3DDiscovery™ Evolution

THE BIOPRINTING SOLUTION TO DRIVE SCIENCE

ENGINEER COMPLEX BIOARCHITECTURES TO MIMIC NATURE'S MACRO & NANO STRUCTURES

A STEP CLOSER TO THE DEVELOPMENT OF ARTIFICIAL ORGANS

SWISS INNOVATION

3DDiscovery™ Evolution

UNDERSTANDING WHICH STIMULI NEED TO BE USED AND IN WHAT CONDITIONS IS THE NEXT STEP IN TISSUE ENGINEERING.

WE PROVIDE THE SCIENTIFIC INSTRUMENT TO ACCOMPLISH THIS.

3DDISCOVERY™ EVOLUTION

ENABLING TECHNOLOGY
WE SUPPORT THE EVOLUTION

Tissue engineering and biotechnology sciences are complex areas where multiple components including material types, composition, cell viability and bio-architectures are all crucial.

Bioprinting is a rapidly evolving field; the FLEXIBILITY and MODULARITY of your bioprinting instrument are key factors in your future accomplishments.

The 3DDiscovery™ has these unique features which will allow you to follow the constant changes and rapid evolution in bioprinting science and specifically in bio stimulation.

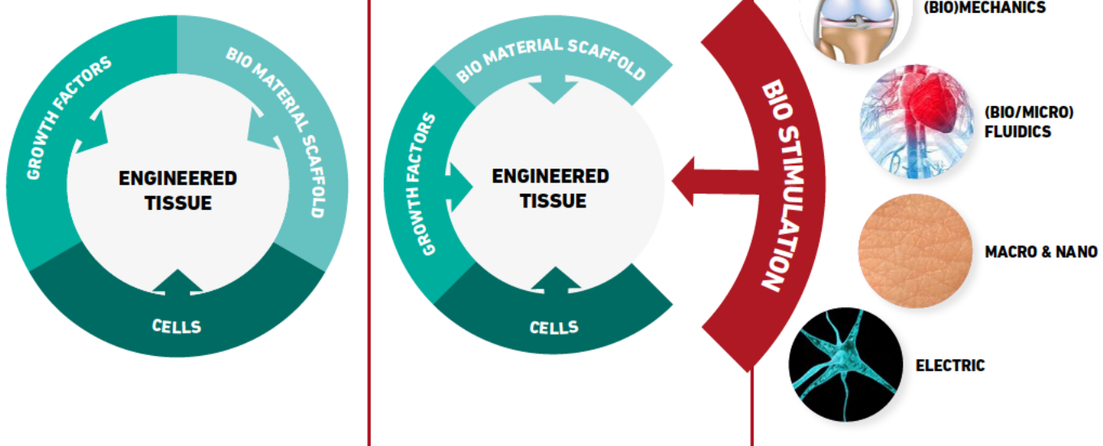
3DDISCOVERY™ EVOLUTION IS YOUR PARTNER to find the right STIMULI & CONDITIONS to enable tissue & organ fabrication.

Tissue engineering & regenerative medicine evolution

1ST GENERATION
3 PILLARS
PRINCIPALES OF TISSUE ENGINEERING
VACANTI & LANGER

2ND GENERATION
4 PILLARS
BIO STIMULATION CONCEPT

EVOLUTION
TO DATE
BIO STIMULATION
UNDERSTAND STIMULI & CONDITIONS



1995 — 2010 — 2015 — 3DDISCOVERY™ EVOLUTION

1 MODULARITY

11 different printhead technologies in a single instrument: to process an extensive biomaterial portfolio, multiple polymerization methods and technical accessories allow us to adapt and optimize the instrument to your application needs.

2 FLEXIBILITY

Your requirements are constantly evolving: the configuration and specifications of your instrument can be modified and adapted at any time thereby allowing your bioprinting hardware to develop along with your specific scientific progression.

3 CUSTOMIZATION

We offer the solution to your precise application: a broad range of bio stimulation features are dedicated to your bioprinting processes.

A UNIQUE BIOPRINTING SOLUTION TO DISCOVER THE UNDISCOVERED

regenHU
BIOSYSTEM ARCHITECTS

1 2 MODULARITY & FLEXIBILITY

Printing technology	Tissue Engineering	Software
11 different printing technologies available in a single process unit to address the most challenging applications	**Bio stimulation process components**	**A unique user-friendly Bioprinting Software Suite to enhance your specific needs BioCAD ™ BioCAM ™ BioCUT™**

Biological controlled environment	Technologie convergence	Process control
Processing in physiological & sterile conditions. Class 2 biosafety environment	**Macro & Nano bioarchitectures enabled by converging electrospinning & bioprinting biofabrication in one single process unit**	**Improved process reliability supported by high precision sensors**

3 CUSTOMIZATION

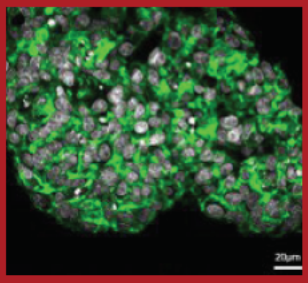
MECHANICAL STIMULATION	ELECTRICAL STIMULATION	HYDRODYNAMIC STIMULATION	OPTICAL STIMULATION
Matrix density / Macro & Nano strucutral matrix mechanics	Electromagnetic stimulation (voltage and frequency modulation)	Microfluidic	Photo-activation
Controlled ECM compression	Cold plasma surface treatment	Perfusion	Controlled illumination (modulated)
Stress stimulation (vibration amplitude and frequency modulation)		Ultrasonic stimulation	

APPLICATION EXAMPLE

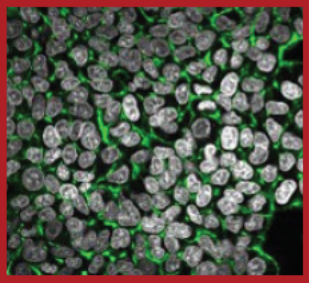
DENOVOSKIN™, a patient specific autologous skin graft with dermal-epidermal structure, is setting a new standard-of-care in the treatment of permanent skin defects. This bio-engineered skin graft is the result of advanced tissue engineering science and biofabrication expertise translated into clinical application by Cutiss Ltd. (cutiss.ch).

REGENHU PROPRIETARY PROCESS TECHNOLOGY

Manual



Printed



regenHU's proprietary process technology enables the fabrication of controlled tissue architectures with homogeneous cell distribution within optimized 3-dimensional biological environments resulting in clinically quantifiable in-vivo relevant tissue structures.

CUTISS SUPERIOR THERAPEUTIC SOLUTION

Standard-of-care denovoSkin™

denvoSkin™ overperforms the standard-of-care: after transplantation, the body has little means of producing scar tissue and inducing contraction. Superior clinical, functional & esthetical outcomes.

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