

Richard L. Corsi, PhD, P.E.

Chair, Department of Civil, Architectural and Environmental Engineering
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EDUCATION & EXPERIENCE

EDUCATION

- University of California, Davis Civil/Environmental Engineering **PhD 1989**
Minors: (1) Atmospheric Science, (2) Computational Fluid Dynamics
PhD advisor: Daniel P.Y. Chang (retired)
 - University of California, Davis Civil/Environmental Engineering **MS 1985**
 - Humboldt State University Environmental Resources Engineering **BS 1983**
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ACADEMIC EXPERIENCE

- Professor, Civil, Architectural & Environmental Engineering, U of Texas **9/02 to present**
 - Associate Professor, Civil Engineering, U of Texas **9/97 to 8/02**
 - Assistant Professor, Civil Engineering, U of Texas **1/94 to 8/97**
 - Assistant Professor, Environmental Engineering, U of Guelph **6/90 to 12/93**
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LEADERSHIP EXPERIENCE

- Chair, Dept. Civil, Architectural & Environmental Engineering (CAEE) **11/13 to present**
Responsible for everyday management, faculty hiring, promotion oversight, implementation of strategic vision, oversight of organized research unit for 13 faculty members, and fund raising for nationally-ranked department of 56 faculty members, 18 staff members and 1200 students.
- Co-Director, UT Center for Sustainable Development **9/13 to present**
Responsible for co-direction of center in the UT School of Architecture, including co-facilitation of weekly meetings, planning of center initiatives, and developing links between faculty and students in community and regional planning and CAEE.
- Chair of Strategic Planning Committee, Department of CAEE **9/12 to 5/13**
Responsible for two-semester committee activities that led to a detailed vision for the future of the Department of Civil, Architectural and Environmental Engineering at UT. Pillars of the program include grand challenges associated with water, energy, and rapid growth of cities, the connections between these challenges, and their relationship to infrastructure and systems.

- President, Indoor Air 2011 **8/08 to 6/11**
Indoor Air is a triennial conference series that moves around the globe. In 2008 Dr. Corsi was named president of Indoor Air 2011 and was responsible for planning, implementing, and raising nearly \$300,000 in sponsorship for the conference held in Austin. Indoor Air 2011 was attended by 1,000 delegates from 47 countries, including 270 graduate students from around the world. Students at UT played a major role in development of the Indoor Air 2011 Student Program.
 - Director, IGERT Program on Indoor Environmental Science & Engineering **6/06 to 10/12**
Responsible for development, organization, and management of interdisciplinary NSF-funded program that involved 22 PhD students (and additional 20 affiliates) and faculty from six different colleges or schools and seven academic departments at UT. Facilitated holistic educational experience (curriculum, research, outreach) for program participants.
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OTHER PROFESSIONAL EXPERIENCE

- Consultant – Advised on various projects related to indoor air quality (Kelly Air Force Base, Lennox, USEPA, private individuals/residential issues related to indoor air quality) (1998 – present)
- Consultant – Advised on various projects related to VOC emissions from wastewater (sub-contractor to CH2M-Hill, Malcolm-Pirnie Engineers, Enviromega Ltd., East Bay Municipal Utility District, amongst others) (1989 – 2008)
- CH2M-Hill (Emeryville, CA office) (1989/90) – Developed seminal version of the Bay Area Sewage Treatment Emissions (BASTE) model that was initially employed to estimate emissions of hazardous air pollutants (HAPs) from 26 publically-owned treatment works (POTWs) in Northern California. The model has since been updated and used to estimate HAP emissions from POTWs across the United States.
- California Air Resources Board, Data Analysis and Modeling Branch (1985/86) – Developed and applied an integrated model to estimate emissions of parathion, downwind transport and transformation to paraoxon, and related inhalation exposure of migrant farm workers in California's San Joaquin Valley.

TEACHING AND MENTORING

Dr. Corsi takes great pride in being the best teacher and mentor that he can be. He particularly enjoys teaching undergraduate courses on the topics of fluid mechanics and indoor air quality. For the past several years he has served as faculty advisor to the University of Texas student chapter of Engineers for a Sustainable World (ESW), and is a strong believer in involving undergraduate students in research. His efforts have led to numerous major teaching, education, and mentoring awards as described later in this CV.

