

# Preface

The Professor Ramana Reddy Honorary Symposium on Applications of Process Engineering Principles in Materials Processing and Energy and Environmental Technologies has been proposed and designed as a tribute to Prof. Reddy and his distinguished career as professor, teacher, and researcher over a period of 35 years at the University of Nevada, Reno, and the University of Alabama, Tuscaloosa, Alabama. Professor Reddy has advised and worked with over 100 Ph.D. and M.S. graduate students, research scholars, and visiting scientists. He has published more than 378 research papers and 26 books (4 CDs) including one undergraduate student textbook in thermodynamics. He has also delivered more than 268 invited lectures and research presentations in 26 nations. As an ACIPCO Endowed Professor, Prof. Reddy holds many leadership positions and honors and awards as well. The extent of Prof. Reddy's contribution to energy, environmental, and materials science and process engineering is underlined in the biographical sketch provided in these proceedings.

The response to the symposium has been most gratifying. When a call for papers went out, 78 abstracts were submitted for inclusion in the conference program. The net result has been that the number of papers offered for presentation has exceeded the time allocation and a Poster Session has been included in the program and accommodated in the proceedings. The international nature of the symposium is attested to by the fact that the selected papers are drawn from 17 countries.

The symposium has been named "Applications of Process Engineering Principles in Materials Processing, Energy and Environmental Technologies: An EPD Symposium in Honor of Ramana Reddy." It is little bit longer but covers the most papers, which are presented at the symposium.

The symposium program encompasses 10 sessions with each session being preceded by a plenary lecture. The sessions cover a range of topics within materials processing, energy, and environmental:

- (1) Plenary Session
- (2) Electrometallurgy
- (3) Hydrometallurgy

- (4) Pyrometallurgy I
- (5) Pyrometallurgy II
- (6) Materials Processing and Plasma Processing
- (7) Energy Storage and Engineering Issues
- (8) Modeling and Simulation
- (9) Thermodynamics and Kinetics
- (10) Poster Session

Within these topic areas, the individual papers represent a diversity of subjects. What is evident is a thrust toward bridging the gap between theory and practice via contributions dealing with process modeling and simulation, process and equipment design, the development of novel processes, and the generation of new data for the better understanding of current process technology. The environmental challenges facing metallic and nonmetallic industries are also addressed.

The symposium should be a fitting salute to Prof. Reddy for his contributions to extractive metallurgy, materials science, and energy and environmental technologies over the breadth of his distinguished career. It is hoped that the symposium volume will provide not only a record of a meeting but also a basis for further excellent work in the applications of process engineering principles in materials processing and energy and environmental technologies.

This symposium will provide a forum where industrial, research institutes and university professionals can interact and exchange with other stakeholders to facilitate the advancement of materials processes and engineering.

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