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The BICO Group

14 companies

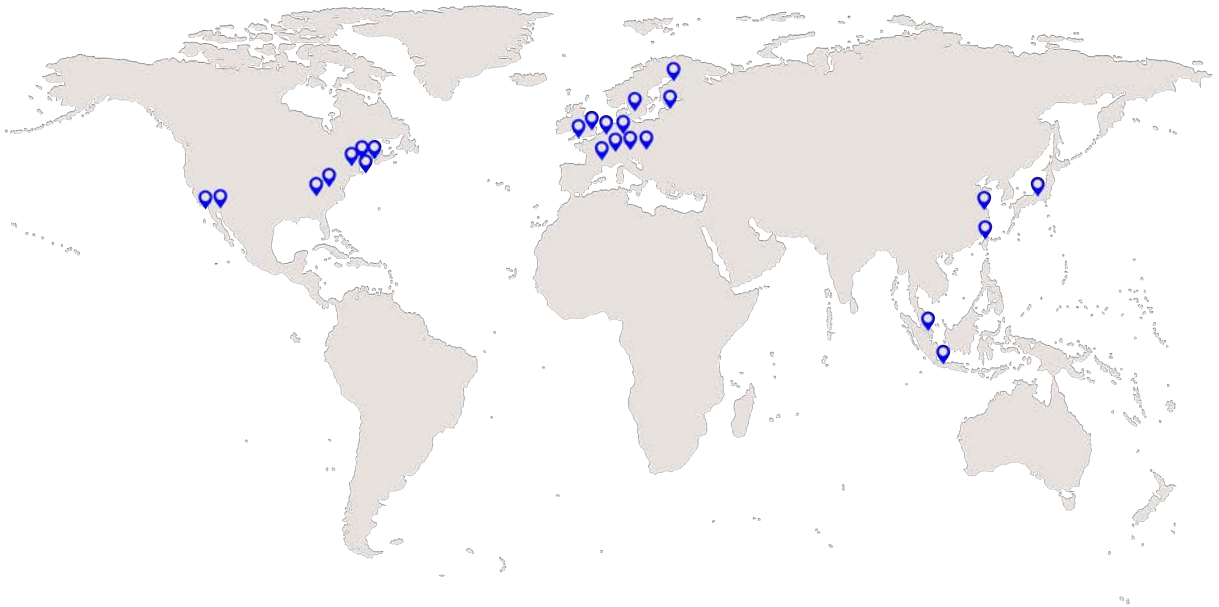
37 offices

1,000+ employees

25,000+ Instruments in 65+ countries

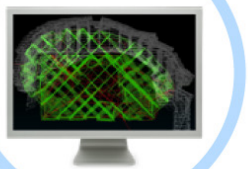
9,500+ Publications

Business Area Bioprinting	Business Area Biosciences	Business Area Bioautomation
CELLINK A BICO COMPANY	CYTENA A BICO COMPANY	SCIENION A BICO COMPANY
MATTEK A BICO COMPANY	CYTENA BPS A BICO COMPANY	CELLENION A BICO COMPANY
VISIKOL A BICO COMPANY	DISPENDIX A BICO COMPANY	GINOLIS A BICO COMPANY
nanoscribe A BICO COMPANY	ECHO A BICO COMPANY	QINSTRUMENTS A BICO COMPANY
ADVANCED BIOMATRIX A BICO COMPANY		