COURSES TAUGHT AT UT*

- *Elementary Fluid Mechanics* (Year 2)
- Introduction to Environmental Engineering (Year 3)
- *Indoor Air Quality* (Year 4)
- Air Pollution Engineering / Air Quality (Year 4)
- Sources of Air Pollution (Grad)
- Atmospheric Dispersion Modeling (Grad)
- *Indoor Air Quality: Physics and Chemistry* (Grad)
- *Human Exposure to Airborne Pollutants* (Grad)
- Indoor Air Quality: Field Measurements (Grad)
- *Technical Exchange & Professional Development* (Indoor Environments) (Grad)

(* course level in parentheses)

Italicized courses are “active”, i.e., courses taught during past 3 years.

STUDENT SUPERVISION

- *Ph.D. Students*: Advisor to 19 Ph.D. students, 16 of whom have completed the Ph.D. degree and three additional Ph.D. students currently in progress.

Past Ph.D. students have remained active in research and practice, including positions at Iowa State University, Penn State University, National University of Kaohsiung (Taiwan), National Institute of Standards & Technology, USEPA National Exposure Research Lab, Oak Ridge National Laboratory, National Research Council of Canada, AECOM, CH2M-Hill, ICF International, and more.

- *M.S. Students*: Advisor to 50 students who have completed or are completing the M.S. degree.

Past M.S. students have either gone on to complete or are currently in Ph.D. programs, or are

largely working in consulting and industry.

- *Undergraduate Students*: Research advisor to 47 undergraduate students who have served on “Team Corsi” during summer terms and/or the academic year.

Many past undergraduate students have gone on to graduate school, and seven have received National Science Foundation fellowships to pursue Ph.D. degrees at UT and elsewhere.

DOCTORAL DISSERTATIONS COMPLETED

- Cost-Benefit Analysis of In-Duct Ozone Removal (**Joshua Aldred**, 8/2015)
- VOCs, Ventilation, and Ozone in Retail Stores (**Elena Nirlo**, 5/2014; co-advised w/ Jeff Siegel)
- Ozone Transport to and Removal in Porous Materials with Applications for Low-Energy Indoor Air Purification (**Elliott Gall**, 5/2013; co-advised w/ Jeff Siegel)
- *p*-Dichlorobenzene and Naphthalene: Emissions and Related Primary and Secondary Exposures in Residential Buildings (**Priscilla Guerrero**, 5/2013)
- Human Exposure to Toxic Chemicals during Cleaning Activities (**Matt Earnest**, 5/2013)
- The Use of Selected Materials to Reduce Human Exposure to Ozone and Oxides of Nitrogen (**Clement Cros**, 5/2013; co-advised w/ Maria Juenger)
- Human Exposure to Air Toxics in Residential Buildings (**Diana Hun**, 2011; co-advised w/ Jeff Siegel)
- Physics and Chemistry of Green Building Materials (**Chi Hoang**, 2009; co-advised w/ Kerry Kinney)
- Refueling and Evaporative Emissions of Volatile Organic Compounds from Gasoline-Powered Motor Vehicles (**Christopher J. Quigley**, 2007)
- Emissions of 2,2,4-Trimethyl-1,3-pentanediol monoisobutyrate from Latex Paint (**Chi Chi Lin**, 2006)
- Ozone Interactions with HVAC Filters (**Zhao Ping**; co-advised w/ Jeff Siegel)
- Building Disinfection Chemistry: Heterogeneous Consumption of Gaseous Disinfecting Agents and Resulting By-Product Formation (**Heidi Hubbard**, 2006)
- Fine Particle Formation in Indoor Environments: Levels, Influencing Factors and Implications (**Md. Golam Sarwar**, 2002)
- In-Home Formation of Halogenated Volatile Organic Compounds (VOCs): Implications for Human Exposure and Indoor Air Quality (**David A. Olson**, 2002)
- The Effects of Adsorptive Sinks on Human Exposure to VOCs in Indoor Air (**Doyun Won**, 1999)

