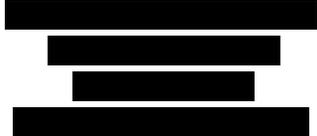


March, 2020

Theodore Smith, Ph.D.
Christina Lee Brown Envirome Institute



EDUCATION

1984-1988 B.S. in Biology and Psychology, Allegheny College, Meadville, PA
1988-1990 M.S. in Experimental Psychology, Miami University, Oxford, OH
1990-1992 Ph.D. in Experimental Psychology, Miami University, Oxford, OH
1992-1994 Postdoctoral Fellow, Man-Vehicle Laboratory, Massachusetts Institute of Technology, Cambridge, MA

ACADEMIC APPOINTMENTS

1992-1994 Adjunct Professor
Department of Psychology
Suffolk University
Boston, MA

1993-1994 Adjunct Professor
Experimental College
Tufts University
Medford, MA

2011-2013 Executive-in-Residence and Administrator, Health Sector Management MBA
College of Business
University of Louisville
Louisville, KY

2016 Adjunct Professor
School of Education
Spalding University
Louisville, KY

2018-Present Associate Professor
Pharmacology and Toxicology
School of Medicine
University of Louisville
Louisville, KY

2018-Present Director
Center for Healthy Air Water and Soil
Christina Lee Brown Envirome Institute
University of Louisville
Louisville, KY

2018-Present Core Leader
Research Translation Core
Superfund Research Center

University of Louisville
Louisville, KY

2019-Present Associate Professor
Department of Medicine
School of Medicine
University of Louisville
Louisville, KY

OTHER POSITIONS AND EMPLOYMENT

1994-1999 Director of Technology Education
Andersen Consulting (Accenture) LLP
St Charles, IL

1999-2000 Chief Executive Officer
Gartner Institute, Inc
Eden Prairie, MN

2000-2001 Vice President of Community Research
TechRepublic.com
Louisville, KY

2001-2006 Senior Vice President
Business Brands
CNET Networks, Inc
Louisville, KY

2006-2008 Presidents and Co-Founder
MedTrackAlert LLC
Louisville KY

2008-2010 Senior Vice President of Research
Health Central Networks Inc
Arlington, VA

2010-2011 Senior Policy Advisory
Office of the National Coordinator of Health IT
U.S. Dept. of Health and Human Services
Washington, DC

2013- 2016 Executive Director, Co-Founder
Institute for Healthy Air, Water, and Soil
Louisville, KY

2011- 2016 Chief of Civic Innovation
Office of the Mayor

Louisville Metro Government
Louisville, KY

2016-2018 Chief Executive Officer
Revon Systems
Crestwood, KY

CERTIFICATION AND LICENSURE

2011 HHS Initial Ethics Orientation
U.S. Department of Health and Human Service

2011 Contracting Overview
Defense Acquisition University

2011 Cost Estimating
Defense Acquisition University

2011 Improved Statement of Work
Defense Acquisition University

2011 Cost Estimating
Defense Acquisition University

2017, 2018 Combating Medicare Parts C and D Fraud, Waste, and Abuse
Centers for Medicare and Medicaid Services
U.S. Department of Health and Human Services

PROFESSIONAL MEMBERSHIPS AND ACTIVITIES

Professional Memberships

AdvaMed
American Association for the Advancement of Science
Consumer Technology Association

Service

2011-2013 Member, NUCLEUS Community Advisory Board, University of Louisville

Grant Review

2011-2016 Reviewer: Space Medical and Related Technologies Commercialization Assistance Program (SMARTCAP), National Space Biomedical Research Institute, Houston, TX

2011 Reviewer: ONC Challenge Grant — Consumer-Mediated Information Exchange, U.S. Department of Health and Human Services, Washington DC

2019-present Reviewer: Biomedical Research Advances for Space Health (BRASH), Translation Research Institute for Space Health, Baylor College of Medicine, Houston, TX

