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Guest Editors' Notes – Special Issue on "Recent Advances in Corrosion Science and Technology"

It is our privilege to present the second special issue of the *Journal of Electrochemical Society of India* (JECSI) on "Recent Advances in Corrosion Science and Technology." Corrosion continues to pose major challenges across infrastructure, aerospace, marine, and energy sectors, with significant implications for safety, performance, and cost. As India and the global community move toward sustainable and advanced technologies, it is vital to accelerate the development of environmentally friendly, high-performance materials and predictive tools that can mitigate corrosion risks.

This issue brings together five high-quality contributions addressing both fundamental and applied aspects of corrosion protection.

The opening article by Aishwarya S Suvarna and A. Chitharanjan Hegde explores the *Electrodeposition of Ni–V Alloy Coatings for Better Corrosion Protection*. Using a novel tartrate–sulfate bath with glycerol additive, the study demonstrates that Ni-rich coatings at lower current density achieve superior compactness and corrosion resistance, supported by electrochemical and microstructural analyses.

In the second paper, Meenu Srivastava and co-authors report on the *Zn–Ni Plating Process for Corrosion Protection of Aircraft Grade High Strength Steel – Development and Airworthiness Certification*. This work presents Zn–Ni plating with trivalent chrome passivation as a viable alternative to cadmium coatings, achieving strong corrosion resistance, hydrogen de-embrittlement relief, and successful certification for aerospace applications.

The third contribution by Chiranjit Poddar, S. Ningshen, and U. Kamachi Mudali provides *An Overview of Corrosion Performance of Zr and Ni-based Metallic Glass Alloys and Coatings for Highly Corrosive Environments*. This review highlights the exceptional passive film stability, fabrication routes such as magnetron sputtering, and the challenges of scaling metallic glass coatings for aggressive industrial settings.

The fourth paper, authored by Cui Liu, Xiangxu Qu, Bin Xue, and J.H. Qiu, presents *Modeling and Prediction of Electrochemical Corrosion in Natural Environments*. It introduces advanced software tools—Atmosphere-Compass, Soil-Compass, and Seawater-Compass—that integrate electrochemical principles and field data to predict corrosion life of structures exposed to atmospheric, soil, and marine conditions.

Finally, Aarti Gautam, Ananya Behera, K.V. Gobi, and R. Subasri report on *Anti-Corrosion Silica-based Coatings Using Polyelectrolyte Multi-Layered Nanocontainers for Mild Steel*. This study demonstrates the development of inhibitor-loaded nanocontainers incorporated into silica coatings, achieving improved self-healing properties and enhanced protection of mild steel against aggressive chloride environments.

We gratefully acknowledge the efforts of all authors for their valuable contributions, the reviewers for their timely evaluations, and the editorial board for their support. We extend our special thanks to Dr. Kamachi Mudali (Chief Editor, JECSI) and Dr. S.T. Aruna (Managing Editor, JECSI & President, ECSI) for their constant encouragement and for granting us the opportunity to serve as Guest Editors.

We trust that this collection will inspire continued research and innovation among scientists, engineers, and industry professionals, and that it will serve as a valuable resource for advancing corrosion science and technology worldwide.

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