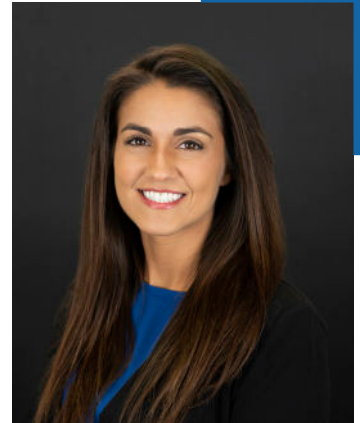


Jaclyn Ferraro

Sr. Petrographer, Concrete, Mortar, & Petrography Group Director



Ms. Ferraro has experience in evaluating concrete structures and materials and aggregate using polarized-light microscopy, scanning electron microscopy with x-ray spectroscopy, and other petrographic methods. She performs petrographic and microscopical examinations on rocks, minerals, cement, and other construction materials to assess the quality and condition of concrete. Her expertise also includes, but is not limited to, structure and material issues pertaining to strength and setting issues, freeze-thaw and chemical-related deterioration, alkali-silica reaction (ASR) and alkali-carbonate reaction (ACR), Delayed Ettringite Formation (DEF), fire-damage assessment, and scaling, debonding, and delamination. Ms. Ferraro has demonstrated proficiency with Scanning Electron Microscopy (SEM), Energy Dispersive X-ray Spectroscopy (EDS), and geological mapping.

Ms. Ferraro is currently an executive subcommittee member for C09 American Society of Testing and Materials (ASTM) and is subcommittee chair for C09.65 ASTM C856. She was awarded and recognized as an ASTM International Emerging Professional in 2017. Ms. Ferraro currently holds a board member position in the American Concrete Institute (ACI) Illinois chapter.

Relevant Project Experience

Petrographic Analysis and Forensic Investigation

- Petrographic examination of concrete from an international airport runway to evaluate for honeycombing, cracking, aggregate dislodging and deep pitting, scaling, and control joint deterioration in Los Angeles, California.
- Petrographic examination of concrete from a bridge as part of condition assessment and preservation project in Philadelphia, Pennsylvania.
- Petrographic examination of concrete scaling issues in various residential pavements in Leetsdale and Ambridge, Pennsylvania.
- Petrographic examination of cracking in concrete low-vibration tie blocks from Chagrin Falls, Ohio.
- Pyrrhotite deterioration evaluation of concrete foundations in Connecticut.
- Exterior stucco façade evaluation of a high school in Arcata, California.
- Petrographic examination for conditional assessment of concrete from regional airport in Manhattan, Kansas.

Corrosion Evaluation Projects

- Conducted an air-void system analysis in the repair of the Lima Wharf Navel Base, Guam.
- Petrographic examination of concrete from Y Swim Center, Dundalk, Maryland.
- Petrographic examination of concrete from UIC Student Center East Tower Engineering Services Project, University of Illinois at Chicago, Chicago, Illinois.

Academic Credentials

M.S. in Structural and Economic Geology
University of Iowa, 2013

B.S. in Geoscience
University of Iowa, 2011

Professional Affiliations

American Concrete Institute (ACI)
Cast Stone Institute (CSI)
American Society for Testing and Materials International
American Society for Testing and Materials International Emerging Professionals
Society of Concrete Petrographers (SCP)

Contact Information

(847) 972-3220
JFerraro@CTLGroup.com

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Corrosion Evaluation Projects (Continued)

- Petrographic examination of concrete from Building 631 Envelope Evaluation, University of Illinois at Chicago, Chicago, Illinois.
- Petrographic examination of concrete from Calvary Cemetery & Mausoleum Project, Racine, Wisconsin.
- Petrographic examination of concrete from the Exchange Lofts Project, Fort Lauderdale, Florida.
- Laboratory evaluation for RR-21-4564-3 GUR Task 8 RR-19-4480, I-355 Over BNSF, Illinois.
- Laboratory evaluation of concrete from South Center Street Viaduct Project, Marshalltown, Iowa.
- Laboratory evaluation of concrete from Newark Beth Israel Hospital Employee Garage Project, Newark, New Jersey.