2019-present Reviewer: Robert Wood Johnson Foundation, Princeton, NJ

HONORS AND AWARDS

1996 Best Paper, World Conference on Education and Hypermedia, Boston, MA

1996 GOLD CINDY – Graphics Animation Category, International Association of Audiovisual Communications

2007 Bronze Award – World Wide Web Health Award, Health Information Resource Center

2007-2009 Research Fellow, Interactive Media Studies Armstrong Interactive Media Studies Program
Miami University Oxford, OH

2012 Champion of Change – Local Innovation, The White House

2012 Smarter Cities Challenge Winner – Louisville Smart Inhaler Program, IBM

2014 Top 25 Doers, Dreamers & Drivers in Public Sector Innovation, Government Technology Magazine

2014-2016 Community Fellow for Energy and the Environment, Conn Center for Renewable Energy Research, University of Louisville, Louisville, KY

2015 LUNGFORCE Champion Award– American Lung Association, Midwestern States

2019 SummerWorks Champion – KentuckianaWorks, Louisville, KY

COMMITTEE ASSIGNMENTS AND ADMINISTRATIVE SERVICES

University

2013 Member, Search Committee for Associate Vice President of Research Initiatives, University of Louisville

2019 Member, INVEST Workgroup, Strategic Plan, University of Louisville

2019-Present Member, UofL IBM Global Education and Skills Academy
Leadership and Implementation Team Steering Group

2019-Present Co-Chair, Grand Challenges Subcommittee, University of Louisville

2020-Present Member, Strategic Planning Committee, School of Medicine, University of Louisville

2020-Present Co-Chair, INVEST Strategy I2 Subcommittee, University of Louisville

Non-university

1999-2003 National IT Skills Standards Advisory Board, Northwest Center for Emerging Technologies,
National Science Foundation

2003-2005 Member, Social Network Analysis Roundtable, University of Virginia, Charlottesville, VA

2006-2008 Member, Board of Directors, Louisville Science Center, Louisville, KY

May, 2011 Member, Organizing Committee, 2011 Health DATAPALOOZA, Institute of Medicine and U.S.
Department of Health and Human Services

2012-2018 Member, Board of Directors, Enterprise Corp, Greater Louisville Inc., Louisville, KY

2012-2013 Chair, Board of Directors, Parking Authority of the River City (PARC), Louisville, KY

2012-2015 Member, Board of Directors, KentuckianaWorks, Louisville, KY

2012-2016 Member, Board of Directors, XLerate Health, Louisville, KY

2016-2019 Member, Board of Directors, Goodwill Industries of Kentucky, Louisville, KY

2016-2018 Member, Board of Directors, Association for Talent Development (ATD), Arlington, VA

March, 2017 Member, Organizing Committee, Sharing Knowledge to Build a Culture of Health Conference,
Robert Wood Johnson Foundation, Princeton, NJ

2017-2018 Co-Chair of Board of Directors, Institute for Healthy Air, Water and Soil, Louisville, KY

2018-2019 Workgroup Co-Director, Strengthen Built & Natural Infrastructure that Promotes Health and
Wellbeing, Resilient Louisville, Office of the Mayor, Louisville Metro Government. Louisville, KY

2018—present Member, City Advisory Committee, City Health Dashboard Program, NYU School of Medicine,
New York, NY

2018-present	Member, Environmental Equity Workgroup, Louisville Healthy 2025, Louisville Metro Public Health and Wellness Department, Louisville Metro Government, Louisville, KY
2018-present	Member, Scientific Advisory Board, Translation Research Institute for Space Health, Baylor College of Medicine, Houston, TX
2019	<u>Chair</u> , Organizing Committee, Spaces in Space: Optimizing Behavioral Health & Cognitive Performance in Confined Environments, Massachusetts Institute of Technology, Cambridge MA
2019	Member, Program Committee, Superfund Research Program Annual Meeting, Seattle, Washington
2019-present	Member, Board of Directors, Transportation Authority of the River City (TARC). Louisville, KY