- Volatilization Rates of Chemicals from Drinking Water to Indoor Air (**Cynthia L. Howard**, 1998)
 - VOC Emissions from Municipal Sewers: Hot Spots (**Jacek A. Koziel**, 1998)
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DOCTORAL DISSERTATIONS IN PROGRESS

- Balancing Energy Use and Indoor Air Quality in Tight Homes (**Mark Jackson**)
 - Natural Inorganic Materials as Passive Air Purifiers in Buildings (**Erin Darling**)
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EXAMPLES OF OTHER TEACHING & MENTORING ACTIVITIES

- **Director, National Science Foundation IGERT (Integrative Graduate Education and Research Traineeship) program** entitled *Indoor Environmental Science and Engineering – An Emerging Frontier* (2006-2012). This program was highly cross-disciplinary, involving Ph.D. students and faculty from six different schools or colleges at the University of Texas at Austin. Students and faculty in the program were from Cellular Biology, Communication Sciences, Community and Regional Planning, Engineering (Architectural, Civil, Environmental, Mechanical), Economics, Psychology, and Toxicology. A total of 22 Ph.D. students were funded over the entire course of the program. Sixty percent of the students were from groups identified as historically under-represented in STEM disciplines by the National Science Foundation. Importantly, students in the program completed several common courses with a focus on cross-disciplinary teams to complete small research projects, develop NSF proposals, and more.
- **President, Indoor Air 2011.** Dr. Corsi worked closely with 30 students from UT to plan a student program for the conference and to find innovative ways of involving students in conference activities. Innovations added to the conference series at Indoor Air 2011 included graduate students serving as co-chairs for each of the nearly 80 technical sessions at the conference, teaming them with chairs who are world-recognized experts in their field, allocation of two days of conference space/time for special sessions organized and implemented by students, organization of a student video competition that was used to start each plenary session, and more. The UT student organizers received a standing ovation from conference delegates at the closing ceremony of Indoor Air 2011.
- **Faculty Advisor to Student Organizations.** Dr. Corsi started and served as faculty advisor to the Longhorn Student Chapter of the Air & Waste Management Association (A&WMA) in the 1990s. A legacy of that effort has been a large number of undergraduate and graduate students at UT who have received scholarships from A&WMA or the Central Texas Chapter of A&WMA. Dr. Corsi served for three years as faculty advisor to the UT Student Chapter of Engineers for a Sustainable World (ESW), a student organization made up of mostly undergraduate students from across the Cockrell School of Engineering. Dr. Corsi has

worked closely with student leaders of ESW on several major initiatives and events, and in trying to coordinate activities with other organizations on the UT campus.

- **Outreach Activities.** Dr. Corsi is a strong believer in the importance of community outreach and has tried to impart this belief on his students. As such, he and his students have developed a series of educational tools that they use to excite high school students about engineering and science, and also use as demonstrations in public workshops. They have completed a number of workshops for My Introduction to Engineering (MITE), a UT program aimed at exciting high school students from historically-underrepresented groups about engineering. Similar workshops and demonstrations have been provided through the UT Women in Engineering Program, the UT Environmental Science Institute, Explore UT, and more. Dr. Corsi and his students have also worked with the Children's Environmental Health Institute (CEHI) in Austin to develop a rating program for hotel chains (in terms of reducing children's exposure to toxic chemicals), as well as numerous local schools (as science fair judges, assistance with development of indoor air quality examples for science courses, and more).
- **Teaching Abroad.** Dr. Corsi enjoys teaching students from other countries and cultures. Three examples are presented below:

In 2009 Dr. Corsi teamed with three other professors from Europe to teach a four-day course on indoor air quality to over 40 graduate students from Eastern European countries. The course was held in the mountains of Bulgaria near a World Heritage Site. Some of the students in that course have since visited Dr. Corsi at UT as guest researchers, and have co-authored papers with students at UT.

In 2010 Dr. Corsi teamed with a professor from Rutgers University and taught an all-day lecture on indoor air quality to over 60 master's students at the Technical University of Denmark.

In 2013 Dr. Corsi taught a five-hour workshop on indoor air quality to a mix of bachelors, masters, and doctoral students from the Technical University of Munich (TUM). The next day he delivered a 90 minute evening Impulse Lecture to an audience of 200 attendees, a majority of whom were undergraduate and graduate students from the TUM.

