

## Post-Doctoral Research Associate

Appointment: Research Associate, Department of Surgery, University of Cincinnati

Project performance site: Shriners Burns Hospital, Cincinnati, Ohio

Position terms: 1 Jul 2008 - 30 June 2011; Full time (1.0 FTE);  
Salary range: \$45-50,000 per year plus full benefits

Research focus: Stem cell and tissue engineering of human skin

Duties and responsibilities: An energetic and talented individual will fill a position for performance of preclinical studies with engineered human skin for wound treatment. Two aims are funded to: 1) Regulate the addition of mesenchymal stem cells (MSCs) to engineered skin substitutes (ESS) to promote improved wound healing; and, 2) Promote a vascular plexus in ESS by combining MSCs with dermal microvascular endothelial cells and grafting to wounds for earlier perfusion. Cell populations will be tracked in engineered tissues and compared to natural tissues for structure and function. Comprehensive laboratories are available which provide facilities for cell culture, biopolymer fabrication, protein and nucleic acid chemistry, light and fluorescence microscopy, flow cytometry, media formulation, and support staff.

Minimum requirements: Ph.D. in cellular, molecular or developmental biology, biomedical engineering, or closely related field. Previous experience with tissue engineering, and cell transplantation preferred. Technical skills needed include: cell culture, immunohistochemistry, protein and nucleic acid analyses (northern, western, & southern blots), transplantation and evaluation *in vivo* of engineered skin, MS Windows computer programs and presentations.

Applicants should provide a Curriculum Vitae, letters of reference, and university transcripts to:

Steven Boyce, Ph.D.  
Department of Surgery  
University of Cincinnati  
o, 513-872-6080  
e, steven.boyce@uc.edu

Literature references:

Boyce ST, RJ Kagan, DG Greenhalgh, KP Yakuboff, P Warner, T Palmieri and GD Warden. 2006. Cultured skin substitutes reduce requirements for harvesting of skin autograft for closure of excised, full-thickness burns. *J Trauma* 60(4):821-829.

Supp DM, AC Karpinski, and ST Boyce. 2004. VEGF overexpression increases vascularization by murine, but not human, endothelial cells in cultured skin substitutes grafted to athymic mice. *J Burn Care Rehabil* 25:337-345.

Boyce ST. 2004. Fabrication, quality assurance and assessment of cultured skin substitutes for treatment of skin wounds. *Biomed Eng J* 20:107-112.

Boyce ST and GD Warden. 2002. Principles and practices for cutaneous wound repair with cultured cells and biopolymers. *Amer J Surg* 183:445-456.