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Preface

Papers from the International Nuclear Graphite Specialists Meetings

In September 2000, 18 delegates attended a two day meeting on nuclear graphites sponsored and hosted by Oak Ridge National Laboratory, USA. The meeting was the brain child of the Steering Committee of the International Atomic Energy Agency – International Database on Irradiated Graphite Properties, which had its first meeting just 18 months earlier. Such a meeting, it was hoped, would provide a much needed forum for discourse and discussion of the technical and scientific issues related to the design and operation of graphite reactor cores, graphite irradiation and oxidation behavior, and the manufacture of new graphites for nuclear applications.

It is said that *'from small acorns grow mighty oak trees'*. The nuclear graphite meeting, which had a modest beginning in 2000, has truly become the proverbial oak tree. Meeting attendance is now regularly >80 delegates! Along the way the meeting picked up its current familiar name, the *International Nuclear Graphite Specialists Meeting* or INGSM. The INGSM chronology is shown in Table 1.

As this special issue goes to press the nuclear graphite community is preparing to attend INGSM-9 (JRC-Petten, The Netherlands), and planning has already begun for INGSM-10! The success of the INGSM series is indicative of the level of interest worldwide in the behavior of nuclear graphites – both from the community that serves the currently operating gas cooled reactor, and the new Generation IV Very High Temperature Reactor community, whom are actively researching graphite, and designing and constructing new reactors.

This special edition of the Journal of Nuclear Materials contains papers presented at INGSM-7 (2006) and INGSM-8 (2007). Twenty five manuscripts were forthcoming from INGSM-7 and a further two from INGSM-8. The papers contained herein report research topics which include: the changes of physical properties due to neutron irradiation of graphite; irradiation creep in graphites; oxidation effects on properties of graphite; irradiation experiments and experimental capsule designs; graphite property testing; non-destructive testing of graphite; fracture behavior in graphite; and the preparation of graphite based nuclear fuel.

The International Nuclear Graphite Specialist's Meeting has become a regular feature of the conference landscape. Continued growth in participation appears assured given the resurgence of interest in nuclear power – especially high temperature reactors. Finally, conducting a well organized conference and preparing quality proceedings are only possible through the hard work and diligence of many individuals. The editors would like to express their sincere thanks to the authors, the reviewer's, the participants, and the local organizing committee of INGSM -7.

Table 1
INGSM Chronology from 2000 onwards

INGSM	Year	Host/Sponsor	Venue
1	2000	Oak Ridge National Laboratory	Oak Ridge, TN, USA
2	2001	SGL Carbon Group	Rain am Lech, Germany
3	2002	GrafTech International Ltd.	Parma, OH, USA
4	2003	Toyo Tanso	Marugame, Japan
5	2004	HSE/BNFL	Plas-Tan-Y-Bwlch, UK
6	2005	SGL Carbon Group	Chamonix, France
7	2006	Oak Ridge National Labs/US DOE Gen IV Reactors	Oak Ridge, TN, USA
8	2007	PBMR Pty Ltd.	Pilanesburg National Park, Republic of South Africa

Tim Burchell
Pete Pappano
Guest Editors

Oak Ridge National Laboratory,
Materials Science and Technology Division,
P.O. Box 2008, Oak Ridge,
TN 37831-6088,
United States