BIOPRINTING

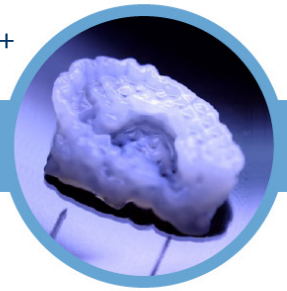
3D Model

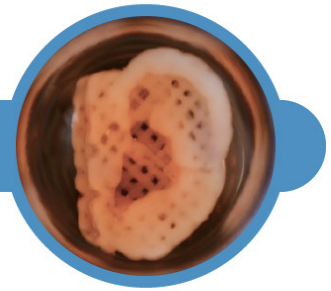


BIOPRINTER

Ca^{2+}

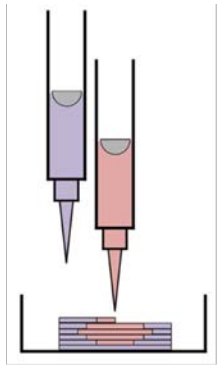
CROSSLINKING



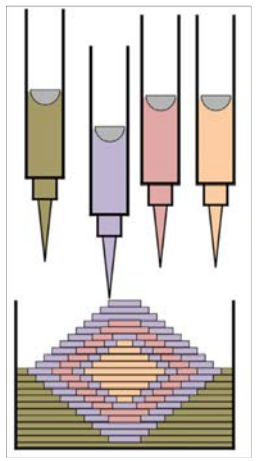


Ear construct after
4 weeks *in vitro*

BIOINK

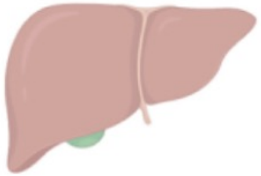


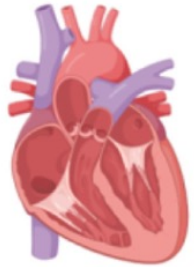
Bioinks were developed with structural and functional components

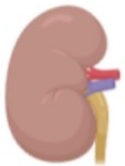


Full structures may also require support and sacrificial materials

Tissue/organ Regeneration







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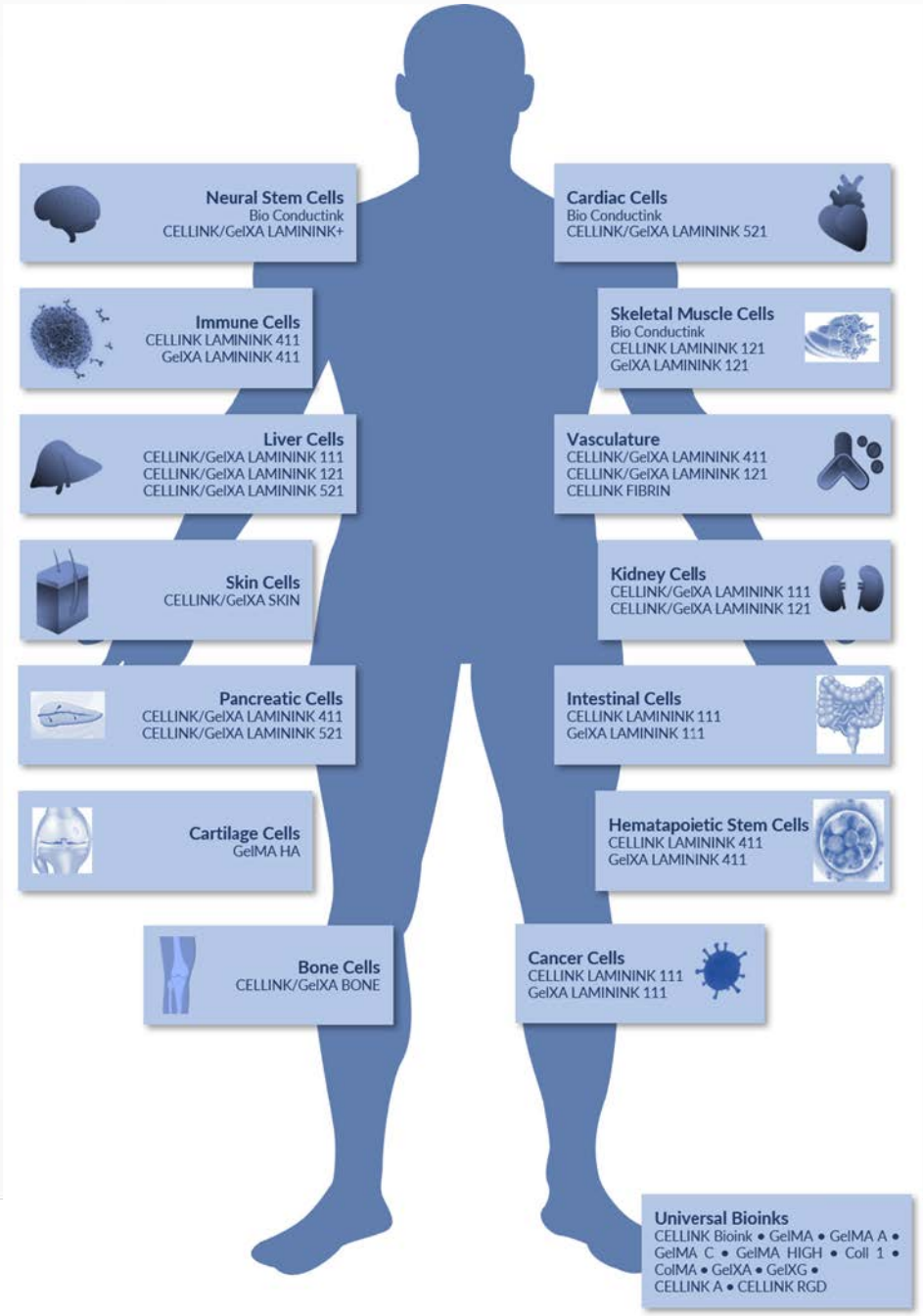

