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FINAL TECHNICAL REPORT ON
GRANT AFOSR-89-0428
Entitled:

Group International Travel to
VIIIth World Round Table Conference on Sintering

Principal Investigator

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September 1990

I. INTRODUCTION/OVERVIEW

This grant, AFOSR-89-0428, provided partial support, e.g., of the registration fees and/or the conference room and board fees, for 13 United States scientists to attend the Seventh World Round Table Conference on Sintering in Herceg-Novi, Yugoslavia on August 28 through September 1, 1989.

Every fourth year since 1969, the International Institute for the Science of Sintering (IISS) has organized an international conference on sintering, known as a World Round Table Conference on Sintering. Each meeting has taken place at some location within Yugoslavia. [N.B. The permanent Secretariat of IISS is located in Belgrade, Yugoslavia.] A separate series of IISS Topical Sintering Symposia, devoted to more specific topics and held in different countries (e.g., Yugoslavia, Poland, India, Japan, and in 1991, Vancouver, Canada), has also been held at four-year intervals, offset by four years, so as to occur between the main conferences.

An objective of the Conference and related Topical Symposia has been to bring together scientists, worldwide, who work in various fields of the science and technology of sintering and sintered materials. These conferences typically attract about 200 participants from 25 or more countries of the world.

Such conferences represent the premier forum for discussions of all aspects of the science of sintering and have historically attracted most of the leading scientists and a significant number of younger sintering scientists. The International Program Committee for the VIIth Conference, for example, had leading sintering scientists from 23 countries, including six from the U.S. (R.L. Coble, R.M. German, D.L. Johnson, G.C. Kuczyuski, H. Palmour III, and R.M. Spriggs as President of the Committee). Given its location in Yugoslavia, the Conference has also provided an unusual opportunity for international interactions. (712)

Previous levels of attendance of U.S. scientists at these conferences had not been commensurate with the importance of these conferences and with the levels of attendance from other countries. Thus, it was hoped that with partial travel support from AFOSR, a group of U.S. scientists would be assisted in their attendance at the Conference. This has occurred with the AFOSR Grant.

II. CONFERENCE PROGRAM

The program for the seventh quadrennial conference in August-September 1989 consisted of invited plenary lectures and contributed papers. All participants were invited to submit papers to the scientific sessions. The topics covered included: powder preparation, processing and characterization, general aspects of

pressing and sintering theory, advances in the theory and practice of sintering, densification and microstructure development during sintering of single and multi-component systems, new consolidation methods, and new high performance and exotic sintered materials.

III. CONFERENCE PROCEEDINGS

Refereed and edited manuscripts from the participants will appear in a volume published by Plenum Publishing Corporation, entitled: "Science of Sintering: New Directions for Materials Processing and Microstructural Control" and edited by Dragon P. Uskokovic, Hayne Palmour III, and Richard M. Spriggs. Publication within the next 60 days is anticipated. As required by the Grant agreement, six (6) copies of this "Final Conference Report" will be submitted to AFOSR. This volume contains a summary of all scientific papers presented as well as a list of attendees. The support of AFOSR is acknowledged in the front matter of the volume.

IV. GRANT SUPPORT FOR U.S. ATTENDEES

Because of the size of the grant and the desire to assist as many U.S. attendees as possible, the travel awards were modest in amount, ranging from partial to full support of the registration fee of \$300/330 and/or partial to full support of the room and board fee (which ranged from \$210/390 to \$270/480, depending upon the hotel and partial or full board rates chosen).

Over 20 U.S. scientists and researchers were considered for support. As shown in Appendix A, thirteen awards were ultimately made to the following:

1. Dr. Carol A. Handwerker
National Institute for Standards of Technology (NIST)
Co-author with J.E. Blendell of invited keynote paper on status of sintering in the West
2. Dr. John E. Blendell
NIST
Co-author of paper with Carol Handwerker
3. Professor Joseph A. Pask
University of California at Berkeley
Author of invited paper
4. Dr. Edward A. Giess
IBM Corporation
Co-author of paper with Dr. H.E. Exner
5. Professor Hayne Palmour III
North Carolina State University

Author of invited keynote paper; Co-editor of Proceedings;
and recipient of the FRENKEL Prize

6. Dr. Claudia P. Ostertag
NIST
Author of paper (and recent Gordon Conference discussion leader)
7. Professor Gary Fischman
Alfred University
Author of paper on sintering of covalent solids
8. Professor D. Lynn Johnson
Northwestern University
Author of invited paper
9. Professor Egon Matijevic
Clarkson University
Author of invited paper
10. Professor Randall German
RPI
Author of invited paper
11. Professor Robert T. DeHoff
University of Florida
Author of invited paper
12. Dr. Jeanne Murray
RPE/GE Company
Author of paper
13. Professor Richard M. Spriggs
Alfred University
President of International Program Committee;
author of invited paper; Co-editor of proceedings

In addition to the 13 individuals above, nine other individuals were considered for awards, but were unable to be recommended due to schedules.

IV. SUMMARY

The conference, which brought together nearly 200 persons from at least 25 countries with a diverse range of expertise in the science of sintering, was deemed to be a considerable success by the meeting organizers. Those attending included most of the world's leading scientists in the field of sintering and a significant number of younger sintering scientists. The level of attendance of U.S. scientists at this conference was greater than at previous quadrennial conferences on sintering; several U.S. attendees

specifically stated that without the AFOSR award and the encouragement offered by this award, it simply would not have been possible for them to consider attending.

The conference was thus a complete success, the resulting Plenum Publishing Corporation volume should provide state-of-the-art information on sintering, and the U.S. AFOSR is gratefully acknowledged for its support in promoting the success of the meeting and the resulting proceedings.

Appendix A

Summary of Travel Grant awards issued under the Provisions of AFOSR Grant No. AFOSR-89-0428, "Group International Travel to VIIth World Round Table conference on Sintering."

1.	Carol A. Handwerker National Institute for Standards & Technology	\$350.00
2.	John E. Blendell National Institute for Standards & Technology	\$350.00
3.	Joseph A. Pask University of California at Berkeley	\$350.00
4.	Edward A. Giess IBM Corporation	\$450.00
5.	Hayne Palmour III North Carolina State University	\$300.00
6.	Gary Fischman Alfred University	\$500.00
7.	Claudia P. Ostertag National Institute for Standards & Technology	\$600.00
8.	Robert T. DeHoff University of Florida	\$350.00
9.	D. Lynn Johnson Northwestern University	\$350.00
10.	Egon Matijevic Clarkson University	\$350.00
11.	Randall German R-P-I	\$350.00
12.	Jean Murray R-P-I/GE Company	\$350.00
13.	Richard M. Spriggs Alfred University	\$300.00