It is with great pleasure that I write this forward to our 10th volume of the Journal of Biomimetics, Biomaterials, and Tissue Engineering (JBBTE). We launched this journal in 2009, and have published the journal quarterly since then. I would like to take this opportunity to thank Elizabeth Boughton our first Copy Editor for the excellent work she did for volumes 1 to 5, and to wish her well in her new full-time career in tissue engineering research. With volume 6 we welcomed our new copy editor Alison Cappetta. I would like to thank Alison Cappetta, for her outstanding work as copy editor for volumes 6 to 10, and ongoing.

In just over two years since inception, JBBTE has published papers from 21 countries: Australia, Canada, China, Germany, Hong Kong, India, Iran, Italy, Kuwait, Malaysia, New Zealand, Pakistan, Poland, Russia, Saudi Arabia, Singapore, South Africa, Taiwan, Thailand, UK, and the USA. In all, a total of 70 papers and 1000 pages, spanning all of the topics embodied in the title of the journal: biomimetics, biomaterials, and tissue engineering, many of these papers spanning all three areas.

In our first 10 volumes, we have published some ground-breaking studies in biomimetics. Some highlights include a paper that utilised the water-from-fog harvesting technology of the Namibian desert beetle to develop a water-from-fog water harvesting plant for countries which have prevalent fog such as Namibia, Chile, Peru and India (vol 8). Other biomimetic highlights include epidermal gas transfer (vol 1), fish scales (vol 4), crocodile eggshells (vol 5), the kangaroo lumbar spine (vol 9), gum Arabica for non-silicon based solar cells (vol 8), leaf venation (vol 10), and a biomimetic approach to using antibodies in kidney dialysis (vol 9).

The breadth of papers in biomaterials and in tissue engineering is too great to cover in this short forward. Topics in biomaterials have included bioactive glass, hydroxyapatite, fluorapatite, zirconia bioceramics, zirconia-toughened alumina, polymer-toughened bioceramics, calcium phosphate bone cements, dental resin-based composites, trabecular titanium, titanium surface treatment, nitinol shape memory alloys, functionally graded materials, drug delivery biodegradable polymers, porous microspheres for drug delivery, chitosan microcapsules for drug delivery, micropatteming, biological micro-electro-mechanical systems for microfluidic arrays, spinal disk prostheses, ligament prostheses, and orthopaedic implant wear studies.

The range of topics covered in tissue engineering have included selective laser sintering of porous scaffolds, electrospun scaffolds, foamed tissue scaffolds, PLGA copolymer...
scaffolds, sterilization of scaffolds, bioceramic scaffolds from polymer foams, 3D elastomeric scaffolds, nanobacterial cellulose scaffolds, hydroxyapatite fibre/matrix strong scaffolds, montmorillonite-doped chitosan tissue scaffolds, removal of solvent from polymer scaffolds, porous microspheres for tissue engineering, rapid prototyping, biodegradable hydrogels, bioreactors, stem cells, nerve tissue engineering, tissue engineering of abdominal wall defects, cell growth in scaffolds, time-dependent studies of scaffold degradation, and numerous studies on cell seeding and permeation into scaffolds.

JBBTE is also one of the few journals in the biomaterials and tissue engineering realm that publishes review papers. We have published some major reviews, including a 36 page review on surgical sutures with 146 references (vol 1), a 34 page review on nanosized calcium phosphates with 346 references (vol 3), a 44 page review on amorphous calcium phosphates with 301 references (vol 5), a 17 page review of corneal endothelium replacement with 127 references (vol 5), and a 34 page review on the biomimetics of tooth enamel with 163 references (vol 8).

This volume (volume 10) comprises 10 papers, all of which have a unique and diverse contribution to make to the interconnected fields of biomimetics, biomaterials, and tissue engineering:

1. Qiang Wang, Zhuan ni Yu and Liangmin Yu (China) report a biomimetic study that develops a new cleaner, greener, and safer coating technology for the prevention of marine biofouling on the hulls of ships.
2. Branham and Ross (South Africa; USA), report a biomimetic study that utilises antibodies to maintain osmotic pressure during kidney dialysis.
3. Sapna Singh (India), reports a biomimetic study that mathematically models the effect of aspirin on the flow of blood in stenosed blood vessels.
4. Rizwan Malik, Tielin Shi, and Zirong Tang (China) report a biomimetic study that involves Carbon-Microelectrode Arrays for dielectrophoresis of bioparticles.
5. Lau, Ruys, Carter, Wang and Li (Australia), report a biomimetic study involving the use of diffusion MRI and computational analysis to map the electrical current diffusion pathways in the cranial cavity fitted with a Cochlear implant.
6. Yanmei Chen, Tingfei Xi, Yufeng Zheng, Liang Zhou and Yizao Wan (China), combine biomimetics, biomaterials and tissue engineering utilising the biomimetics of nanobacterial cellulose to develop new bone tissue engineering scaffolds.
7. Liang Lie-feng, Han Xiao-yi, Yan Xiao Cai and Jie Weng (China) combine biomimetics, biomaterials and tissue engineering in developing a stronger porous hydroxyapatite bone tissue scaffold by means of hydroxyapatite fibre reinforcement.
8. Mahapatra and Pramanik (India) report a tissue engineering study on development of a bioreactor technology for tissue engineered cartilage. Cartilage is an important new frontier in tissue engineering.
9. Yong Xin Li and Kai Xue (China) report a pure biomimetic study of the structural reinforcement of venation in leaves and developed mathematical models for interpreting these biomimetic systems and applying them to reinforcement of plate-structures.

10. Paluszkiewicz, Stodolak-Zych, Kwiatek and Jelen (Poland), have combined biomimetics, biomaterials and tissue engineering in developing montmorillonite clay-doped chitosan tissue scaffolds for enhanced bioactivity.

These ten papers represent a fascinating and informative cross-section of the interrelated disciplines of biomimetics, biomaterials and tissue engineering and I am sure you will find them as interesting and thought provoking as I did.

I would like to take this opportunity to thank all of our contributors over the last 10 volumes of JBBTE, and our editorial board, and I look forward to an exciting future as our journal continues to push new frontiers forward in the interrelated disciplines of biomimetics, biomaterials and tissue engineering.

Prof Andrew Ruys
Editor in Chief: JBBTE
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