

# 3D CelluGel

## A Novel Cell Growth Matrix by 3D Printing of Biopolymers

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Every year millions of patients suffer wounds or loss or failure of tissue due to serious accidents and diseases, that may be life threatening. Tackling the challenges in tissue engineering, man-made biopolymer scaffolds can be potentially engineered to incorporate the cells and drugs and act as analogues to the natural extracellular matrices (ECM) found in tissues. Expanding the use of natural biopolymers like cellulose into 3D printing is an excellent approach that opens up new value-added application areas in tissue engineering in the forms of cell culture platform and drug therapy screening platform.

We have developed 3D platforms from Finnish tree-derived biopolymers (i.e. nanocellulose and hetero-polysaccharides) using 3D printing technology and the tailored platforms will serve as cell growth matrix. The applications will range from cell culture to drug therapy studies.

**SPARK VALUE:** We expect the SPARK program to steer us towards realizing the commercial values of innovation. We hope to expand our networks and find suitable partners who are interested in our innovation and important for the project to get shaped. SPARK enables us to get valuable feedbacks from the right mix of talents.

**Chunlin Xu, PhD,**

Project manager

Chunlin has research and technological background in wood chemistry, biotechnology, and organic chemistry as well as three-year experience working in global chemical industries.



**Xiaoju Wang, PhD,**

Xiaoju is a material scientist and has been dedicated to the development of biologically active materials applying different physical and chemical tools

**Stefan Willför, PhD,**

Stefan is a professor in biorenewable material chemistry and biomaterials, has enormous experiences to lead projects, research groups and large network and structures.

