



2012 - Seminar #1



J. Kouidy Williams, DVM

The Promise of Regenerative Pharmacology: Stimulating the Body to Heal Itself

Presented by: J. Kouidy Williams, Professor, Wake Forest University Institute for Regenerative Medicine, Wake Forest University Health Sciences, Winston-Salem, NC

Dr. J. Kouidy Williams (DVM) is a veterinary scientist and Professor of Regenerative Medicine at the Wake Forest Institute for Regenerative Medicine. His research focuses on the use of translational animal models, including nonhuman primates, to provide data for clinical development of regenerative medicine approaches to the treatment of chronic diseases affecting both men and women in the United States and around the world. These research focus areas include cell therapy and tissue engineering approaches for cardiovascular diseases, diabetes, corneal regeneration and regeneration of the genitourinary system.

Stem cell-based therapy and Bioengineered organs are the best documented approaches in regenerative medicine, promising cures for a multitude of diseases and disorders. However, the *ex vivo* expansion of stem cells and their *in vivo* delivery are restricted by the limited availability of stem cell sources, the excessive cost of commercialization, and the anticipated difficulties of clinical translation and regulatory approval. Similarly, bioengineered organs require stem cell sources, complex seeding and pre-conditioning paradigms. An alternative to regenerate organs and tissues are cell populations already present in a patient's body, including stem/progenitor cells, which can be actively attracted to sites of injury. This technique, known as endogenous cell homing, has the potential to provide new therapeutic options for *in situ* tissue regeneration. Such options would be less costly and complex than approaches that require substantial *ex vivo* cell manipulation and that use artificial vehicles for cell delivery. Tissue regeneration methods that rely on endogenous stem/progenitor cell homing, local tissue responses, and functional stimulation thus offer new insights into *in vivo* tissue engineering and hold great promise for the future of translational medicine. Although such methods that take advantage of the latent endogenous regenerative potential of the patient are promising for the repair of damaged tissue, they are in need of further experimental support before application in late-stage diseases or severe tissue injury. This includes a better understanding of the basic biology involved in cell homing and development of viable methods to attract endogenous stem cells to the site of injury. This review will highlight some of these approaches to diseases common to a large population of patients in the United States and around the world. In the future, these exciting paradigms are likely to help reconcile the clinical and commercial pressures in regenerative medicine.

Wednesday, February 29, 2012

Networking Reception 5:30-6:30 PM Presentation 6:30-7:30 PM
UConn Health Center, Patterson Auditorium (Academic Entrance)
263 Farmington Avenue, Farmington, CT

NO CHARGE TO ATTEND, BUT RSVP REQUIRED

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