# Symposium 3

Prof. Jin Ho Lee

Dept. of Advanced Materials and Chemical Engineering,
Hannam University

Korea

**Education:**
- Dept. of Chemical Engineering, Hanyang University, Korea (B. S.; 1979)
- Dept. of Chemical Engineering, Seoul National University, Korea (M. S.; 1981)
- Dept. of Materials Science and Engineering, University of Utah, U. S. A. (Ph. D.; 1988)

**Work Experiences:**
- Research Scientist, Polymer Materials Laboratory, Korea Institute of Science and Technology (KIST), Korea (1982-1984)
- Senior Research Scientist, Biomaterials Laboratory, Korea Research Institute of Chemical Technology, Korea (1988-1993)
- Visiting Professor, School of Pharmacy, Purdue University, U. S. A. (1999-2000)
- Professor, Dept. of Advanced Materials, Hannam University, Korea (1993-present)

**Editorial Boards:**
- Associate Editor, “Tissue Engineering and Regenerative Medicine” (Springer) (2015-present)
- Editor-in-Chief , “J. Korean Wound Care Soc.” (Korean Wound Care Society) (2007-2010)
- Editor-in-Chief, “Biomaterials Research” (Korean Society for Biomaterials) (2003-2007)

**Society Activities:**
- Fellow, Tissue Engineering & Regenerative Medicine Int’l Societies (TERMIS) (2015-present)
- Conference Chair, TERMIS-AP Annual Meeting (2014)
- President, Korean Tissue Engineering & Regenerative Medicine Society (2012)
- Scientific Program Chair, 2nd TERMIS World Congress (2009)

**Scientific Publications:**
- 220 Peer-reviewed Papers (more than 5,000 citations), 34 Book chapers, 65 Patents

**Guided Bone Regeneration Using Functional Polymer Matrices with Biological/Physical Stimulation**

Jin Ho Lee

Dept. of Advanced Materials and Chemical Engineering, Hannam University, Daejeon, Korea

Healing of a bony defect with sufficient mechanical strength and dimension is one of the major challenges for reconstructive surgeons. The rapid occupation of fibrous connective tissue in a bony defect instead of bone formation creates imperfect bone with low mechanical strength and cartilage-like structure, and is considered as a common obstacle for successful bone regeneration. Recently, guided bone regeneration (GBR) membranes and/or bone grafts have been widely utilized as simple therapeutic techniques for effective bone reconstruction. We have fabricated various membranes, hydrogels, and microspheres, which can be utilized as guided bone regeneration (GBR) membranes or bone graft matrices. The functional polymer matrices with/without stem cells stimulated biologically (with growth factors or pDNA) and physically (with pulsed ultrasound) for the effective osteogenesis of stem cells or regeneration of bone tissue will be discussed in this presentation