Vo-Dinh sees new journal advancing nano-bio field

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Editor in Chief Tuan Vo-Dinh envisions the new international peer-reviewed journal NanoBiotechnology providing a forum that leads to "explosive growth" where nanotechnology and biomedical sciences converge.

"Current and future research achievements in nanobiotechnology could ultimately lead to the development of revolutionary modalities of biomolecular manufacturing, early diagnostics, medical treatment and disease prevention beyond the cellular level to that of individual proteins," said Vo-Dinh, a corporate fellow and group leader in Oak Ridge National Laboratory's Life Sciences Division.

The first edition of NanoBiotechnology, which has a 46-member editorial board, was issued this summer and features 10 papers. Topics include visualizing nature at work from the nano to macro scale, potential nanotechnology treatments for localized articular cartilage defects and an optical nanotool to study protein organization at the cell membrane.

In the journal's introduction, Vo-Dinh, Thomas Laurell, associate editor for Europe, and Eiichi Tamiya, associate editor for Asia and Pacific Region, write: "The journal is intended to serve as an authoritative forum that timely presents the state-of-the-art multidisciplinary research and technological advances in theory, instrumentation and methods, as well as applications in various areas of nanotechnology related to biology and medicine."

Potential topics include molecular bioprobes, nanoparticles and nanobiosystems, nanobiomaterials, biomolecular assemblies and supra-biomolecules, nanobiosensors and nanobiochips, BioNEMS and nano-biofluidics, nanobiophotonics, single-molecule detection and manipulation and molecular motors.

"This journal will provide an excellent forum for publishing interdisciplinary research in the very exciting and rapidly growing area of nanobiotechnology," said Rashid Bashir, an editorial board member and professor in Purdue University's Department of Biomedical Engineering. "The journal is very timely and the topics that will be covered encompass all the key areas of research in nanotechnology as they are applied to biology and medicine."

More than 40 international academic institutions are represented on the editorial board, including the University of Basel, Switzerland; Nagoya University, Japan; Columbia University, Cornell University, Harvard University, Princeton University, Stanford University, Ohio State University, the University of Michigan, the University of Crete, Greece; Johns Hopkins School of Medicine, University of California at Berkeley, Los Angeles and Santa Barbara; University of Paris; University of Tokyo; Kyoto University, Japan; and University of Technology, Melbourne, Australia.

The journal, published by Humana Press, employs a paperless article submission and peer review process. Submissions should be sent to: submit.humanajournals.com

Vo-Dinh, group leader of ORNL's Advanced Biomedical Science and Technology Group and director of the Center for Advanced Biomedical Photonics, has been active in the nanobiosensor and nanoprobe research area for molecular imaging and medical applications. He has published more than 300 peer-reviewed scientific papers and is author or editor of

seven books on spectroscopy and nanotechnology. He holds more than 30 patents, six of which have been licensed to environmental and biotech companies for commercial development.

Laurell is a professor in medical and chemical microsensors at the Department of Electrical Measurements at Lund University, Lund, Sweden. He has published more than 100 papers and has filed 20 patent applications, 11 of which have been licensed or transferred to biotech or med-tech industry.

Tamiya is a professor at the Japan Advanced Institute of Science & Technology in Ishikawa, Japan. His topics of interest include biochips and biosensors; nanotechnology-based bioscience and bioengineering; screening of new bacteria, enzymes and other bioactive molecules; design and creation of molecular recognition materials; and environmental biotechnology.

Source: ORNL