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Introduction

This volume contains the proceedings from the International Symposium on
Clusters and Nanomaterials (ISCAN) held in Richmond, Virginia, United States, 26–
29 October 2015. This symposium was the ninth installment in the quadrennial
Richmond Symposium series that began in 1982. The 2015 symposium dealt with
the role of clusters and nanomaterials in addressing challenges in energy and life
sciences, two of the areas that are of vital importance to society. The symposium
focused on the role clusters and nanomaterials play in the development of novel
materials for energy applications, such as solar, hydrogen, thermo-electric, and
electrochemical storage. For life sciences, the focus was on bioactive, bio
responsive, and biomimetic nanomaterials; nanotoxicity; bioengineering; and
regenerative medicine. Interdisciplinary topics such as reactions; catalysis,
electronic, optical and magnetic properties of nanoparticles and nanomaterials
were also discussed.

This interdisciplinary symposium featured 39 invited speakers and 83 contributed
presentations. Nearly 130 researchers and scientists from Physics, Chemistry,
Biology, Materials Science, Medicine, and Engineering fields from 22 countries
attended this symposium and shared their ideas and results, delineated
outstanding problems, and discussed future research. This symposium was
sponsored by Virginia Commonwealth University, and endorsed by American
Physical Society, American Chemical Society, Materials Research Society, and
American Vacuum Society. The proceedings are published by SPIE.

This symposium would not have been possible without the tireless efforts of the
members of the Organizing Committee, the input from the International Advisory
Board, and the financial support from Virginia Commonwealth University, the U.S.
Department of Energy, National Science Foundation, and Toyota Laboratories.
Our special thanks go to the undergraduate, graduate students, and
postdoctoral fellows in the Physics, Chemistry, and Engineering Departments of
Virginia Commonwealth University for volunteering their services during the
organization of this symposium, and to the participants for the high quality of their
presentations. Last, but not least, to Mrs. Barbara Martin for her assistance
throughout the two-year period this symposium was in the making.

Puru Jena
Anil K. Kandalam