RESEARCH ACTIVITIES & INNOVATION

Dr. Corsi's research interests have evolved over his career, starting in the realm of cross-media contaminant transport and toxic chemical emissions to outdoor air, and later focusing on indoor air quality and chemical reactions that occur in buildings. His expertise includes sources, fate and control of indoor air pollution, sources and fate of outdoor air pollution, and the fate of organic contaminants in municipal and industrial wastewater. Studies have involved a wide range of scales and methods, including bench-scale, pilot, and field experiments, and mathematical/computer modeling. Dr. Corsi has served as principal investigator on over 70 funded research projects with total funding of approximately \$12 million over the past 24 years. This funding has supported and helped to train over 110 students in research, many of whom remain active in research in their own careers. Funding sources have been diverse, including federal and state agencies, industry, and not-for profit organizations. Some examples are provided below

EXAMPLES OF PROJECTS

- Healthy High School PRIDE (Partnership in Research on InDoor Environments) (Grant number 83563801-0), U.S. Environmental Protection Agency (current)
- Cost Benefit Analysis of Commercially Available Ozone Air Cleaning for HVAC Systems (Project 1491-RP) (American Society for Heating, Refrigerating, and Air Conditioning Engineers [ASHRAE])
- A Novel and Cost Effective Approach to Reduce the Exposure of Texans to Ozone (Norman Hackerman Advanced Research Program)
- Development and Implementation of a New Protocol for Testing the Air Quality Implications of Green Building Materials (US Green Building Council)
- Building Contamination and Decontamination Options associated with Methamphetamine Labs (NIST)
- Building Disinfection By-Products: Experimental Evaluation and Decision Tool (U.S. Department of Defense)
- Volatilization of Chemicals from Drinking Water to Indoor Air (USEPA)
- Indoor Air Quality in Elementary Schools (Texas Higher Education Coordinating Board)
- Measurement of TCE Concentrations in Residential Buildings above TCE Groundwater Plumes in Grand Prairie, Texas (Texas Environmental Health Institute)
- Soil Vapor Intrusion Field Studies and Exposure Implications (British Petroleum)
- Sorptive Interactions between Texanol and Gypsum Board (Eastman Chemical)
- Sorptive Interactions between VOCs and Indoor Materials (American Chemistry Council)
- Sorptive Interactions between Chemical Warfare Agents and Indoor Materials (USEPA)

- Sorptive Interactions Between VOCs and Indoor Materials (British Petroleum)
 - The Efficacy of Vacuum Cleaning Technologies for Removing Lead Particles from Carpet (USEPA)
 - Indoor Secondary Organic Aerosol Formation (Texas Air Research Council)
 - Ozone Deposition to Built Environment Surfaces (Air Quality Research Program of Texas)
 - VOC Emissions from Industrial Process Drains (Shell Oil Company)
 - VOC Emissions from Municipal Sewers (USEPA)
 - Ammonia Emissions in Pine Forests of East Texas (Texas Commission on Environmental Quality)
 - Gasoline Evaporative and Refueling Emissions from Automobiles (Texas Commission on Environmental Quality).
 - Emissions of Hazardous Air Pollutants from Refinery Bioreactors (Texas Commission on Environmental Quality).
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INNOVATIONS IN RESEARCH

Throughout his career Dr. Corsi and his students have focused on research that is unique, fills important knowledge gaps, and/or that addresses environmental issues from perspectives that are different from the norm (outside the box).

Early career research related to **toxic chemical emissions from municipal and industrial wastewater**. Dr. Corsi developed the first version of the Bay Area Sewage Treatment Emissions (BASTE) model, a novel model that is adaptable to all wastewater treatment plant configurations. BASTE was used to estimate emissions of hazardous air pollutants (HAPs) from 26 publically-owned treatment works (POTWs) in Northern California and has since been used in numerous other U.S. cities. Dr. Corsi's team was later the first to predict, and then confirm with field studies, toxic hot spots associated with chemical emissions from public sewer systems. These studies also involved the release and tracking of deuterated chemicals in municipal sewers in Toronto and Austin to quantify emissions potential and liquid-phase mass transfer coefficients. Dr. Corsi later turned his attention to fugitive emissions of hazardous air pollutants from inside-battery-limit process drains and outside-battery-limit sewers in petroleum refineries and chemical manufacturing facilities. Dr. Corsi's efforts led to significant advances in estimation methods for chemical emissions from both municipal and industrial wastewater collection systems, and to improved estimation algorithms in computer codes used to determine such emissions (both a standard USEPA model and commercial models used by industry and consultants).

