2015 - Sustainable Industrial Processing Summit & Exhibition

2015 SIPS

Covering 3 Sustainability Pillars: (1)Science, Technology & Industrial Practice (2)Political and Social framework and (3)education.
Incorporating numerous International Symposia related to:
mineral*metals*material-mining*extraction*processing*manufacturing*recycling*waste treatment-environmental/health* legal/management/financial*policy/social issues

4 - 9 October 2015, Cornelia Diamond Golf Resort & Spa, Antalya, Turkey

Thermal Spray Coatings: From Fundamental Science to Industrial Application

Improving your bottom line with knowledge and understanding

By Christopher C. BERNDT

Short Course: 3-4 October, 2015 (09h to 17h), Cornelia Diamond Golf Resort & Spa, Antalya, Turkey

The objective of this 2-day course is to introduce thermal spray (TS) processing technology and processes for protecting and enhancing surfaces for industrial applications. The principal attribute of this novel technique lies in its capability of producing tailor-made properties of coatings by optimizing the nature of the substrate, the material to be deposited and the process design parameters for diverse applications. An interactive session based on real-life case studies will illustrate the potential of TS processes and thermal spray coatings and focus on the problems and future challenges of the TS technology.

Course Outline

Day 1**:**
Introduction to Thermal Spray: Includes (i) a historical perspective, (ii) TS process variants, (iii) company and literature resources, (iv) comparison with other coating and overlay techniques, and (v) feedstocks and materials used for TS.

Day 2:
The Practice of Thermal Spray: Includes (i) summary and wrap of day 1, (ii) occupational, health and safety for TS installations, (iii) specific applications for various industrial sectors, (iv) designing components and structures for TS application, (v) physical models that help understanding the processes, and (vi) future trends for TS.

Who Should Attend

Managers, technopreneurs, product development and design engineers, product marketers, scientists, lecturers and students who want to understand TSCs for protecting and enhancing product surfaces for diverse applications.

The participant will also receive:

- CD with course material in pdf
- Certificate of completion
- Lunch and refreshments

Course Instructor Prof. Chris Berndt

Chris Berndt graduated in 1977 with a BAppSc. in Metallurgy, from what is now called the University of South Australia. His PhD was earned in the Materials Engineering Department of Monash University in mid-1981. His higher doctorate, DEng, was awarded in 2014. He undertook several Fellowships in the USA in the early 1980's; which included a 2 year stint at NASA-Lewis Research Center in Cleveland (OH-USA), where he worked on aerospace hardware.

Berndt was appointed a Senior Lecturer at Monash in 1985. He was invited to apply for a position at Stony Brook University, NY-USA in 1989. He was promoted to Full Professor with tenure in 1995 and appointed an Adjunct Professor in Orthopedics in 1996. Berndt was the Deputy Chairman of the Department of Materials Science and Engineering for 9-years and the Associate Dean of the Faculty for 4-years. He undertook training to become qualified as an ABET visitor for materials and engineering science programs. Berndt remains as an Adjunct Professor at Stony Brook University.

In early 2005, Berndt returned to Australia as the founding Professor of Surface and Interface Engineering at James Cook University. He moved to Swinburne University of Technology in late 2007 as the founding Professor of Surface Science and Interface Engineering. He was elevated to University Distinguished Professor in March 2014.

Berndt's professional interests gravitate around manufacturing; especially in the area of protective coatings. He was inducted into the Thermal Spray Hall of Fame in 2007. He was the President of Thermal Spray Society (an affiliate of ASM International) in 2002 through to 2004. He has been the Chair or Co-Chair of 5 International Conferences. He was appointed as a Trustee (the Board of Directors) of ASM Int. (aka "the American Society of Materials") for 2005-2008. Berndt became the Vice-President of ASM Int. and progressed to President in October 2011. Berndt was also the President of the Australian Ceramic Society from mid-2008 through to mid-2010. He stepped back into this position in July of 2014 for another 2-year term.

Berndt is a Member of 10 professional societies in the materials, mechanical, manufacturing and bioengineering fields. He is a Fellow of the Australian Institution of Engineers, Fellow of ASM International, Fellow of the Institute of Materials, Minerals and Mining (UK), Fellow of the Australian Ceramic Society, Fellow of the American Ceramic Society (USA), Fellow of the American Society of Mechanical Engineers, and a Fellow of Alpha Sigma Mu (The Materials Engineering Honor Society). He was nominated by the student members of Stony Brook University to become a member of Tau Beta Pi (the Engineering Technology Honor Society) as an "Eminent Engineer". He is also a Chartered Engineer (UK), a Chartered Professional Engineer (Australia), and a Member of the College of Bioengineers (Australia). Berndt has held guest positions as a Faculty Fellow of Oak Ridge National Laboratory and as a Guest Scientist of Brookhaven National Laboratory.

Berndt's metrics concerning research; i.e., publications, PhD graduations, citations and research programs are important but not the complete picture. Thus, he has a

commitment to scientific rigor and producing substantial research outcomes that look into the future. Examples would include (i) measurement of mechanical properties of coatings, (ii) the first to demonstrate solution plasma spray and similar techniques, (iii) integrating a knowledge base that follows materials genomic principles, and (iv) transmitting his materials-related knowledge via international workshops.
Berndt's major discipline area is "Materials Engineering" or "Manufacturing Engineering" with a sub-disciplinary expertise in the topics of ceramics, biomaterials, thick coatings, and thermal spray technology. He is considered as a world authority in the sub-specialty of thermal spray technology. He has provided 1 to 3 day courses around the world for the past 25 years.

Berndt has an excess of 490 publications. He is the Editor/Co-editor of 10 conference proceedings on thermal spray. Berndt has an 'h-index' of 46 and more than 7,600 citations to his work. He is especially proud of his students and post docs who have achieved professional prominence and earned good lives over the past 30 years.

REGISTRATION: http://www.flogen.org/sips2015