Thermal Spray Society announces the 2024 Hall of Fame recipients: Nelso Antolotti, Michael K. A. Khor, and Daniel Sordelet

Thermal Spray Society An Affiliate Society of ASM International
THERMAL SPRAY HALL OF FAME

The Thermal Spray Hall of Fame was established in 1993 to recognize the many outstanding leaders who have made significant contributions to the science, practice, education, management and advancement of thermal spray. Nominations for the Class of Inductees into the TSS Thermal Spray Hall of Fame are accepted until 30 September of the preceding year. Candidates for the Thermal Spray Hall of Fame may be proposed by any five members of the Thermal Spray Society or any of the working groups, committees, subcommittees or other duly recognized bodies within the Thermal Spray Society.

Mr. Nelso Antolotti founded Flametal in 1973, pioneering thermal spray technology in Italy to address material durability issues, initially focusing on coatings for corrosion and wear protection. Over time, Flametal expanded its clientele from local businesses to high-volume OEMs, such as ceramic coating for pump pistons.

In 1999, Nelso redirected his focus to biomedical coatings and gas turbine coatings, establishing Turbocoating and Eurocoating while selling Flametal's remaining operations to PRAXAIR. These ventures led to technological advancements, attracting major OEMs and fueling growth through patented innovations.

In 2007, Nelso acquired ARTEC, enhancing the group's engineering capabilities for turnkey thermal spray equipment solutions. Vertical integration ensued, with Eurocoating offering comprehensive services from manufacturing to final packaging and sterilization, including pioneering 3D printing for prosthetics.

Turbocoating expanded its offerings in gas turbines and aerospace, culminating in a joint venture with GE Aerospace in 2015, positioning the company at the forefront of aerospace technology.

Through strategic acquisitions and joint ventures, including establishments in the USA and China, Nelso expanded the group's global footprint. Noteworthy acquisitions include Coorstek Medical and Hitemco in 2019, and Danco Medical in 2022.

Nelso also contributed to the development of coating technology for solid oxide fuel cells. In 2020, a rebranding effort consolidated the group under the name Lincotek, with Nelso serving as President of the Board of Directors. Today, with over 1700 employees and $300 million in annual turnover, Lincotek is led by Nelso's daughter, Linda, as it continues to innovate and solidify its position in the thermal spray market.

Antolotti was recognized for “In 1973, Nelso founded Flametal, revolutionizing thermal spray in Italy and Europe. As head of Lincotek, he drives advancements in coating at global level, energizing biomedical, gas turbine and aerospace industry.”
Professor Michael K. A. Khor is Director, Talent Recruitment and Career Support (TRACS) Office & Bibliometrics Analysis at NTU, Singapore since 2018. He is concurrently a Professor at the School of Mechanical & Aerospace Engineering. Under the TRACS portfolio, he managed and administered the prestigious NTU Presidential Postdoctoral Fellowship, Nanyang Assistant Professorship (NAP) and the new Schmidt AI in Science Postdoctoral Fellowship.

He is instrumental in establishing thermal spray research in Singapore through his work on bioceramics coatings and thermal barrier coatings (TBC). Through his research projects, he builds an international network for thermal spraying involving researchers in Australia, PR China, Japan, India, France, Spain, and the Czech Republic. Among Professor Khor’s research interests are advanced materials processing; thermal sprayed coatings; spark plasma sintering, nano-bioceramics and nano-composites for artificial cornea implants, orthopaedic and dental implants, bibliometrics analysis of global research networks and specific technology for example, thermal barrier coatings (TBC). He has published over 406 journal and conference papers and edited several international conference proceedings. These publications yielded a H-index of 79 and over 18000 citations.

Several institutions have invited him as Visiting Professor and Scientist over the years, these include the Japan National Defense Academy: Japan National Institutes of Advanced Industrial Science and Technology (AIST), Hanyang University and Zhejiang University. A Fellow of the Institute of Materials; Minerals and Mining (IOM3), UK, he received the IOM3 “Overseas Medal” in 2008.

Professor Khor obtained his BSc (Hons) and PhD degrees from Monash University, Australia.

Khor was recognized for “For contributions to thermal spray technology in the processing of composite powders for TBC and biomaterials applications, post-spray processing, and the bibliometrics analysis of global trends.”
Dr. Daniel Sordelet, FASM earned his B.S., M.S., and Ph.D. degrees in Materials Science from Iowa State University (ISU). During the first ~20 years of his career he worked as a Senior Scientist and Group Leader at the Ames National Laboratory on the campus of Iowa State University. During this time, he also served on the faculty in ISU’s Materials Science & Engineering Department. Dan formed the Ames Lab Plasma Spray Facility around 1990 with the emphasis of developing refractory coatings to contain molten reactive alloys during high-pressure gas atomization in the Powder Synthesis Facility located next door; many instances of making powder in the morning and spraying coatings that same afternoon occurred using these inhouse tandem capabilities! In later years, Dan added HVOF capabilities to broaden his group’s research topics into wear-resistant and corrosion-protective layers. During his tenure at Ames National Laboratory and ISU, Dan published over 160 articles in peer-reviewed journals, was the recipient two R&D 100 awards, and received over 20 US and international patents, several of which were licensed by companies including Praxair Surface Technologies and Rolls Royce North America.

In 2009 Dan joined Caterpillar Inc. in the Advanced Materials Technology team at the Caterpillar Technical Center near Peoria, IL. His early work focused on developing new materials and processes to support the CAT Reman business using thermal spray and laser cladding technologies that provided dimensional restoration and improved functional performance. Over the last ten years he expanded applications of thermal spraying and laser cladding throughout the Caterpillar global organization and network of dealers. In his current role as an Engineering Fellow, Dan has responsibility for the development and implementation of surface engineering technologies across the Caterpillar enterprise. He has successfully expanded the capabilities within the Advanced Materials Technology’s Surface Engineering Laboratory to include new forms of thermal spraying and laser cladding which, collectively, have enlarged the portfolio of components that may now be remanufactured and replaced longstanding production processes to deliver cost savings and performance improvements for new and aftermarket components. During his 15 years with Caterpillar, Dan has been granted 10 US patents involving new thermal spray feedstock materials and advanced processing methods. He was named an ASM Fellow in 2017.

Sordelet was recognized “For sustained, innovative development of surface engineering materials and processes and successfully transferring them from laboratory-scale ideas to full production industrial practices.”