyen, S. Hughes, **V. Berardi**, N. Klepeis, S. Obayashi, S. Liles, & M. Hovell. *An Algorithm to Identify Anomalous Data Points in Big Data Generated by Air Particle Monitors*. Ninth Annual San Diego State University Student Research Symposium. San Diego, CA. March 4, 2016
- J. Bellettiere, J. Carlson, D. Rosenberg, A. Singhanian, Loki Natarajan, **V. Berardi**, A. LaCroix, A. Sears, D. Moran, K. Crist, J. Kerr. *Gender and Age Differences in Hourly and Daily Patterns of Sedentary Time in Older Adults living in Retirement Communities*. 9th International Conference of Diet and Activity Measurement. Brisbane, Australia. September 1, 2015.
- C. Reuter, I. Quintanilla, J. Bellettiere, **V. Berardi**, K. Robusto, S. Hughes, M. Hovell. *The Effect of Prompts to Increase Stair Use among Escalator Users*. San

Diego State University Student Research Symposium, San Diego, CA. March 6, 2015

- J. Bellettiere , **V. Berardi**, M. Boman-Davis, M. Hovell. *Low Frequency Smoking among Mexicans and Mexican Americans in San Diego, Tijuana, and Guadalajara: A First Look*. 2014 UC Global Health Day, University of California, Davis, Davis, CA. April 26, 2014.

Past Certifications

- National Association of Securities Dealers General Securities Representative (Series 7) Licensee
- New Jersey Department of Environmental Protection Subsurface Evaluator Licensee