EDUCATIONAL ACTIVITIES

N/A

Teaching

Undergraduate

1991-1992	General Psychology; 4 week summer sprint course (12 lectures), Thomas More College Perceptual Psychology; 4 week summer sprint course (12 lectures), Thomas More College Gender Roles; 4 week summer sprint course (12 lectures), Thomas More College
1992-1993	Psychological Issues and New Technology (20 lectures), Tufts Experimental College, Medford, MA
1992-1994	General Psychology; Semester Course (30 lectures), Suffolk University, Boston, MA

Graduate School

2013-2015	Economics of Health Sector Management (5 lectures), MBA concentration, College of Business, University of Louisville Health Sector Information: Exchange, Security and Privacy (5 lectures), MBA concentration, College of Business, University of Louisville
2016	Leading Innovation and Creativity in a Competitive Marketplace (10 lectures), Ed.D. Leadership Program, Spalding University, Louisville, KY

Continuing Medical Education

2019	Living in Green Places and Improved All-Cause Mortality, Norton Healthcare Sixth Annual Integrative Health & Wellness Symposium: Holistic and Wellness Strategies for You and Your Patients (one lecture), Louisville, KY
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Students/Trainees

Past Trainees

N/A

Current Trainees

N/A

CLINICAL ACTIVITIES

N/A

GRANTS AND CONTRACTS

As Principal Investigator

1. Preflight Adaptation Training
National Aeronautics and Space Administration, NGT-50427
7/1/90-6/30/92 Annual Direct Cost \$ 20,000

	Total Direct Costs	\$ 60,000
<u>Status:</u> Completed		
2. Spatial Orientation during Simulated GPS Instrument Approaches		
U.S. Department of Transportation VNTSC-57-92-C-00054		
10/1/93-9/30/94	Annual Direct Cost	\$ 50,000
	Total Direct Costs	\$ 50,000
<u>Status:</u> Completed		
3. Founder's Distillery: New Approaches for Vetting Start-Ups"		
Ewing Kauffman Foundation		
3/1/13-6/30/13	Annual Direct Cost	\$ 26,000
	Total Direct Costs	\$ 26,000
<u>Status:</u> Completed		
4. Identifying Regional Environmental Drivers of Asthma and Chronic Obstructive Pulmonary Disease and Improving Outcomes in Louisville, Ky		
Robert Wood Johnson Foundation 71592/73423		
10/15/14-7/14/17	Annual Direct Cost	\$ 336,656
	Total Direct Costs	\$ 841, 640
<u>Status:</u> Completed		
5. Digital Health Tools and Digital Phenotyping.		
Apellis Pharmaceuticals ULRF No. OIEN190909		
04/01/19-03/31/20	Annual Direct Cost	\$ 38,468
	Total Direct Costs	\$ 38,468
<u>Status:</u> Funded		
6. Dietary and Exercise Countermeasures to Inflammation.		
NASA EPSCoR Research Area		
8/2020-7/2023	Annual Direct Cost	\$419,000
	Total Direct Costs	\$1,253,000
<u>Status:</u> Pending		

As Collaborator

1. Development and Implementation of Preflight Adaptation Training (P.I. Donald Parker)		
National Aeronautics and Space Administration NAG-9-446		
10/01/1992 - 9/30/1993	Annual Direct Cost	\$ 79,043
	Total Direct Cost	\$ 158,086
<u>Status:</u> Completed		
2. Role of Visual Cues in Spatial Orientation (P.I. Charles Oman)		
National Aeronautics and Space Administration NAS9-19536		
10/1/1995-9/31/1999	Annual Direct Cost	\$ 235,135
	Total Direct Cost	\$ 940,540

Status: Completed

3. Inclusive and responsive methods to reduce blighted and vacant properties (P.I. Greg Fischer)

Living Cities

8/01/2015-7/30/2016

Annual Direct Cost

\$ 45,000

Total Direct Cost

\$ 45,000

Status: Completed

4. Longitudinal Evaluation of Environmental Cardiovascular Disease Risk (LUCID)

NIH

7/1/20 – 6/30/25

Annual Direct Cost

\$1,908,468

Total Direct Cost

\$9,542,341

Status: Pending

As Consultant

N/A

As Mentor

N/A

PATENTS

1. **Carpenter-Smith; Theodore R.**, Gombar; Michael John, Fisher; James B., Barfield; Thomas M. System and method for interactively transforming a system or process into a visual representation. U.S. 5,838,973 Issued Nov 17, 1998
2. **Smith, Theodore R.**, and Christopher Lavenson, Notifications for reducing overflows from combined sewer systems and sanitary sewer systems U.S. 62/135,592 Issued Mar 20, 2015