Tissue Engineering Kits

Direct application, consistent models

Advanced Bioinks

Tissue-specific biomaterials, case studies

Standard Bioinks

Basic bioinks, ready-to-use products

Stock Solutions

Consistent stock solutions, defined properties

Concentrated Components

Raw materials, accessories, basic tools

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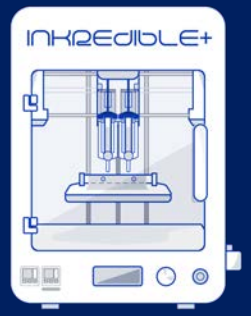
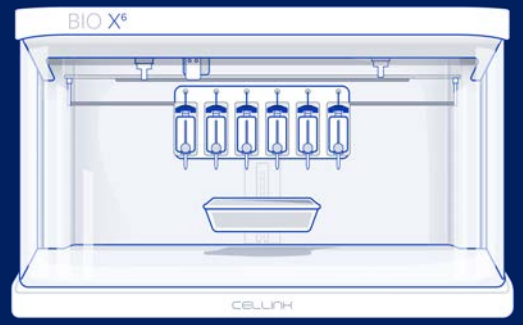
OUR BIOPRINTING TECHNOLOGIES

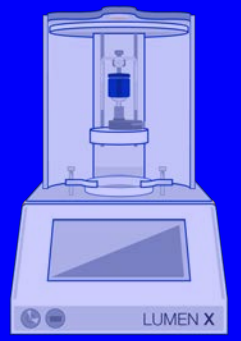
EXTRUSION-BASED





- Pressure-based prints
- Cartridge and syringe dispensing
- Successive filaments/droplets
- Crosslinking post-bioprinting

LIGHT-BASED



- Optics-based prints (UV)
- Resin bath
- Successive layers/points
- Crosslinking while bioprinting

