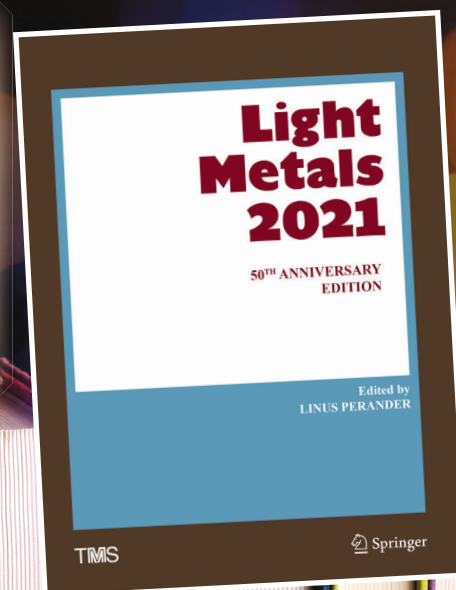


Celebrating Over Five Decades of Technical Excellence in Light Metals Research

Alan Tomsett



Alan Tomsett

“The 7,300 papers that have been published since 1971 cover fundamental research on new and improved processes and products, through to practical applications of technology in industry.”

In 2021, we are celebrating the 50th birthday of the aluminum-related symposia at the TMS Annual Meeting & Exhibition and the associated proceedings—*Light Metals*. Since 1971, *Light Metals* has provided a repository for the combined knowledge of researchers and industry practitioners and today remains the pre-eminent reference work for the aluminum industry with a global reach for contributors and readers.

The concept of *Light Metals* was initiated in an AIME International Symposium on the Extractive Metallurgy of Aluminum held in New York in 1962. This symposium was notable for its high level of global industry participation. Many of the papers from the symposium (published in 1963) covered the fundamentals of the Hall-Héroult and Bayer processes and remain relevant today.

The *Light Metals* symposia and proceedings became a regular feature at the AIME-TMS Annual Meetings beginning in 1971. The symposia now cover all major technical areas related to aluminum—bauxite and alumina, aluminum reduction, cast house technology, anode and cathode technology, aluminum processing, and aluminum alloy development. From the beginning, *Light Metals* has provided an important record of the research, development, and innovation in these technical areas.

Despite the many changes in the industry

over the past 50 years, the *Light Metals* symposia continue to attract 150–250 papers each year. The 7,300 papers that have been published since 1971 cover fundamental research on new and improved processes and products, through to practical applications of technology in industry. This broad range of topics attracts participation from both industry and academia. The global nature of the aluminum industry is reflected in the contributors and meeting attendees. Authors from over 60 countries have published their work in the book.

The early years of the symposia were a period of important technical development for the aluminum industry. Most of the major aluminum producers had their own research and development facilities and were willing to share technical developments. This set the scene for the strong industry participation in the *Light Metals* symposia which continues today. With the addition of the exhibition in 1987, the TMS Annual Meeting became the most important global gathering of aluminum industry representatives. In addition to the strong technical program, there continues to be countless technical and commercial meetings between attendees.

Despite the challenges of supporting an industry which perennially goes through tough financial times, the TMS Annual Meeting continues to provide opportunities for students and early-career engineers to present work and get feedback from global

“Our aim is to keep Light Metals relevant for the next 50 years and to maintain its position as the place to publish and present aluminum technology developments.”

experts. It also allows attendees to develop long-standing professional relationships through discussions at the author coffees, exhibition, and social activities, as well as in the technical sessions. **(Editor’s Note: See the sidebar, “Experiences from Annual Meetings and Light Metals Publications from an Early Career Professional,” for a TMS Young Leader perspective.)**

The symposia are sponsored by the TMS Aluminum Committee and the Light Metals Division (LMD). To maintain broad relevance, the role of *Light Metals* editor is rotated through each technical area, with a strong focus on industry experience. The 1962 meeting was organized by industry representatives from Kaiser Aluminum (Gary Gerard) and Alcoa (Phillip Stroup). In the last 50 years, over 80% of the editors have been employed industry participants.

The ongoing importance of *Light Metals* as a reference series has been further enhanced by the availability of the *Essential Reading in Light Metals* compilation of the best papers published in *Light Metals* between 1963 and 2011, and also the Light Metals Digital Library, an online collection of over 5,200 *Light Metals* papers published between 1971 and

2010. Over 50,000 individual papers from the *Essential Readings* compilation have been downloaded in the last five years.

The Aluminum Committee is continuing to support the Light Metals symposia at the TMS Annual Meeting & Exhibition and providing training opportunities for new and experienced technologists through regular professional development courses. We are also sponsoring an additional paper covering more details of the history of *Light Metals* from some of our long-term attendees, as well as providing recommendations on how *Light Metals* can continue to evolve and add value to future technologists. Look out for this article in a future issue of *JOM* later this year. Our aim is to keep *Light Metals* relevant for the next 50 years and to maintain its position as the place to publish and present aluminum technology developments.

