Call for Book Chapters: Frontiers of Nanotechnology: Manufacturing Processes and Products

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Call for Chapters

Chapter Submission Deadline: September 15, 2015
Notification of Acceptance October 20, 2015
Final Chapters Due: December 5, 2015

Introduction

For release in Frontiers of Nanotechnology Book Series.

The Frontiers of Nanotechnology Book Series seeks to advance techniques for scale up and transition of Nanotechnology Processes to Industry. Thebook provides insight into the current status of Advanced Nanotechnology processes and their scale up to semi-industrialand Full Scale Industrial levels, while Addressing Key Scale up challenges.

The impact such understanding has on Full Scale Nanotechnology-Manufacturing on business and marketing strategy, including expansion and execution, is necessary after years of major investments in the technology worldwide.

Objective

This book will aim to provide relevant technical and engineering frameworkand the latest innovative work in the area of Nanotechnology Manufacturing and Scale up. It will be written for Engineering Colleges and Departments, Engineeringprofessionals who want to improve their understanding of the scaleup process relating to Nanotechnology, as well as Executive Decision Makers in Industry, Government and Academia.

Target Audience

As a recommended Text Book for Engineering Schools, and Researchers in Universities, Government Agencies, Large Private Corporations, Investment Groups, Faculty and Students in Engineering Sciences.

Top Industry Managers and Executives(CEO, COO, CTO, etc.)

Engineering Entrepreneurs

Manufacturing experts

Recommended Topics

Nanotechnology New Developments and commercialization

Submission Procedure

Researchers and practitioners are invited to submit on or before August 1, 2015,Submissions should be made to the Editors. Authors of accepted proposals will be notified by August 20, 2015 about the status of their proposals and sent chapter guidelines. Full chapters are expected to be submitted by October 31, 2015. All submitted chapters will be reviewed on a double-blind review basis.

Publisher

This book is scheduled to be published by AIChE-WILEY, publisher of AIChE Books, AIChE Journal, etc.This publication is anticipated to be released in 2015.

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Propose a chapter for this book

1. PROSPECTUS : FRONTIERS OF NANOTECHNOLOGY: PERSPECTIVES ON COMMERCIALIZATION

This book examines the state of the art in Nanotechnology and explores key issues to be addressed in commercializing this New Technology. Over $500 Million dollars are spent in Research and Development by the Department of Defense in Nanotechnology each year in the US alone because it is projected that the Nanotechnology Market could reach $1.2 Trillion dollars. However the major challenge or technical barrier faced by researchers in this field is transitioning Laboratory Research results into viable commercial products for the 21st century.

Most industrialized countries also see Nanotechnology as the next breakthrough technology of this century and many advanced countries in the world including the US, Europe, Russia, Japan and China are striving to advance cutting edge research and development in this field. The commercialization of Nanotechnology research products has therefore major global economic, Military as well as sustainability implications.

The lack of books that address the Engineering Training in this field, commercialization and scale up issues prompted the current Editors to examine this issue of strategic importance to the country. Since Nanotechnology is on the National Critical Technology list of the United States of America, the commercialization issues are of paramount importance and covers key areas also defined by the Materials Genome Initiative in the United States.

2. GENERAL OVERVIEW:

The topics covered range from Principles of Nanotechnology, to different applications including Aerospace Structures, Engineered Materials, Electronics and Biological uses and finally we examine hurdles to commercialization including safety, health and toxicological effects, providing innovative solutions to commercialization efforts. Novel concepts including developing Smart cell phone and laptop batteries that last longer without recharging and next generation touch sensitive screens for cell phones and computers are also discussed in this book. Worldwide and Global demand in Nanotechnology is also discussed in the book with regard to commercialization.

3.0 MARKET

The audience of the book extends from academic circles to industry professionals and examines Defense and Space Applications as well as commercial markets. This includes, Military and commercial Aircraft, Military ground vehicles, and structures for Naval and Marine systems. In the commercial environment Wind mill blade design, Electronic Products as well as Energy Storage systems are discussed. Innovations in touch sensitive screens for I-phones, I-pad and laptop computers are discussed as well as batteries that can last longer without recharging.

Pressure vessels for Trucks and Automotive applications are important for storing natural gas and hydrogen as fuel to reduce carbon emissions in the push to reduce

carbon foot print. Advanced composite structures that exhibit Multifunctional properties are also discussed because of the huge Market demand.

This book will be very popular on the global scale since Nanotechnology is a very important technological issue that will revolutionize modern society with tremendous commercial and economic implications in the projected $ 1.2 Trillion dollar global Market.

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