

# Proceedings of the PHYSOR 2002

**International Conference on the  
New Frontiers of Nuclear Technology : Reactor Physics,  
Safety and High-Performance Computing**

## **The ANS 2002 RPD Topical Meeting**



*The scene of the first electric light in Korea : March 1887 at Kyongbok Palace*

**October 7-10, 2002  
Seoul, Korea**



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## PHYSOR 2002



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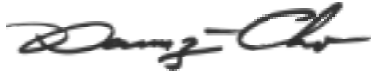
## **Foreword**

**This International Conference on the New Frontiers of Nuclear Technology : Reactor Physics, Safety and High-Performance Computing (PHYSOR 2002) is one of a series of meetings sponsored by the Reactor Physics Division (RPD) of the American Nuclear Society (ANS). These conferences are held every 2 years, with the every third conference outside of the United States. PHYSOR 2002, hosted by the Korean Nuclear Society (KNS) and the first to be held in the 21st century, follows the previous RPD topical held in Pittsburgh in 2000. The conference is co-sponsored by the ANS Mathematics & Computation and Radiation Protection and Shielding Divisions, Atomic Energy Society of Japan, Brazilian Association for Nuclear Energy, Canadian Nuclear Society, European Nuclear Society, OECD Nuclear Energy Agency, and Radiation Safety Information Computational Center (RSICC).**

**PHYSOR 2002 is to provide a forum for world-wide experts in various areas of reactor physics, design and analysis methods for nuclear power and related technologies to discuss most recent developments, both analytical and experimental, including areas on safety, high-performance computing, and non-power reactor applications. The conference has attracted an outstanding collection of technical papers from nuclear scientists and engineers in 29 countries, with a good mix of national distributions. The Conference Proceedings include 308 papers and computer code abstracts, and 4 keynote speech papers. The papers in 34 subject areas are organized in 56 oral sessions and 2 poster sessions. We regret that because of the large number of papers (over 390 summaries submitted and 308 full papers to be presented), it was necessary to assign 56 papers to poster sessions and hold 4 parallel sessions (plus posters on Wednesday). It was also necessary to hold sessions throughout the afternoon of Thursday which is the last day of the conference.**

**Four distinguished members of the international nuclear community have been invited as keynote speakers in a plenary session: Dan G. Cacuci (Forschungszentrum Karlsruhe), Yoon I. Chang (Argonne National Laboratory), Genki Yagawa (University of Tokyo), and David J. Diamond (Brookhaven National Laboratory). These speeches will help set the general tone of the conference. The keynote speech by Dan Cacuci, who is the recipient of the 2002 Eugene P. Wigner Award from the ANS Reactor Physics Division and will be presented the award at this conference, is also designated as the Eugene P. Wigner Lecture. It is hoped that this embarks a new tradition to be followed by all future Wigner Award recipients.**

**There are many who have helped us and to whom we express sincere thanks. Technical Program Co-Chairs, members of the Advisory Committee and the Technical Program Committee have helped to ensure the success of the conference. Of great importance has been the hard work of the session organizers and the paper reviewers. For this successful conference, we owe them more than a debt of gratitude.**

A handwritten signature in black ink, appearing to read "Nam Zin Cho". The signature is fluid and cursive, with the first name "Nam" and last name "Cho" clearly distinguishable.

**Nam Zin Cho**

**Technical Program Chair**