Alan Tomsett is technical manager at Rio Tinto Pacific Operations. He is the current TMS Aluminum Committee Chair and editor of *Light Metals 2020* and *Essential Readings in Light Metals, Volume 4, Electrode Technology for Aluminum Production*.

TMS Inaugurates Annual Exhibition

During the Annual Meeting in Denver, the first TMS Exhibition premiered in grand opening style. Before the official kick off, crowds patiently gathered outside the Denver Convention Complex while exhibitors made their final preparations and waited for the doors to open. As the starting time arrived, curious attendees were invited in to partake of the cocktail reception which ran concurrently with the exhibition opening.

As the latest addition to the society’s

Annual Meeting forum, the exhibition was deemed a success by both the organizers and participants alike. Co-sponsored by the Society of Mining Engineers, the exhibition hosted over 130 display booths and more than 115 participating organizations. Reflecting the global nature of the modern metals and materials fields, exhibitors included companies from throughout the U.S., Canada, and several European nations.

Designed to complement the meet-

ing’s technical programming, the exhibition offered a broad spectrum of displays related to minerals, metals and materials technologies. Visitors devoted hours to exploring the vast array of products and services—from hands-on trials with interactive software to updates on innovative advances in applied technology. Other displays included operational equipment models and systems; publications and reference information on mining, metallurgy and materials science; various software packages



A May 1987 *JOM* News article announces the introduction of the successful annual exhibition, held at the TMS 1987 Annual Meeting in Denver, Colorado.

Experiences from Annual Meetings and *Light Metals* Publications from an Early Career Professional

Julien Lauzon-Gauthier

This personal reflection is intended to share how the TMS Annual Meeting & Exhibition, the *Light Metals* publications, and *JOM* have impacted my career so far. I would like to discuss two aspects: the technical knowledge available and professional development activities. But first, how did it all start for me?

When I started my master's degree in 2009 with the team at Université Laval involved in the R&D partnership with Alcoa,¹ the most prestigious international event that a student could attend in our field of research was the TMS Annual Meeting & Exhibition. This is where the industrial and other academic players would meet to present some of their most recent work. I got the opportunity to attend my first annual meeting in 2011 to present the results from my M.Sc. project, and again in 2013 and 2014 to present other results from my graduate studies work.

The *Light Metals* publications were very important early on in my academic journey. No less than 24 *Light Metals* references appear in my M.Sc. thesis and 20 in my Ph.D. thesis. *JOM* and other TMS journals were also important; they were my main source of information on the anode manufacturing process and quality parameters. Later, TMS journals became a good place for me to publish my own work. So far, I have been able to publish three conference articles, with another one accepted for *Light Metals 2021*, as well as two *JOM* articles as first author. I have also collaborated on three other *Light Metals* publications.



Julien Lauzon-Gauthier (left) receives the LMD Young Leaders Professional Development Award at the TMS 2020 Annual Meeting & Exhibition from LMD Chair Eric Nyberg.

I realize now that attending annual meetings during my graduate studies provided a lot of exposure for my work, but most importantly for myself. It was a good way to connect with the technical people from Alcoa and other companies while I was still a graduate student. It contributed in building my confidence and presentation skills, as well as my English language proficiency which is now important for my work, as French is my native language. However, at that time, I was not aware of all the activities and committees sponsored by TMS except for the annual meetings and technical publications.

This academic period was followed by the opportunity to start my career with Alcoa in different process engineering roles at different smelters in Canada, where my focus was on daily process optimization. At the end of 2018, I changed roles within Alcoa and joined the Center of Excellence's Technology Development Group as a research engineer, which led to my first TMS Annual Meeting participation as a professional in 2019. Around this time, I was made aware of the TMS Young Leaders Professional Development Award. Receiving this award not only gave me the opportunity to attend TMS2020, but more importantly, gave me good insight into all the TMS activities that I had never been aware of before. This was a lot to explore in one short event, but it was a great experience. It is still early to measure the impact of this award on my personal and professional development, but I see it as a recognition of my efforts to participate in the technical development of the aluminium sector.

From now on, I plan to get involved in committees and technical sessions when I can. I also hope that I will be able to continue contributing to the technical knowledge base through TMS's publications. I have already started with TMS2021 Virtual as a session chair to help organize and review the technical papers for the Electrode Technology for Aluminum Production sessions.

TMS events and publications have allowed me to share my work in *JOM* and the *Light Metals* proceedings. Attending the annual meetings has also allowed me to interact with other researchers, colleagues, and suppliers that helped to broaden my knowledge and my network. I realize now that this is very valuable in my role as a research engineer and it will also help me in my professional development in the future.

End Note

1. J. Tessier, J. Lauzon-Gauthier, M. Fafard, H. Alamdari, C. Duchesne, and L. Gosselin, "10 Years of Anode Research and Development: Alcoa and Université Laval Experience," *Light Metals 2020*, (2020).

Julien Lauzon-Gauthier currently works at Alcoa Corporation, Continuous Improvement Smelting Technology. He is the 2020 recipient of the TMS Light Metals Division Young Leaders Professional Development Award.

