Oxidation of Metals
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EDITORIAL

Celebrating over 50 Years of *Oxidation of Metals* and Looking Forward to Its Next Half Century

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Dave and Liz Douglass

The inaugural publication of *Oxidation of Metals* was in March 1969. Its longevity and value to the high-temperature corrosion community serves as a tribute to the vision, energy, and dedication of its founding editor, David L. Douglass, a professor in the Department of Materials Science and Engineering at the University of California at Los Angeles (UCLA); during most of the 40 years, he served as this journal's editor. Sadly, Prof. Douglass passed away on September 10, 2019, a few months after the 50th anniversary of the first issue of *Oxidation of Metals* and 18 days short of his 88th birthday. He was survived by his wife of 26 years, Liz Canterna Douglass, and his four children.

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In his editorial for the inaugural issue, Douglass wrote the following to define the scope of *Oxidation of Metals*:

> "As the medium for the publication of high-quality work on all aspects of gas-solid reactions, this journal will span the entire gamut—from adsorption, on the one hand, to diffusional processes in alloys relating to oxidation, on the other. Original research papers on a myriad of subjects pertaining to oxidation will be welcomed. ……." *Oxid. Met.*, **1** (1969) 1–2.

Since its inaugural publication, *Oxidation of Metals* has remained consistent in emphasizing the *science* of oxidation reactions at solid surfaces at elevated temperatures, although it recognized early on that more than just gas must be considered as the reactant. For instance, reactions via liquid and/or solid deposits at elevated temperatures soon entered the journal's scope of interests. As we move forward, it is envisioned that *Oxidation of Metals* will continue to evolve with contributions that consider even more extreme environmental conditions together with increasingly complex materials chemistries and structures. Added to this, there inevitably will be more contributions with a focus on computation, modeling, and data science.

The 50th anniversary of *Oxidation of Metals* also demarcates the end of an era of giants in the field of high-temperature corrosion research, and it would be remiss at this juncture to not acknowledge those from this cohort who have passed away during the time of the journal's publication. In addition to Dave Douglass, major contributors include Carl Wagner (first and foremost), Walter Smeltzer, Per Kofstad, John Stringer, Stanislaw Mrowec, Hugh Evans, Graham Wood, Toshio Maruyama, Neil Birks, Alfred Rahmel, and David Whittle. The regular citing of the publications of these and other important researchers in the field is a testament to their impact and legacy, and the journal is proud to have been a major communication channel for their scientific impact.

To commemorate over 50 years of *Oxidation of Metals* and the accompanying major advances in our field and to preview what may well be the key advances over the next 50 years, a special series of invited review papers will be published in upcoming issues of this journal. These papers will be by leaders and up-and-coming scientists in the field with the aim of critically reviewing past and current aspects of important topics and discussing ways to expand the frontier of high-temperature corrosion as technical advances are made. The first of these review papers is given in this current issue of *Oxidation of Metals*. The paper is by Bruce Pint, an Associate Editor of this journal, and is titled, "Addressing the Role of Water Vapor on Long-Term Stainless Steel Oxidation Behavior." It is anticipated that this and upcoming review papers in this series will be welcome longstanding contributions to our field and the scientific community at large and be a truly impactful legacy over the next 50 years. We look forward with excitement as we step into the next half century of *Oxidation of Metals!*