Department of Defense-Allied Nations Special Issue

In November of 2015, the Department of Defense-Allied Nations Corrosion Conference was held in Pittsburgh, Pennsylvania. The rich history of the steel industry there and the numerous bridges for which the city is famous made Pittsburgh a perfect backdrop for this inaugural "Allied Nations" version of the longstanding Department of Defense (DoD) corrosion conference. This biannual conference brings the corrosion community together uniquely in that policymakers, DoD agencies, academic institutions, industry, defense laboratories, military academies, and active warfighters convene to understand corrosion and materials sustainment challenges across all platforms and technology readiness levels within the DoD.

The 2015 DoD Corrosion Conference was particularly distinctive because of the participation of our allies from the United Kingdom, Germany, and Australia in the discussion on materiel corrosion. Corrosion threatens the readiness, safety, and ability of today's warfighter and remediation costs for the DoD are estimated to be in the tens of billions of dollars annually. Preventing corrosion is of critical importance for maintaining the position of the United States and its allied nations as the most advanced and capable military forces in the world.

Drawing science and engineering papers from the conference, a special section was assembled. The papers underwent a rigorous review process and were accepted by *CORROSION*. The special section in this issue of *CORROSION* highlights some of the best fundamental research presented at the November conference. The various efforts of these researchers are all directly linked to specific DoD corrosion challenges. For instance, the ability to model corrosion at many length scales is a hot topic in the field as it is critical to understanding corrosion mechanisms and to developing new methods for monitoring and preventing corrosion. The first manuscript in this section develops a model for crevice corrosion of a nickel alloy (Stenta, et al.). Another particularly challenging area is in understanding the effects of field exposure and accelerated testing on corrosion mechanisms, and how each of these two common corrosion tools correlate with one another. Two manuscripts in this section focus on accelerated corrosion testing of aluminum alloys (Parker and Kelly, Brown, et al.), one manuscript on the atmospheric and accelerated corrosion of silver (Yoon, et al.), and three manuscripts use a combination of field and accelerated testing to understand how specific organic coatings mitigate corrosion (Kannan and Scully, Petry and Hansen, Cubides, et al.).

It has been an honor to work with the editors and staff of *CORROSION* and to serve the greater community and the DoD in this guest editor position. Thanks and enjoy!

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