Dr. Corsi's team was the first to develop a series of models for estimating **human inhalation exposure to toxic chemicals emitted from public drinking water supplies**, including the roles of washing machines, dishwashers, wash basins, bath tubs, and showers. To support these models his team completed sophisticated experiments to derive fundamental model parameters,

e.g., gas- and liquid-phase mass transfer coefficients, based on a unique application of a dissolved cocktail of chemicals with a designed fingerprint of physicochemical properties. They later were the first to characterize the role of chlorine-containing bleaches on the formation and release of (large amounts) of chloroform from washing machines and dishwashers, including the role of residual food groups on chloroform formation in dishwashers. Dr. Corsi and his team showed that inhalation exposure (and dose) of chloroform due to water uses often rivals or exceeds dose associated with ingestion of chloroform in drinking water. Their efforts led to advancements in conventional EPA exposure algorithms to predict human exposure to toxic chemicals.

Dr. Corsi and his students also made major contributions to better understanding the **interactions of volatile organic compounds (VOCs) with a wide range of building materials**, effectively doubling the existing database for such interactions at the time. Dr. Corsi has also been an international leader in understanding the fate of chemicals in architectural coatings following their penetration into underlying porous substrates, even collecting “legacy” samples that are 10 to 20 years old from buildings across the United States and analyzing them for original components of latex paints and related hydrolysis products. He and his students have extended their research of pollutant interactions with indoor materials to the contamination and decontamination of homes with methamphetamine, including research related to the effects of architectural coatings and extreme environmental conditions on desorption of methamphetamine from contaminated gypsum board.

Dr. Corsi and his team contributed greatly to knowledge related to the **chemistry of building decontamination** following *Bacillus anthracis* releases in office buildings and post offices in the fall of 2011. They completed first-ever experiments on the interactions between 24 building materials and four possible building decontamination agents, including the eventual agent of choice for whole-building decontamination (chlorine dioxide). Experiments involved detailed analyses of decontamination agent uptake by building materials, a phenomenon that impacts the effectiveness of decontamination, as well as reaction products and their persistence. Important findings included knowledge that at high concentrations, even under dark conditions, chlorine dioxide can become unstable and yield chlorine radicals that lead to the formation of some chlorinated reaction products when interacted with building materials. The formation of hydrochloric acid was observed to lead to the corrosion of thin-plated copper slides in experimental chambers. An important outcome of this study was a software package named DADS (Decontamination Agent Decision Support), which allows for the design of improved building decontamination systems, including occupant re-entry planning to avoid excessive exposure to reaction products or decontamination agents themselves, e.g., in the case of methyl bromide.

Dr. Corsi has been one of a small number of researchers to significantly advance the knowledge base associated with the “**reactivity of buildings**”. He and his students were the first to take one of the most sophisticated outdoor atmospheric chemistry models (SAPRC-99) and apply it to building interiors, and then to complete a series of large chamber experiments to evaluate model predictions. Central to these experiments was measurement of the formation of indoor secondary organic aerosols (SOA) when realistic concentrations of indoor ozone chemically interact with selective terpenes or mixtures of terpenes associated with a range of popular consumer products.

Dr. Corsi coined the term “**near head chemistry**” to describe chemical reactions that occur between ozone and components of perfume and cologne, and conducted experiments to quantify increases in SOA near the breathing zone; these experiments earned an October 2006 centerfold in National Geographic.

