

Cecily M. Grzywacz

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SUMMARY

Senior research scientist with extensive experience in environmental monitoring and analytical chemistry. Specializes in the investigation of the potential risk of pollutants to cultural heritage especially in microenvironments. Recognized as an expert in indoor air quality (IAQ) monitoring, especially for preservation environments, and identification of organic colorants. Adept at experimental design and managing research projects. Excellent written and oral communication skills with extensive publication and presentation history. Manages inter-disciplinary (integrated) projects. Collaborates well with diverse professionals and lay people and often acts as a mediator or liaison at multi-disciplinary meetings. Mentors colleagues, students and interns to promote their professional growth. Effective teacher of principles of conservation science, preventive conservation, analytical chemistry, and air quality monitoring. Thrives in a challenging work setting dedicated to the pursuit of knowledge that will impact humanity and society.

CAREER HISTORY

Getty Conservation Institute (GCI), Los Angeles, CA

1985 – 2010

Operating program of The J. Paul Getty Trust that works internationally to advance conservation practice in the visual arts through scientific research, education and training, model field projects, and the dissemination of results of its work and others in the field.

Scientist (2000-2010)

Conducted research and disseminated results. Managed liquid chromatography systems. Disseminated research and research of department at regional, national and international conferences.

- Authored the book, *Monitoring for Gaseous Pollutants in Museum Environments*, summarizing 20 years experience of air quality monitoring for both outdoor and indoor-generated pollutants that is considered a landmark in the field and received positive reviews from major professional journals.
- Developed collaborative research project with The J. Paul Getty Trust Facilities Department to quantitatively determine the effectiveness and longevity of gaseous filtration media at The Getty Center that justified an increase in the filter replacement schedule from 1 to 3 years saving \$100,000 in annual operational costs.
- Created unique reference collection for Asian organic colorants by expanding collaboration from 2 to 7 international partners and 6 invited contributors that provided reference samples of the major classes of dyes and pigments. This resulted in an expanded systematic evaluation of non-invasive techniques for the identification of organic colorants from biological sources through networking and collaborations.
- Negotiated a Grant from the Getty Foundation to National Air Filtration Association (NAFA) to distribute 12,500 free copies of "Best Practices Guidelines for Libraries, Archives and Museums" to North American museums and libraries.
- Reduced laboratory operational costs as much as 80% by determining the cost per sample and critically evaluating which supplies were necessary.

Associate Scientist (1993-2000)

Managed the Air Pollution Analysis Laboratory and conducted research on museum environments and the impact of gaseous pollutants. Disseminated research and research of department at local, regional, national and international conferences.

- Designed and Managed first-of-its-kind multi-year collaborative project with the J. Paul Getty Museum Conservation Departments, The J. Paul Getty Trust Facilities, GCI Science and California Institute of Technology to conduct air quality monitoring at the new J. Paul Getty Museum at the Getty Center. Validated the hypothesis that testing all materials used in proximity to art will result in an environment free of indoor-generated pollutants and measured the effectiveness of the HVAC system to remove outdoor pollutants. Secured funds for this critical and unique study from the President's Office.
- Identified viable air quality monitoring methods for various skill levels of professionals to allow low-cost pollutant monitoring
- Set up Pollution Analysis Laboratory selected, purchased and led installation of instrumentation including HPLC components, LC/MS, ion chromatograph. Oversaw successful relocation of HPLC instrumentation from Marina del Rey facilities into Air Pollution Analysis Laboratory at The Getty Center.
- Ensured efficient laboratory workflow and productivity by improving procedures and documentation.

ADDITIONAL EXPERIENCE

Assistant Scientist, GCI (1987-1993)

Research Assistant, GCI (1985-87)

- Developed method and protocol for the identification of proteinaceous binding media from μg samples taken from paintings. Received MS degree based on the research.
- Expanded the GCI Training Program Preventive Conservation course material to include not only indoor-generated pollutants but also atmospheric chemistry and the risk of outdoor pollutants.
- Investigated indoor-generated pollutant concentrations using active sampling to quantify $\mu\text{g}\cdot\text{m}^{-3}$ concentrations of acetic acid, formic acid, formaldehyde and other low molecular weight aldehydes resulting in the awareness of the relative risk from gases based on materials and environment.

Safety Liaison to Trust Risk Management, GCI (2002-2003)

Developed, implemented and enforced new laboratory, health and safety protocols for staff, visiting scientists and scholars.

- Streamlined biannual chemical inventory process that reduced impact on staff scientists' time by up to 50%.
- Modified online chemical inventory database to include vital safety information increasing users' awareness of hazards.

Consultant – Indoor Air Quality (1999 to current)

- Served as Expert Witness for determination of formaldehyde exposure
- Advised private clients and several institutions on development of air quality monitoring program for pollutants to evaluate and mitigate risk to collections from pollutants.

- Advised collection management professionals how to improve indoor air quality of preservation environments with minimal cost.

TEACHING & TRAINING EXPERIENCE

Invited to give lectures or instruction over 20 times in 5 countries since 1992.

Lecturer: UCLA/Getty Program in Archaeological and Ethnographic Conservation, Los Angeles, CA. 2006 to Present

Instructor: GCI's Analytical Techniques in Conservation Course, Winterthur, DE, 1996

Instructor: GCI's Preventive Conservation courses, 1991-1995

Lecturer: University of Göteborg, Göteborg, Sweden, 1993

EDUCATION

Master's of Science Degree in Chemistry, With Distinction 1992 from California State University, Northridge. Thesis: "Identification of Proteinaceous Binding Media by HPLC"

Bachelors of Science Degree in Chemistry, Magna Cum Laude 1985; California State University, Northridge. Areas of concentration: Natural & Social Sciences and Mathematics.

PROFESSIONAL DEVELOPMENT, CERTIFICATION & HONORS – Full List Available Upon Request

- Requested peer-reviewer for 10 national and international journals as well as conferences
- Directory Board Selected Member of the Handbook Committee, American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 2006-2010
- Served on Scientific Committees for conferences and symposia in 6 countries: most recently for Indoor Air Quality in Museums & Archives 2010, IAQ2010, to be held in France, 2010
- Invited to give 3 Keynote presentations in 2 countries, most recently at Indoor Air Quality in Museums and Archives IAQ2008, Vienna, Austria, April 2008
- Invited Fellow California Science Center's Art & Science Program. Participated and lead scholarly seminars open to the public. 2000-2006

PROFESSIONAL ORGANIZATIONS

- American Chemical Society
- American Institute for Conservation of Historic and Artistic Works
- American Society of Heating, Refrigerating and Air-conditioning Engineers, Inc.
- California Association of Museums
- CASSS – An International Separation Science Society
- Indoor Air Quality in Museums and Archives
- International Council of Museum – Conservation Committee
- Mass Spectrometry and Chromatography Users Group
- Western Association for Art Conservation

PUBLICATIONS & PRESENTATIONS – ADDENDUM AVAILABLE UPON REQUEST

- 2 books, 13 chapters in books, 67 papers and numerous internal reports
- 48 invited and 30 accepted oral presentations at local, regional, national and international conferences in Europe, Asia, North American and South America