SEM/EDS Analysis

- Efflorescence evaluation of deposits on a segmental retaining wall from Syracuse, New York.
- ASR evaluation of concrete from an international airport pavement in Casper, Wyoming.
- DEF evaluation of pier footing of a bridge replacement in Long Beach, California.
- DEF evaluation of water treatment plant in Hillsboro, Oregon.

Aggregate Petrography

- Petrographic examination of aggregates (ASTM C295) as a part of preconstruction evaluation of materials for pier construction project in Hawaii.
- Petrographic examination of aggregates (ASTM C295) as a part of qualifications for construction of US Army Corps of Engineers naval air station.
- NQA petrographic examination of aggregates (ASTM C295) as a part of a spray pond rehabilitation.
- Erosion control evaluation of various rock samples collected from Alaska for several projects.

Selected Project Experience

Petrographic Examination of Concrete Pavers from University of Alaska Southeast, Juneau, AK

Petrographic examination on concrete pavers for condition, properties, and deterioration assessment.

Petrographic Examination of Historic Mortar from UW Field House, Madison, WI

Petrographic examination on 90-year-old historic mortar from a limestone masonry veneer for quality assessment, preservation, and compositional analysis/mortar matching of historic building.

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Selected Project Experience (Continued)

Concrete Materials Testing, Analysis & Expertise to Support Implementation of IL Tollway Move IL Program, Los Angeles, CA

Conducted research for materials development and testing for rapid repair and long-term durability requirements of Illinois Tollway pavements and bridge decks.

Petrographic Examination of Historic Mortar from Residence, Buffalo, NY

Petrographic examination on historic mortar for preservation and compositional analysis/mortar matching of historic building.

Concrete Condition Evaluations and Petrographic Analysis of Antenna Pedestals for the NASA-JPL Deep Space Network, Australia, Spain, California

Evaluated deterioration of concrete in the National Aeronautics and Space Administration (NASA) and Jet Propulsion Laboratory (JPL) deep space station (DSS) beam waveguide antenna pedestals for DSS-15, 25, 26, 35, 54, and 63 located in Spain, Australia, and California respectively.

Petrographic Examination of Historic Mortar from Lodge, Middlesboro, KY

Petrographic examination on historic mortar for preservation and compositional analysis/mortar matching of historic building.

LAX vs. Brosamer, Los Angeles, CA

Selected by council and Brosamer to assist with the Forensic Engineering and Litigation Support regarding Runway 25L that was constructed in 2007.

Petrographic Examination of Mortar from Load-Bearing CMU Wall, Bronx, NY

Petrographic examination on 50-year-old mortar for compositional analysis/mortar matching.

Petrographic Examination of Historic Mortar from Book Depository Building, Detroit, MI

Petrographic examination on historic mortar (80 to 100 years old) for quality assessment, preservation, and compositional analysis/mortar matching of historic building.

Petrographic Examination of Historic Mortar, Austin, TX

Petrographic examination on 125-year-old historic mortar for preservation and compositional analysis/mortar matching of historic building.

Petrographic Examination of Mortar from Condominium, Chicago, IL

Petrographic examination on mortar from newly constructed condominium for compositional analysis/mortar matching.

Petrographic Examination of Mortar and Sand from/for HLS Streator Schools, Streator, IL

Petrographic examination on 60-year-old mortar from a brick masonry veneer for compositional analysis/mortar and of sand sample for matching.

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Presentations

L.J. Powers, J.M. Ferraro, Evaluation of fibers dispersion of cement-based sensors using scanning electron microscope, Euroseminar on Microscopy Applied to Building Materials, Toronto, Canada, May 2019