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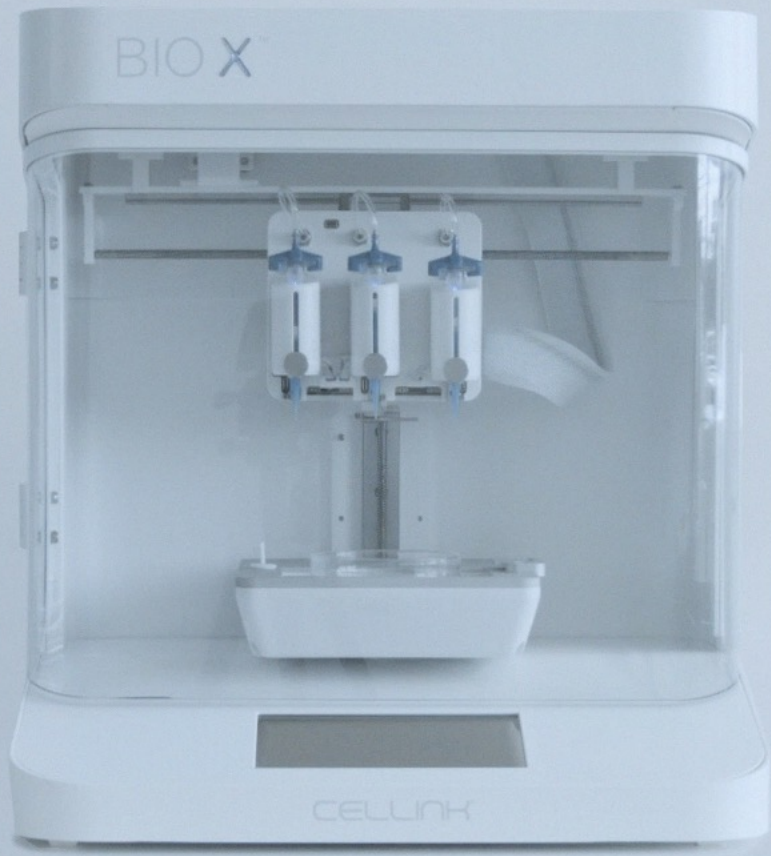
BIO X
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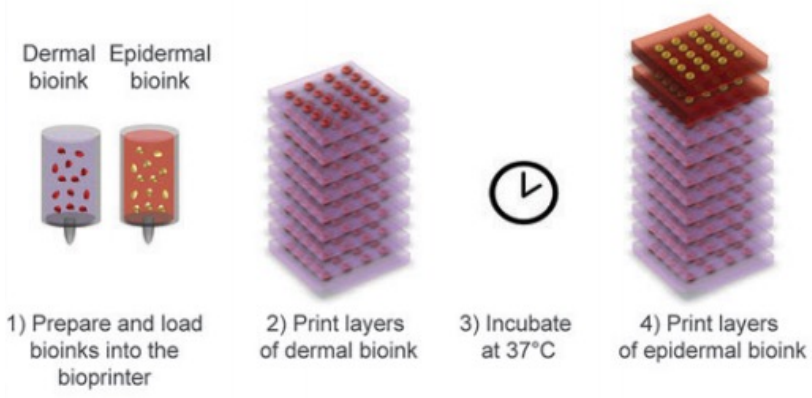
3D BIOPRINTING OF VASCULARIZED SKIN

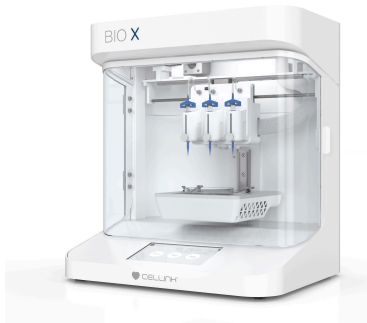
Three Dimensional Bioprinting of a Vascularized and Perfusable Skin Graft Using Human Keratinocytes, Fibroblasts, Pericytes, and Endothelial Cells

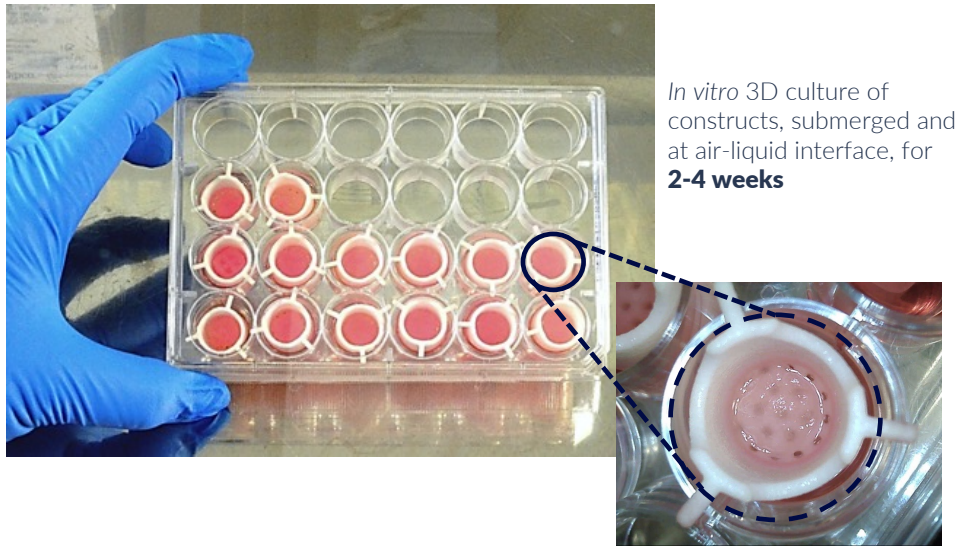
Tânia Baltazar, PhD,[1] Jonathan Merola, MD, PhD,[2] Carolina Catarino, MS,[3,4] Catherine B. Xie, MS,[1] Nancy C. Kirkiles-Smith, PhD,[1] Vivian Lee, PhD,[5] Stephanie Hotta, MS,[6] Guohao Dai, PhD,[5] Xiaowei Xu, MD, PhD,[7] Frederico C. Ferreira, MBA, PhD,[8] W. Mark Saltzman, PhD,[9] Jordan S. Pober, MD, PhD,[1] and Pankaj Karande, PhD[3,4]