EDITORIAL WORK

Scientific Review

Healthcare: The Journal of Delivery Science and Innovation

Editorial Board

Interactive Learning Environments

Invited Lectures at National/International Meetings

- The Age of Integrated Delivery: Content as Commodity. Invited Keynote: The 13th Annual Conference on Distance Teaching & Learning, Madison, WI, August, 1997.
- Integrated Internet Delivery: Learner as Employee and Retail Consumer. Invited Keynote: The 10th Anniversary of the Rensselaer Polytechnic Institute Continuing Education Program. Troy, NY, November, 1997
- Reflections on the ethics of sustainable development. *Ethics in Action*, Pontifical Academy of Sciences, Vatican: The Holy See, Rome, Italy. 2018
- Smart & Healthy Cities. Harvard Smart Cities Innovation Accelerator, Las Vegas, NV 2019

- UN Sustainable Development Goals, the Urban Agenda, and City Innovators Harvard Smart Cities Innovation Accelerator, Harvard University, Cambridge, MA, 2019

Invited Seminars (National/International)

N/A

PUBLICATIONS

Articles Published in Peer-Reviewed Journals

1. Wall, C., **Smith, T.R.** and Furman, J.M. Plasticity of the human otolith-ocular reflex. *Acta Otolaryngol.* 112(3), 413-20, 1992
2. **Carpenter-Smith, T.R.**, Futamura, R.G. and Parker, D.E. Inertial Acceleration as a measure of linear vection: An alternative to magnitude estimation. *Perception & Psychophysics*, 57 (1), 35-42, 1995
3. Oman, C. M., I. Howard, **Carpenter-Smith, T.**, Beall, A., Natapoff, A., Zacher, J. and Jenkin, H. Neurolab experiments on the role of visual cues in microgravity spatial orientation. *Aviat Space Environ Med*, 71(3): 283, 2000.
4. **Smith, T.**, Coyle, J.R., Lightfoot, E. and Scott, A., Reconsidering Models of Influence: The relationship between consumer social networks and word-of-mouth effectiveness. *Journal of Advertising Research*, 47 (4), 387-395, 2007
5. Wong,H, Bakare, A, Benoit, C, Wang, J, **Smith,T**, McCready,S, Guo,H, Yu, Q, Speed, T, and Kaplin, AI. Evidence-based Medicine—Short Message Service Texting Ascertains Student Mood Fluctuations over the Winter Holiday Season. *iHealth Connections*, 2(1):65–9, 2012
6. Coyle, J. R., **Smith, T.**, & Platt, G. “I’m here to help” How companies' microblog responses to consumer problems influence brand perceptions. *Journal of Research in Interactive Marketing*, 6(1), 27-41, 2012
7. Van Sickle, D., Su, J., Barrett, M., Humblet, O., Henderson, K., **Smith, T.** Impact of a mobile health pilot study on asthma rescue inhaler use, control and self-management, *European Respiratory Journal* 46 (59) 2528, 2015
8. Van Sickle, D., Barrett, M., Humblet, O., Su, J., Henderson, K., & **Smith, T.** Impact of a mobile health and sensor-driven asthma management pilot study on symptoms, control, and self-management. *Journal of Allergy and Clinical Immunology*, 137(2), AB9, 2016
9. Barrett, M.A., Henderson, K., Humblet, O., Hogg, C., Nesbitt, L., Su, J.G., **Smith, T.**, Sublett, J.W., Sickle, D.V., & Sublett, J.L. Feasibility of deploying inhaler sensors to identify the impacts of environmental triggers and built environment factors on asthma short-acting bronchodilator use. *Environmental Health Perspectives*. 125(2), 254-261, 2017
10. Barrett, M. A., Humblet, O., Marcus, J. E., Henderson, K., **Smith, T.**, Eid, N., ... & Stempel, D. Effect of a mobile health, sensor-driven asthma management platform on asthma control. *Annals of Allergy, Asthma & Immunology*, 119(5), 415-421, 2017
11. Swaminathan S., Qirko K., **Smith T.**, Corcoran E., Wysham N.G., Bazaz, G. A machine learning approach to triaging patients with chronic obstructive pulmonary disease. *PLoS ONE* 12(11): e0188532, 2017
<https://doi.org/10.1371/journal.pone.0188532>
12. **Smith, T. R.**, & Bhatnagar, A. Enviromics: a new approach for understanding aging. *Aging*, 11(1), 9, 2018
13. Yeager, R. A., **Smith, T. R.**, & Bhatnagar, A. Green Environments and Cardiovascular Health. *Trends in cardiovascular medicine*. 2019
14. **Smith, T.**, Mattingly, T. J., & Slabaugh, L. Improving health determinants outside of the clinic does not mean outside of clinical science. *Healthcare*. Elsevier. June, 2019.
15. Kumar, A., Wang, M., Riehm, A., Yu, E., **Smith, T.**, Kaplin, A. Validation of the Novel and Automated Mobile Mood Tracking Technology “Mood 24/7” *Journal of Medical Internet Research* IN PRESS
16. Su, J., Henneman, L., Zigler, C., Neophytou, A., Catalano, R., Gondalia, R., Chen, Y., Moyer, S., Combs, V., Simrall, R., **Smith, T.**, Kaye, L., Sublett, J., & Barrett, M. Improved asthma outcomes observed in the vicinity of coal power plant retirement, retrofit, and conversion to natural gas. *Nature Energy* IN PRESS

