

Special Issue on
Advances in Novel Stem Cell Populations and Biomaterials for Regenerative and Reconstructive Applications in Urology

CALL FOR PAPERS

The field of urology has seen encouraging advancements in regenerative science over the last twenty years and has been in the forefront of adaptation of regenerative research. Promising preclinical studies have demonstrated feasibility of using stem cells and scaffolds for reconstructive applications including bladder augmentation, urethral substitution, neourinary conduits, ureteral replacement, and penile tissue replacement, which have not yet been successfully translated into clinical treatments. In addition to tissue replacement, there is increasing interest in attaining augmented healing and/or tissue regeneration in the setting of injury including postprostatectomy nerve injury, erectile dysfunction, and urinary sphincter insufficiency by using various regenerative avenues including stem cell, growth factor, gene transfer, and autologous tissue transfer technologies. Urological diseases provide a diverse canvas to apply the rapidly expanding field of translational regenerative medicine, which has significant technical challenges that need to be overcome to reach the patient's bedside.

This special issue is intended to present recent advancements in novel stem cell populations, growth factors, and scaffolds, which address the most relevant problems facing regenerative urology. It will also focus on the state-of-the-art techniques that are being rapidly developed to overcome prior limitations. The researches into the basic science and applications of preclinical and clinical regenerative medicine across disciplines germane to challenges facing adult and pediatric urology are encouraged to be submitted to this special issue to present the latest research and development in this rapidly expanding field.

Potential topics include but are not limited to the following:

- ▶ Identification of novel adult and stem cell populations within the GU system or populations from outside the GU system being applied to the GU system
- ▶ Application of growth factors and biosimilars to augment repair/recapitulation of the GU system
- ▶ Identification and/or application of novel or existing biomaterials to facilitate GU tissue repair
- ▶ Identification of novel scaffold engineering methods or materials for GU tissue recapitulation
- ▶ Description of autologous cell applications either in preclinical models or being used in humans, including but not limited to the stromal vascular fraction, mesenchymal stem cells, cord blood, and amniotic fluid
- ▶ Novel gene transfer methods, gene targets, or applications
- ▶ Novel drug delivery platforms for GU tissue repair
- ▶ Economics of stem cell therapies, both theoretical considerations and current economics of "stem cell clinics"
- ▶ Preclinical models for studying GU diseases or testing regenerative GU applications
- ▶ Bioinformatics to better understand GU biology

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/sci/anp/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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