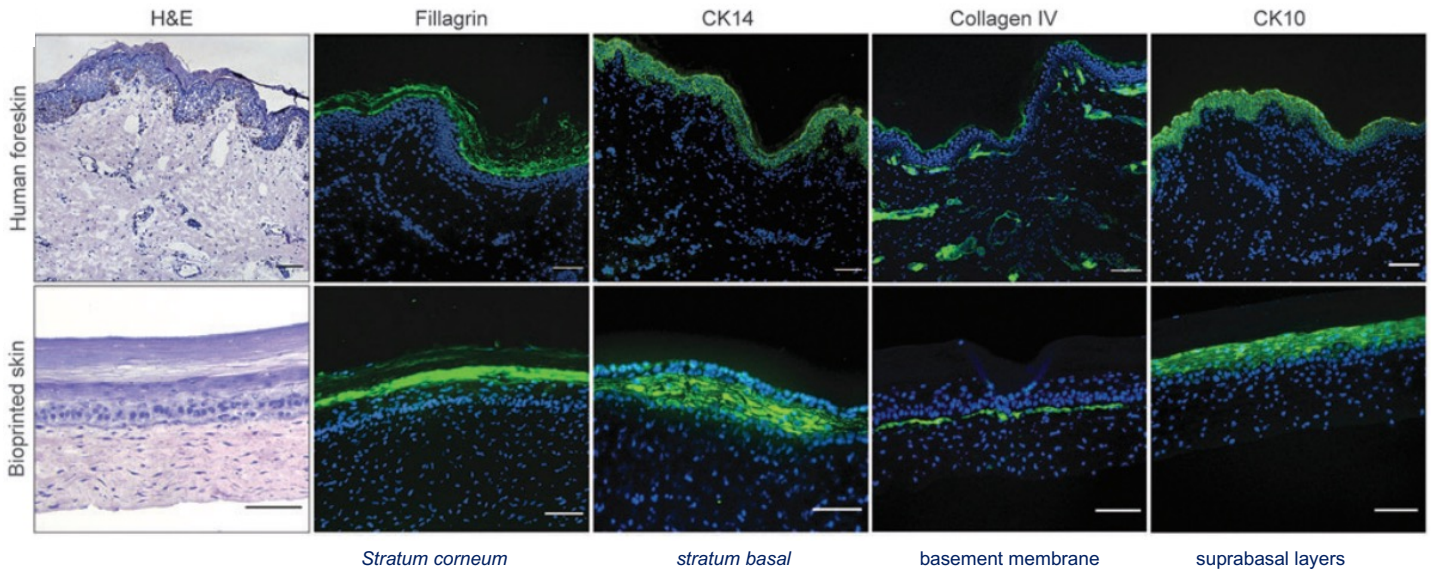
Model 1:
Non-vascularization
Dermis: Fibroblasts (FB)
Epidermis: Keratinocytes (KC)

Model 2: Vascularization
Dermis: FB + Endothelial cells (EC) + Pericytes (PC)
Epidermis: Keratinocytes (KC)





In vitro 3D culture of constructs, submerged and at air-liquid interface, for **2-4 weeks**



