

Thorough knowledge of chemistry and over 30-year industrial experiences related to petrochemicals and materials. Over 10-year experience of supporting students of Houston Community College in learning and academic success through teaching chemistry and proactive engagement. Strong work ethic and positive attitude even under pressure. Published and presented over 60 technical papers and review articles in international journals and conferences.

Immigration Status: U.S Citizen

Note: Work experience of last 22 years is presented here. Information about rest of the years can be provided on request.

EXPERIENCE

**2008 – 2017
and 2020 -
Present**

Houston Community College, Southwest Campus, Stafford, Texas
Adjunct Faculty Member, Chemistry Department

Houston Community College (HCC) is a public institution of higher education offering a high-quality, affordable education for academic advancement, workforce training, career development and lifelong learning to prepare individuals in our diverse communities for life and work in a global and technological society.

Achievements:

- Designed learning opportunities for the assigned theory and laboratory courses, such as CHEM - 1305, 1405, 1105, 1311 and 1111. Added industrial experiences in my lectures to expose the students to the realistic aspects of chemistry (inorganic and organic).
- Kept close contacts with the students about course content and their progress, provided direct outreach, and implemented other learning and retention strategies that assisted students in attaining their educational goals.
- Prepared and submitted required documentation including course syllabi, PowerPoint slides, student attendance, final course grades, and other information as requested or required by the college.
- Designed and implemented curriculum that intentionally leads students towards mastery of course and program outcomes.
- Used Q&A technique (asking questions and encouraging students to ask questions to me) while teaching for an effective engagement of the students and clear understanding of the subject.
- Received excellent evaluation remarks by the students.

2005 - 2020

Schlumberger, US

Sr. Materials Scientist and Mgr. Materials Support and Failure Analysis Group:

Schlumberger is an oilfield service company, providing global coverage and local Petro-Technical expertise anytime, anywhere. Develops the technology and provides the products and services that enable the clients to explore oil.

Responsibilities:

Managing Material Support and Failure Analysis Group – Staff, Budget, Report quality and productivity.
Subject Matter Expert (SME) for field failures of drilling & measurement tools. Consulting services on material selection, corrosion control, project review of new product development.

Achievements:

- As a subject matter expert resolved numerous chemical and corrosion related failures and successfully addressed troubleshooting projects.
- Rewards and Promotions:
 - Received "Rewards of Excellence - Commitment to Customers" – 2011
 - On technical Career ladder, promoted to "Principal" (third highest level out of five) - 2007
- Developed in-person and video training courses on total material failure management, metallurgy and corrosion control in oil & gas industries.
- For designing of new drilling machines, provided consultation on design reviews and materials selection, thus, contributed to development of reliable and cost-effective machines.
- Wrote over ten material specifications and best practices & guidelines. At all the field locations of Schlumberger, Corrosion Control Guideline for drilling tools, which I wrote in 2007, is still considered as "one-stop" to address all the corrosion and material related issues.
- Supervised the team working on selection of metallic and non-metallic coatings, inhibitors, hard facing to improve the service life of drilling machines and achieved the following:

- Patent on material and design change of a high-pressure pumping system (Publication # WO2016201020 A1).
- To provide a techno-economically viable option to control the corrosion of internal surfaces of non-magnetic drill collars (NMDCs), I, as a team leader, completed an innovation project jointly with Sub-One Technology, for in depth study and evaluation of Diamond Like Carbon (DLC) coating.

2001 - 2004

**Shell Global Solutions, US
Materials & Corrosion Specialist:**

Shell Global Solutions, US, provides business and operational consultancy, technical services, and research and development expertise to the energy industry world-wide. Based on experiences with design and maintenance of plants, our department (Pressure Equipment Integrity) provided management of corrosion and other material damage behaviour.

Responsibilities:

Technical support to customers on material selection and corrosion remedial measures. Root cause failure analysis. Development of Corrosion Control and Best Practice Guidelines documents for Refineries and Chemical Plants. Metallurgical expert for trouble shooting during shutdowns.

Achievements:

- Developed corrosion control guidelines for Olefins and Amines gas treating plants.
- During shutdown of different units of Shell refineries, provided technical support on identification of the chemical reasons of the material failures and provided critical recommendations for improvements in the chemical processes and repair/replacement of metallic structures.
- Provided technical advisory support (per ASM and API specs) during development of best practices and guidelines and selection of materials to meet the requirements of the chemical conditions. Contributed chapters on microbiologically induced corrosion and molten salt corrosion, in the Material Degradation Modules of Shell Global Solutions.
- Appreciated by the management for good quality and on time completion of my root cause failure investigation projects.

1998 - 2001

**Saudi Basic Industries Corp. (SABIC) Technology Center, Saudi Arabia
Corrosion Specialist:**

SABIC is one of the world's fastest growing industrial corporations producing 25 million mt/yr. of petrochemicals and chemicals, fertilizers, plastics, metals and industrial gases. Our department provided a wide range of corrosion engineering and consultation services to 19 petrochemical plants owned by the company. Worked with a dynamic team of materials and corrosion specialists and engineers.

Responsibilities:

Supervision of projects, aimed at solving materials degradation problems, evaluate corrosion and mechanical properties of materials according to NACE and ASTM standards. Purchase and commissioning of several state-of-the-art equipment for material analysis and corrosion tests. Root cause failure analysis.

Achievements:

- Successfully supervised and resolved the catastrophic failure of Cyclor reactor plant. Provided convincing test data to the management of the multinational reactor construction company to accept their design defects and improve the design to avoid recurrence of the failure.
- Received appreciation from the higher management of Sabic for leading a rare catastrophic failure of burning of a calibrating ring of ethylene dichloride reactor, made of titanium alloy. This work was published in Materials Performance (NACE Journal).
- Mentored young engineers on performing failure investigation projects.
- Advised management on; a) procurement of state-of-the-art equipment for material test and analyses, b) calculating techno-economic benefits of failure analysis projects.

EDUCATION

Ph.D. (Composite Materials) Moscow State University, Moscow, Russia.

M. Phil. (High-Temp. Corrosion reactions) Aligarh University, Aligarh, India.

M.S. in Inorganic Chemistry

SPECIFIC TECHNICAL EXPERTISE/SPECIALIST COURSES/ AFFILIATIONS

NACE certified Material Selection/Design Specialist. Member of NACE, ASM, SPE and life member of Indian Institute of Metals. User of API, ASME and NACE codes/documents.