Dr. Corsi and his students have also extensively studied **ozone reactions with indoor materials**, including carpet, painted gypsum board, cementitious materials, and bio-based green building materials. In doing so they have significantly advanced knowledge of ozone diffusion and reactions in porous materials, and have made insightful and novel contributions related to changes in material reactivity over extended use periods, and secondary emissions in the form of oxidized products. Dr. Corsi and past student Dr. Chi Hoang have even shown that accumulation of C=O reaction products on bamboo exposed to ozone can lead to increased susceptibility of related products to fungal growth.

Dr. Corsi and his students have used new knowledge related to the mechanistic behavior of indoor pollutants and materials to propose strategies for reducing occupant exposures to those pollutants. For example, they have championed the potential for and coined the term **passive removal materials (PRMs)** that can be used to remove pollutants from indoor air without an energy penalty, formation of harmful reaction products, or changes in susceptibility to biological growth. This concept is starting to catch on in the building science community, and Dr. Corsi takes pride in developing the concept through high quality science. He and his students have studied approximately 30 materials to date. For example, they have shown a strong link between the air quality performance of one PRM, a clay wall plaster, and improved perceptions of inhaled air by a large group of human panelists who were unaware of whether or how the air stream was treated. Dr. Corsi and his team is now working on the passive removal of formaldehyde by chemisorption to amino acids in sheep’s wool, a highly renewable resource that can be crafted into a wide range of indoor materials.

Dr. Corsi and his students are completing a study of **U.S. population exposure to ozone inside of residential, office and school buildings**. They have developed a novel model to predict indoor ozone chemistry and human exposure to ozone and its indoor reaction products in the presence and absence of various ozone control devices. By differencing, they have developed a means for estimating benefit/cost ratios (benefits = monetized improved health; costs = capital and replacement costs for technology, labor, and recurring energy costs) that will be used to determine the “population space” where such technologies should be utilized on specific types of buildings. This effort involves detailed modeling of the building stock and HVAC operational conditions in 12 American cities, and may serve to advance standards for indoor ozone removal through building codes.

Dr. Corsi and his students and colleagues at the University of Texas have been innovators in understanding **human exposure to a wide range of pollutants in the sleep microenvironment**, an environment where most humans spend at least 1/3 of their lives. They have used thermal, breathing manikins to study gaseous releases from mattresses and their transport to the breathing zone. Novel experiments have been completed to determine the impacts of both sleep position and bedding materials on thermal plume effects and inhalation intake fractions (mass of pollutant inhaled normalized by mass emitted). Additional experiments have involved determination of

flame retardant, phthalate, VOC, and cyanate emissions from baby crib mattresses, and re-suspension of seeded particles into the breathing zone following realistic sleep body position reorientations. Additional experiments have involved testing of personal air purifiers that treat indoor air and convey it around the head region while sleeping. This thread of research has gained significant attention in the exposure science community.

Finally, Dr. Corsi and his team have done significant research related **to indoor air quality in public schools**. Previous research in this area focused on indoor air quality in elementary schools and showed that 84% of 115 classrooms across 30 schools in Texas were significantly under-ventilated. Dr. Corsi and his team are now engaged in a novel four-year study of indoor environmental quality in eight high schools. The study is focused on linking indoor environmental quality measurements with student and staff health complaints, along with low-cost engineering solutions to reduce student and teacher exposures to harmful stressors in school indoor environments.

PROFESSIONAL AFFILIATIONS & SERVICE

RELEVANT PROFESSIONAL AFFILIATIONS

- American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE)
 - International Society of Indoor Air Quality and Climate (ISIAQ)
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UNIVERSITY SERVICE

Administrative

- Chair, Department of Civil, Architectural and Environmental Engineering (11/2013 – present).
- Co-Director, Center for Sustainable Development (9/2013 – present)
- Director, NSF IGERT Program on Indoor Environmental Science and Engineering (an interdisciplinary program funding Ph.D. students in Civil Engineering, Mechanical Engineering, Economics, Communications, Toxicology, and Community and Regional Planning) (2006-2012)

Other

Service on a large number of committees over the past 24 years. Recent examples:

- Chair, Strategic Planning Committee, Department of Civil, Architectural and Environmental Engineering (9/2012 to 7/2013)
 - Chair, Building Energy & Environment Faculty Search Committee (9/2012 – 3/2013)
 - Chair and member, Faculty Evaluation Committee, Civil, Architectural and Environmental Engineering (4 years)
 - Graduate Advisor, Environmental and Water Resources Engineering (Fall 2006 through Fall 2008).
 - Official Departmental Mentor to four assistant professors
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PROFESSIONAL/PUBLIC SERVICE

Dr. Corsi is active in several professional organizations and engages in significant service to profession. Examples are listed below:

- Associate Editor (present), *Indoor Air*
- Editorial Board (present), *Building and Environment*
- Editorial Board (present), *Building Simulation*
- Associate Editor (past), *Journal of the Air & Waste Management Association*
- Secretary, ISIAQ Academy of Fellows (ISIAQ = International Society for Indoor Air Quality and Climate).
- External Advisory Committee, Indoor Environments Program, Sloan Foundation (2009-present).
- Board of Directors, International Society for Indoor Air Quality and Climate (Vice-President for Professional Practice) (May 2006-September 2009)
- Board of Directors, N. Texas Chapter of the Allergy & Asthma Foundation of America (2006 – 2008)
- External Advisory Board, Environmental Resources Engineering, Humboldt State Univ. (2006 – present)
- Service on various committees of the Air & Waste Management Association (A&WMA), International Society for Indoor Air Quality and Climate (ISIAQ), Association of Environmental Engineering and Science Professors (AEESP), National Institute for Occupational Safety and Health (NIOSH), Association of Home Appliance Manufacturers (AHAM), and more.
- Reviewer for approximately 10 to 15 journal manuscripts annually, including submittals for the following journals: *Indoor Air*, *Buildings and Environment*, *Journal of the Air & Waste Management Association*, *Industrial and Engineering Chemistry Research*, *Environmental Science & Technology*, *Atmospheric Environment*, *International Journal of Heat and Mass Transfer*, *Journal of Environmental Health*, *Journal of Exposure Science and Environmental Epidemiology*, *Chemosphere*, *Environmental Progress*, the *New England Journal of Medicine*, *CLEAN – Soil, Air, Water*, and others.
- Proposal review panels: National Science Foundation (NSF), US Environmental Protection Agency (USEPA), National Institute for Occupational Safety and Health (NIOSH), Sloan Foundation
- Reviewer for external academic promotion cases (\approx 1-2/year)
- Large number of invited presentations around campus and in Central Texas each year. These include presentations to a wide range of audiences. Past examples include Department of Journalism (UT), School of Architecture, various student organizations at UT, UT Sustainability Symposium, My Introduction to Engineering (MITE) program, Texas Exes,

UT Environmental Science Institute, Texas Workmen's Compensation Agency (several times), Central Texas Mensa Society, Retired UT staff association, Austin Board of Realtors, Lakeway Men's Club, Society of Women Engineers, Texas Commission on Environmental Quality, Texas Department of State Health Services, Austin Independent School District, Children's Environmental health Institute (CEHI) conferences and workshops (several times), and more.

AWARDS & RECOGNITION

- Member, UT Academy of Distinguished Teachers (2015 – induction in fall 2015)
- William David Blunk Memorial Professorship, University of Texas (2015)
- Invited Plenary Speaker, ISHVAC-COBEE 2015, Tianjin, China (July 2015)
- Invited Closing Ceremony Speaker, Indoor Air 2014, Hong Kong (July 2014)
- Lockheed Martin Aeronautics Company Award for Excellence in Engineering Teaching, Cockrell School of Engineering, U of Texas (2013)
- Invited Plenary Speaker, ASHRAE IAQ 2013: Environmental Health in Low Energy Buildings, Vancouver, Canada (October, 2013)
- Invited Impulse Lecturer, Oskar von Miller Forum, Munich, Germany (May, 2013)
- Ervin S. Perry Teaching Award, Department of Civil, Architectural and Environmental Engineering, U of Texas (2013)
- Cockrell School Faculty Appreciation Award, awarded by the UT Student Engineering Council (2013)
- Departmental Teaching Award, Department of Civil, Architectural and Environmental Engineering, U of Texas (2010)
- University of Texas Professor of the Month (November), awarded by the UT Senate of College Councils (entire university) (2009)
- Otto Mønsted Visiting Professorship – Technical University of Denmark (2008-2010)
- Elected, Academy of Fellows, International Society for Indoor Air Quality & Climate (2008)
- Named President of Indoor Air 2011 by the ISIAQ Academy of Fellows (2008)
- Certification of Eminence, American Academy of Environmental Engineers (2007)