Commentaries

N/A

Books and Book Chapters

1. Oman, C. M., I. Howard, **T. Smith**, A. Beall, A. Natapoff, J. Zacher and H. Jenkin. (2003). The Role of Visual Cues in Microgravity Spatial Orientation. *The Neurolab Spacelab Mission: Neuroscience Research In Space*. J. Buckley and J. Homick, Eds. Houston, TX, NASA Johnson Space Center. NASA SP-2003-535: 69-82.

ABSTRACTS AND PRESENTATIONS

Abstracts

1. **Smith, T.** and Parker, D.E. The effects of unidirectional visual surround translation on detection of physical linear motion detection. *Annals of the New York Academy of Sciences*, 656, 817-819, 1992
2. **Carpenter-Smith, T.**, and Parker D.E. Development of a dependent variable to assess self-motion perception. 27th Meeting of the Barany Society, Prague, Czechoslovakia, June, 1992
3. **Carpenter-Smith, T.**, E. Katz, D. Merfeld, C. M. Oman and K. A. Polutchko. Perceived velocity in linear translation is affected by temporal frequency. Society for Neuroscience 23rd Annual Meeting. November, 1993
4. **Carpenter-Smith, T.R.**, and McDowell, M. A Virtual Reality Tool for Visualizing Technical Design Concepts. *Second International Conference on the Learning Sciences (ICLS 96)*, Evanston, IL, July, 1996
5. **Carpenter-Smith, T.R.** Scalable Distance Learning Approaches. *Distance Learning - The Strategic Revolution in Professional Development and Employee Education*, Massachusetts Institute of Technology, November 1996
6. **Carpenter-Smith, T.R.** Technologies that Redefine Professional Education. *Technology Assisted Learning*, February, 1997
7. Oman, C. M., Howard, I., **Carpenter-Smith, T.** and Beall, A. Neurolab Experiments on the Role of Visual Cues in Microgravity Spatial Orientation. *12th Man-In-Space Symposium*, "The Future of Humans in Space", Washington, DC, 1997
8. **Smith, T.R.** and Harkins, P. The Learning Organization: Managing and Developing Human Capital. *The 83rd Annual Conference of the University Continuing Education Association*, Chicago, IL, April, 1998.
9. Oman, C. M., Howard, I., **Carpenter-Smith, T.**, Beall, A., Natapoff, A., Zacher, J. and Jenkin, H. Role of visual cues in microgravity spatial orientation. *NASA STS-90 Neurolab Spacelab Mission Symposium*, National Academy of Sciences, Washington, DC, 1999
10. Liu, A., Oman, C.M., Beall, A., Howard, I., **Smith, T.**, Young, L.R., Harris, L. and Jenkin, H. Human Orientation in Prolonged Weightlessness (ISS HRF-E085). *Conference on International Space Station Utilization*, American Institute for Aeronautics and Astronautics, Cape Canaveral, FL, 2001
11. Oman, C. M., Howard, I.P., **Smith, T.**, Beall, A., Natapoff, A., Zacher, J. and Jenkin, H. STS-90 Experiments on the Role of Visual Cues in Microgravity Spatial Orientation. *USRA Bioastronautics Investigators Workshop*, Universities Space Research Association, Division of Space Biomedicine. Galveston, TX, 2001
12. **Smith, T.**, How Technology-Purchasing Decisions Are Really Made (Social Network Analysis) *Network Roundtable of the University of Virginia Spring Meeting*, Boston, MA, April, 2006

