

SEMINAR SERIES

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Montreal General Hospital – Room L7.140



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Injectable hydrogel for regenerating the degenerate disc, three prong attack for low back pain therapy

Intervertebral disc degeneration is thought to be responsible for around 40% of low back pain cases, however to date no therapy targets this cause and many patients are left with no option for treatment beyond pain killers. This talk will discuss a novel thermally responsive injectable hydrogel which provides a three prong attack to promote regeneration of the intervertebral disc. 1) providing a mechanical environment similar to the native healthy intervertebral disc the hydrogel provides potential immediate restoration of disc moduli and function; 2) the hydrogel induces stem cells to differentiate into nucleus pulposus cells which are the native cells of the central region of the disc, and it performs this without the need for any growth factors; 3) the hydrogel appears to inhibit the catabolic processes of disc degeneration and thus could inhibit any further degeneration whilst promoting regeneration.

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