- Gold Medal, 10th Annual Innovative Instructional Technology Awards Program – IITAP 2007, The University of Texas (2007)
- Ervin S. Perry Teaching Award, Department of Civil, Architectural and Environmental Engineering, U of Texas (2007)
- Distinguished Alumnus, Humboldt State University (2006)
- Ervin S. Perry Teaching Award, Department of Civil, Architectural and Environmental Engineering, U of Texas (2006)
- Matlock Teaching Award, Department of Civil, Architectural and Environmental Engineering, U of Texas (2006)
- Student Appreciation Award, College of Engineering Students with Disabilities, U of Texas (2005)
- Student Engineering Council, Faculty Excellence Award, Received from students of Architectural Engineering, U of Texas (2005)
- Student Engineering Council, Faculty Excellence Award, Received from students of Civil Engineering, U of Texas (2004)
- Excellence in Review Award, Environmental Science & Technology (2004)
- Civil & Architectural Engineering Building Dedication Speaker, University of Missouri, Rolla (2003)
- AEESP Breakfast Speaker, Annual Meeting of the Air & Waste Management Association (2003)
- Gloyna Breakfast Speaker, Annual Meeting of the Water Environment Association of Texas (2000)
- CH2M-Hill Academic Excellence Award (1999)
- Ervin S. Perry Student Appreciation Award, Department of Civil Engineering, UT Austin (1999)
- Major advisor to recipient (Cynthia Howard) of the Academic Achievement Award, 1st Prize, Master's thesis, American Water Works Association (1996)

- Engineering Foundation Faculty Excellence Award (Teaching and Research), UT Austin (1996)
 - CH2M-Hill Office of Innovation Award (1996)
 - Professor of the Year, School of Engineering, U. of Guelph (1991)
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MEDIA CITATIONS AND INTERVIEWS

Dr. Corsi's research has received significant attention in the popular media. Some of these are citations/references to his work and others are direct interviews. Several examples follow:

Radio and Television

ABC (Australian Broadcasting Corporation) – Radio; CBC (Canadian Broadcasting Corporation) – Television series - The Nature of Things; Globosat Television (Brazil); Good Day Austin – local FOX affiliate; Indoor Air Radio (webcast) – twice; KUT News (U of Texas radio); National Public Radio - Science Friday; National Public Radio – Science Studio; Northeast Public Radio – The Academic Minute; Science Daily ABC (Australian Broadcasting Corporation) Radio, Salt Lake City Public Radio (two part), IAQ Radio (3 times), and more.

Print Media

Austin American Statesman; Business Week; China Daily News; CNN.com (CNN Health); Dallas Morning News; The Economist; Environmental Health News; Houston Chronicle; Men's Health; National Geographic; National Wildlife; Prevention Magazine; Redbook; San Diego Earth Times; San Francisco Chronicle; and more.

PUBLICATIONS

JOURNALS

1. Archer, N.P., Bradford, C.M., Villanacci, J.F., Crain, N., Corsi, R.L., Chambers, D.M., Burk, T., Blount, B.C., “Relationship between Vapor Intrusion and Human Exposure to Trichloroethylene,” *Journal of Exposure Science and Health – Part A* (accepted for publication).
2. Aldred, J.R., Darling, E., Morrison, G., Siegel, J.A., and Corsi, R.L., “Benefit-Cost Analysis of Commercially Available Activated Carbon Filters for Indoor Ozone Removal in Single-Family Homes.” *Indoor Air* (accepted for publication).
3. Cros, C.J., Terpeluk, A.L., Crain, N.E., Juenger, M.C.G., and Corsi, R.L., “Influence of Environmental Factors on Removal of Oxides of Nitrogen by a Photocatalytic Coating,” *J. Air & Waste Management Assoc.*, DOI: 10.1080/10962247.2015.1040524 (2015).
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