13. **Smith, T.** How Context Helps Turn on a Mind. *AAAA/ARF Consumer Engagement Conference*, New York, NY, September, 2006
14. **Smith, T.** Why Consumers Cannot Resist Giving Advice – Social Networking Demystified. *Advertising Research Foundation Annual Meeting Re:think*, New York, NY, April, 2007.
15. Bertot, J. C., McDermott, P., & Smith, T. (2012, January). Measurement of open government: Metrics and process. In *45th Hawaii International Conference on System Sciences* (pp. 2491-2499). IEEE, 2012
16. Van Sickle, D., and **Smith, T.** Louisville Asthma Data Innovation Project. *Health Datapalooza IV*, Washington DC, June, 2013
17. Van Sickle, D, **Smith, T.** and Barrett, M. Louisville asthma data initiative – a municipal digital health program to improve self-management and public health surveillance of asthma. *American Public Health Association (APHA) Annual Meeting*, Boston, MA, 2013
18. Nesbitt, L, Barrett, M, Humblet,O, Marcus, J, **Smith, T.** and Van Sickle, D Technology-driven asthma data can support surveillance efforts: The public health perspective. *American Public Health Association (APHA) Annual Meeting*, New Orleans, LA, 2014
19. **Smith, T.**, Marcus, J., Barrett, M., Humblet,O., and Van Sickle, D. Technology-driven asthma data program to inform regional policy: The municipal perspective *American Public Health Association (APHA) Annual Meeting*, New Orleans, LA, 2014
20. Van Sickle, D., Barrett, M., Marcus, J, Humblet,O and **Smith, T.** Impact of a technology-driven asthma program on symptoms, control and self-management: The clinical perspective. *American Public Health Association (APHA) Annual Meeting*, New Orleans, LA, 2014
21. Barrett, M., Humblet,O., Marcus, J., **Smith, T.** and Van Sickle, D. Exploring drivers of asthma in Louisville with spatially-explicit, real-time data: The environmental perspective. *American Public Health Association (APHA) Annual Meeting*, New Orleans, LA, 2014
22. Van Sickle, D., Su, J., Barrett, M., Humblet, O., Henderson, K., **Smith, T.** Identifying environmental drivers of asthma hotspots in Louisville, Kentucky, using sensors to capture spatially-explicit, real-time data on inhaler use: AIR Louisville program. *American Public Health Association (APHA) Annual Meeting*, Chicago, IL, 2015
23. **Smith, T.**, LaJoie, S., Yeager, R., Clark, L., Heberle, L., Bhatnagar, A. Translating primary research directly to the community: city on science community journal club approach and preliminary results. *NIEHS Superfund Research Program Annual Meeting*, Seattle, WA, 2019.