

## Henri Coriou Award Winners

for outstanding contributions to corrosion science  
and engineering in the nuclear field

### 2016:

**Prof. David Tice**, Serco/Amec/Wood, UK.

*Short CV:* He was Serco's/Amec's/Wood's Chief Corrosion Scientist, has published numerous papers and led a number of research programmes on various aspects of environmentally-assisted cracking (EAC) in high-temperature LWR environments, including corrosion fatigue and stress corrosion cracking over a period of 35 years. He has directed a number of major projects on corrosion fatigue of ferritic and austenitic stainless steels. He was a former Chairman of the 'Int. Co-operative Group on EAC in Water Reactor Environments (ICG-EAC)' and was a member of the 'EPRI Expert Panel on Environmentally-Assisted Fatigue'. He is also a visiting Professor at The University of Manchester's Materials Performance Centre responsible for technical direction of collaborative research on corrosion and EAC.



### 2017:

**Prof. Hannu Hänninen**, Aalto University, Finland.

*Short CV:* He started his career in 1980 with his Ph.D. in physical metallurgy, from Helsinki University of Technology and at VTT Technical Research Centre Finland, where he mostly stayed. He has been a very active member in the nuclear corrosion community for four decades and is about to retire from the Department of Engineering Design and Production at the School of Engineering of Aalto University in Finland, where he is/was head of the Engineering Materials research group. He made significant contributions, initiated and successfully managed many large projects in both, the field of EAC & EAF of LWR structural materials and of waste container corrosion in final repositories for nuclear waste. Fusion and GEN-IV topics complement his broad nuclear corrosion portfolio. Furthermore, he was active in academic teaching and education for more than three decades and, in this function has supervised more than 40 PhD students and many Post-Docs. He was and is an active member in many international working groups and committees in the nuclear (corrosion) field, e.g., as Chairman and Working Group Leader in the 'Int. Cooperative Group on EAC of Water Reactor Materials (ICG-EAC)' or as an expert at the Swedish National Council for Nuclear Waste.



**2018:**

**Dr. Gérard Pinard Legry,**  
Consultant, France.

*Short CV:* As engineer from the Ecole Supérieure de Chimie de Paris, he obtained his PhD in 1969 with a thesis on the corrosion and mechanical properties of martensitic steels. He then joined the Corrosion Department at the CEA (French



Atomic Energy Commission) where he rapidly was appointed head of the Aqueous Corrosion Unit before becoming head of the Corrosion Department in 1984, succeeding Henri Coriou. His work includes not only EAC studies in PWR primary and secondary water, but also the selection of materials for reprocessing plants and nuclear waste overpacks for storage and disposal. He has also been involved in fast breeder reactor issues, as well as in the corrosion behaviour of materials for fusion energy. He has been a key person in nuclear corrosion science and engineering for all the industrial developments in the nuclear fuel cycle. In 1993 he was awarded the Charles Heichner medal by the SF2M (French Society of Materials and Metallurgy) in recognition of his work. Alongside his extensive research work, he was an active member of EFC WP4, being its Secretary between 1986 and 1994. Being actively involved in standardization as President of AFNOR commission A05A on corrosion of metallic materials until 2000, he was also President of the CEFACOR (French Corrosion Society) from 1999 to 2011. At the same time, he was also an associate Professor at the INSTN (National Institute of Nuclear Science and Techniques) and at the EAMEA ("Atomic School") of Cherbourg.

**2019:**

**Mr. Hans-Peter Seifert,** Paul Scherrer  
Institute, Switzerland.

*Short CV:* Hans-Peter Seifert (Master of Science in Material Science and Engineering at the Swiss Federal Institute of Technology ETH, Zürich, Switzerland) is currently Deputy Head of the Laboratory for Nuclear Materials, Leader of the Structural Integrity Group and Manager of a research program on material ageing at the Paul Scherrer Institute. His areas of specialization are: EAC of LWR structural materials, corrosion and



electrochemistry in high-temperature water, ageing mechanisms and structural integrity of LWR primary pressure boundary components and reactor internals. He has more than 20 years of experience in EAC and fatigue and has initiated and led many large projects in this field. He is very well-known in the international nuclear corrosion community. His work on SCC contributed to the understanding of the phenomena and therefore helped to further increase the safety of PWRs and BWRs, not only in Switzerland but also in the rest of Europe and in the US.