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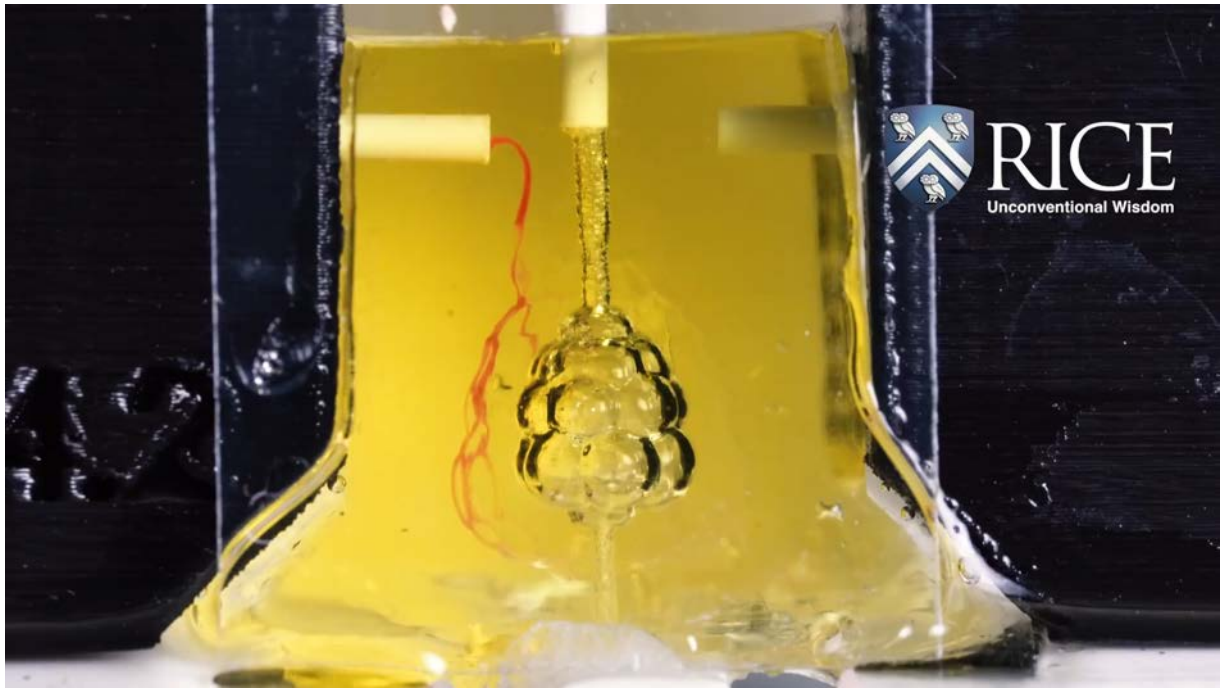
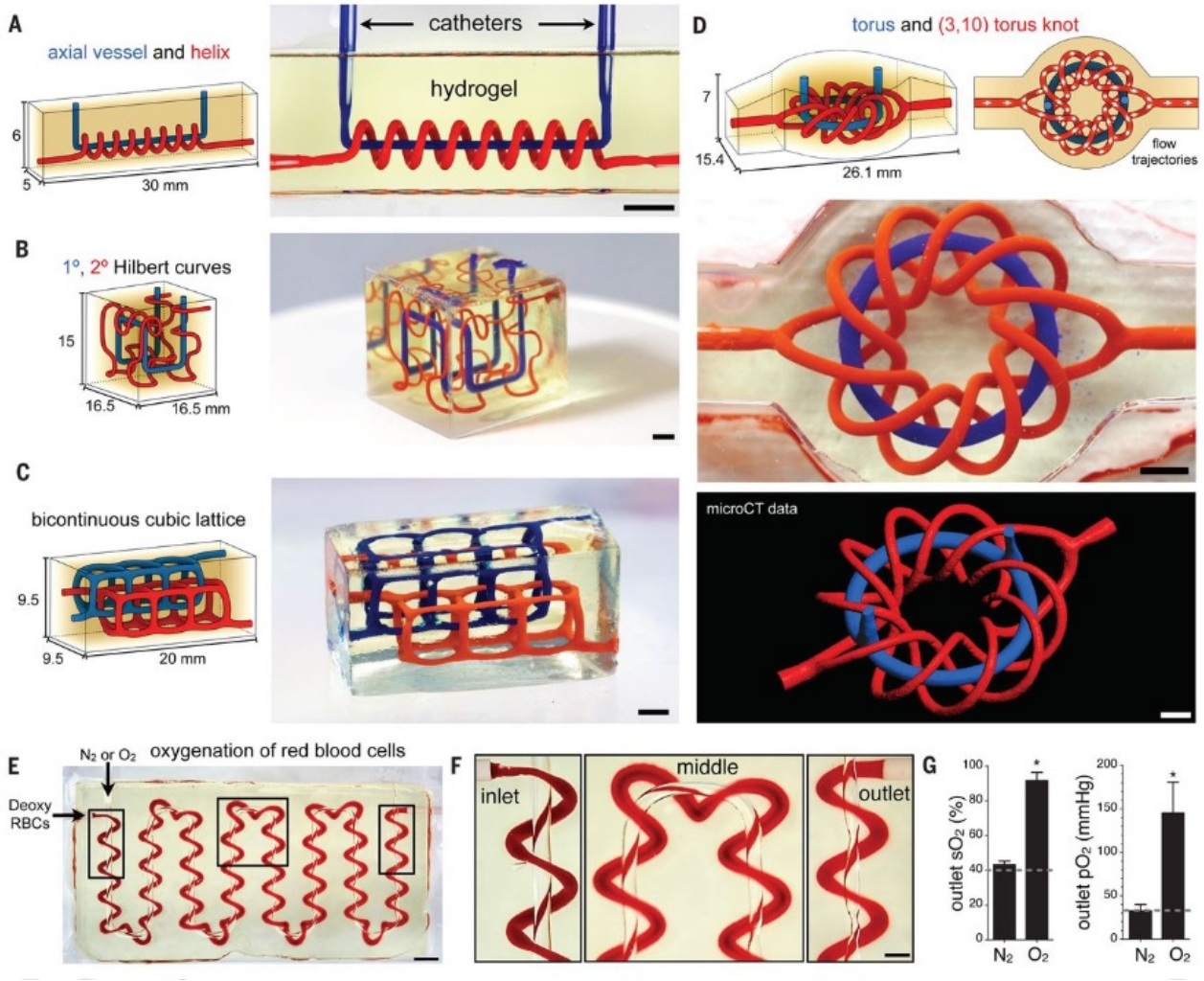
LUMEN X+ : HIGH RESOLUTION DLP-SLA

