

Steven A Bradley, PhD, PE, FASM

Bradley Consulting Services, LLC

Education

Northwestern University

Bachelor of Science (1970) & PhD (1975)– Materials Science and Engineering

Roosevelt University

MBA (1979)

Professional Experience

Bradley Consulting Services, LLC (2018-present)

UOP Honeywell – Senior Fellow (2013-2018), Fellow (2002-2018), Senior Research Associate (1995-2002), Research Associate (1990-1995), Senior Scientist (1984-1990), Manager (1981-1984), Group Leader (1976-1981), Scientist (1974-1976)

Conducted/led all materials and failure analyses for UOP and various Honeywell business units. Developed root cause determination as part of the failure analysis with recommendations for future courses of actions for various refinery and petrochemical processing units. Conducted/led materials evaluations for new proprietary processes in order to identify the appropriate materials of construction. Expert in corrosion of metals, scanning and scanning transmission electron microscopy, reactor coking, metal processing, polymer analysis and catalyst characterization.

Some examples

- Developed passivation technique to prevent metal catalyzed coke from forming during petrochemical plant operations
- Identified crevice coke formation between combined feed exchanger tube and tube sheet and assisted in designing a solution
- Developed operational procedure to prevent metal catalyzed coke when passivation could not be used because of catalyst poisoning
- Developed operational procedure to prevent corrosive attack for semi-regeneration process
- Identified failure mechanism for castable refractory in FCC regenerator
- Diagnosed pre-mature corrosion failures and recommended a solution for more reliable operation
- Conducted substantial number of SCC analyses of various alloys exposed to susceptible environments including carbon steel, austenitic stainless steel, monel, brass and C276
- Identified unique failure mechanism of Te grain boundary embrittlement of Cu-Ni alloys
- Identified impact of H₂S on caustic cracking of stainless steel and recommended maximum temperature of operation
- Diagnosed and recommended alternate welding procedure to minimize stress relaxation cracking of type 347 stainless steel
- Authored/co-authored over 60 publications and 16 patents

Kleinschmidt, Div SCM – Metallurgist (1970-1972)

Performed metallurgical analyses, developed QC methodology, conducted quality analyses for heat treating department

Professional Affiliations

ASM (Elected Fellow 2006, Failure Analysis Society Board), NACE, ASTM (Chair D32, Elected Fellow of Merit 2008, Member E04), ACS, Frontiers of Electron Microscopy in Materials Science (Founding Organizer and member of organizing board)