**2020:**

**Mrs. Ulla Ehrnstén**, VTT Technical Research Centre of Finland Ltd., Finland.

*Short CV:* Ulla Ehrnstén was working at VTT as a principal scientist in the field of nuclear materials and root cause analyses. Her more than 30 years' research experience covers the performance of nuclear materials in different kinds of nuclear environments (BWRs, PWRs, VVERs, and GenIV systems). Root cause analyses for both, national and international customers has been key in her work since the early days at VTT. She was also teaching nuclear materials behaviour at the Aalto University and at Åbo Academy University, and at the STUK (the Finnish nuclear safety authority) she is giving courses for newcomers in the nuclear field. She is the project manager and key scientist in several Finish research projects in the area of nuclear materials and was leader of VTT's nuclear materials team. She was the project manager of the largest SAFIR2022 project 'BRUTE', which deals with the characterisation of reactor pressure vessel weld metal trepans removed from the Barsebäck 2 pressure vessel. She has authored more than 150 scientific articles, several hundred customer reports and three book chapters. She also participated in several EU-projects. She was a working group leader in the Int. Cooperative Group on EAC (ICG-EAC), a scientific board member of the Environmental Degradation and Fontevraud conferences and has been a steering committee member in several European energy/nuclear safety research alliances or councils.



**2021:**

**Prof. M. Grace Burke**, University of Manchester, Materials Performance Centre, UK.

*Short CV:* Grace Burke is the Director of the Materials Performance Centre at the University of Manchester. From 2012 to 2016 she was concurrently the Director of the Electron Microscopy Centre. Prior to joining Manchester in late 2011, she had already developed and implemented leading edge applications of microscopy to analysing, assessing and developing materials for power generation in a 30+ year career that spanned her tenures at the US Steel Research Laboratory, Westinghouse Science and Technology Center, and the Bettis Atomic Power Laboratory. Her research has led to numerous technical highlights and has advanced the understanding of the behaviour ferrous and non-ferrous alloys, particularly those employed in nuclear power plants. Her research has provided significant insight in the modern understanding of irradiation damage, SCC, and hydrogen embrittlement of structural alloys. She is particularly known for her application of advanced microscopy/microanalysis techniques to developing improved understanding of the environment-sensitive behaviour of materials in nuclear and power generation systems. Grace received her B.S. in Metallurgical Engineering from the University of Pittsburgh, and her PhD in Metallurgy from Imperial College of Science and Technology (London). She has published approx. 200 papers. Grace is a Fellow of ASM International, TMS, the Institute of Materials, Minerals and Mining (UK), the Microscopy Society of America, the Microanalysis Society, and the Royal Microscopical Society. She was also the 2020 International Metallographic Society Henry Clifton Sorby Award recipient for her contributions to materials science and metallurgy. Grace was the 2005 President of the Microscopy Society of America, and is the 2019-2022 President of the Royal Microscopical Society.



**2022:**

**Dr. Pål Efsing, Ringhals AB, Sweden.**

*Short CV:* Pål Efsing is Senior Specialist in Structural Integrity of Metallic Materials at Ringhals AB, a Swedish nuclear power operator owned by Vattenfall and Sydkraft Nuclear Power. As part of that, Pål also holds a research professorship at the Royal Institute of Technology (KTH), in Stockholm in materials mechanics since 2010. He has more than 25 years of experience in the field of nuclear materials, mainly working at nuclear utilities. He was awarded his MSc in materials science at KTH in 1990. Subsequent PhD studies at KTH focused on hydrogen embrittlement, fracture mechanical properties and degradation of nuclear fuel cladding materials. Pål was awarded an International Welding Engineering degree in 2007 and appointed Docent at KTH in 2017. Pål has spent most of the active career in the general field of ageing and the coupling of corrosion and mechanically induced degradation of nuclear materials and components. Much attention has been given to irradiation effects, stress corrosion cracking and other relevant ageing and degradation mechanisms, as well as the evolution of mechanical properties and structural assessment of systems and components subjected to service in nuclear reactor systems. As part of the position at Ringhals, he spent five years from 2006 to rebuild the corporate R&D program on nuclear power for Vattenfall. Over the years, this has resulted in some 100+ authored or co-authored publications. Pål is the Ringhals representative in a number of international cooperative groups in the area of materials and ageing (e.g., country representative in the IAEA Working Group on Life Managements of NPP, Working Group Leader in the ICG-EAC). Main focus at Ringhals has lately been assistance to the long-term operation programme to allow for continued operation of the Ringhals NPPs beyond 40 years of operation with respect to environmentally induced ageing and degradation of systems, structures and components. At KTH, Efsing is supervising a number of doctoral students and pursuing research in the border-line area between materials science and solid mechanics with relevance for nuclear engineering.