BIOMEDICINE

Multivascular networks and functional intravascular topologies within biocompatible hydrogels

Bagrat Grigoryan[1]*, Samantha J. Paulsen[1]*, Daniel C. Corbett[2,3]*, Daniel W. Sazer[1], Chelsea L. Fortin[3,4], Alexander J. Zaita[1], Paul T. Greenfield[1], Nicholas J. Calafat[1], John P. Gounley[5]†, Anderson H. Ta[1], Fredrik Johansson[2,3], Amanda Randles[5], Jessica E. Rosenkrantz[6], Jesse D. Louis-Rosenberg[6], Peter A. Galie[7], Kelly R. Stevens[2,3,4]‡, Jordan S. Miller[1]‡





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APPLICATION Notes
TECHNICAL Notes

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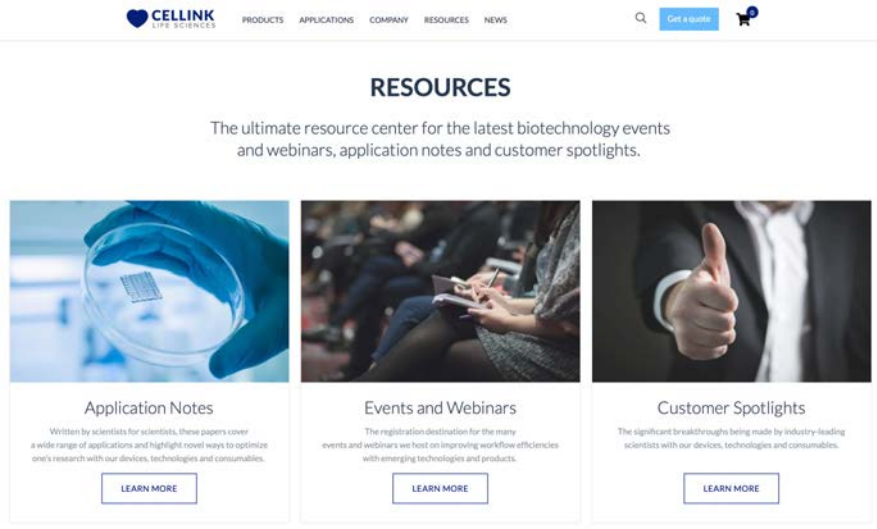
>> RESSOURCES



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