

#AAD2019

*Highlights*  
**AEDV**

IN 77<sup>TH</sup> AAD CONGRESS

1-5 MARCH 2019

★ WASHINGTON ★

Scientific Initiative of:



Sponsored by:



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**Innovation in pediatric dermatology**  
**Dra. Marta Feito Rodríguez**

Scientific Initiative of:



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# CONTENT...

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**FIGHTING WITH  
PAIN AND ANXIETY**



**INNOVATION IN  
DRUG  
DEVELOPMENT**



**GENOMICS MEDICINE  
and...**



**DEVICES and  
INSTRUMENTS**

# DIGITAL AND NON-DIGITAL DISTRACTION TECHNIQUES

## NON-PHARMACOLOGIC TECHNIQUES

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- Maintaining quiet and controlled atmosphere
- Preparing instrument trays out of view of the patient, and covering with sterile towels when placed at the bedside
- Considering family presence at the beginning of the procedure
- Smiling warmly. Keeping patient eye contact and sitting during explanations
- Talking with the patient!
- Avoiding terms that may evoke fear or anxiety (needles, burns, pain)
- Blowing soap bubbles



What else?

FIGHTING WITH PAIN AND ANXIETY



FIGHTING WITH PAIN AND  
ANXIETY

# DEFINITIONS

#AAD2019



**#VIRTUAL REALITY:** COMPUTER TECHNOLOGY THAT CREATES AN **ARTIFICIAL 3-D** SIMULATED ENVIRONMENT

VR completely immerses the patient in another world, a **fully** artificial digital environment.

Interacting with immersive VR might divert attention, leading to a slower response to incoming pain signals

**#AUGMENTED REALITY:** INTERACTIVE EXPERIENCE OF A **REAL-WORLD** ENVIRONMENT

Objects that reside in the real-world are "**augmented**" by computer-generated perceptual information, sometimes across multiple sensory modalities, including visual, auditory, haptic, somatosensory, and olfactory.

AR overlays virtual objects on the real-world environment



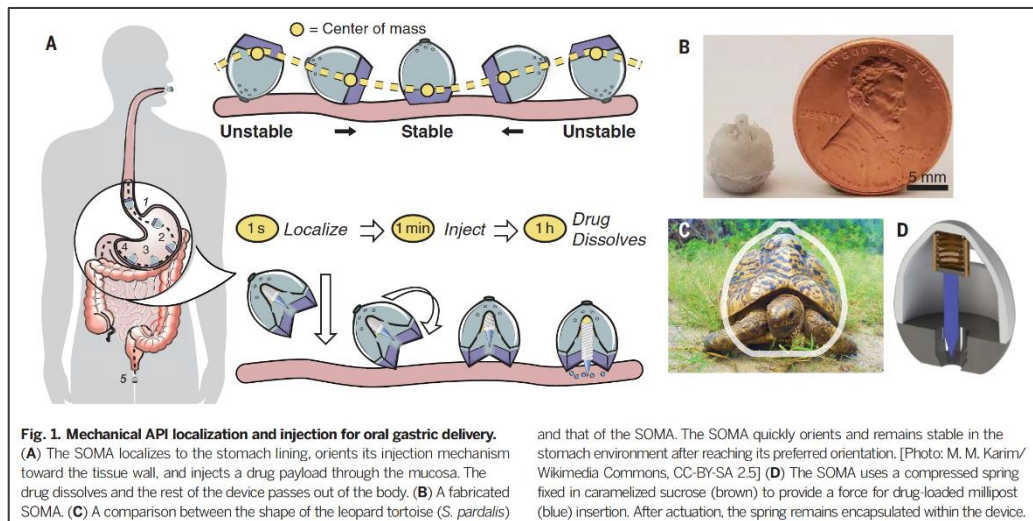
FIGHTING WITH PAIN AND ANXIETY

## REPORT

## BIOMEDICINE

## An ingestible self-orienting system for oral delivery of macromolecules

Alex Abramson<sup>1</sup>, Ester Caffarel-Salvador<sup>1,2</sup>, Minsoo Khang<sup>1</sup>, David Dellai<sup>2</sup>, David Silverstein<sup>1</sup>, Yuan Gao<sup>1</sup>, Morten Revsgaard Frederiksen<sup>2</sup>, Andreas Vegge<sup>2</sup>, František Hubálek<sup>2</sup>, Jorrit J. Water<sup>2</sup>, Anders V. Friderichsen<sup>2</sup>, Johannes Fels<sup>2</sup>, Rikke Kaae Kirk<sup>2</sup>, Cody Cleveland<sup>1,3</sup>, Joy Collins<sup>1</sup>, Siddhartha Tamang<sup>1</sup>, Alison Hayward<sup>1,4</sup>, Tomas Landh<sup>2</sup>, Stephen T. Buckley<sup>2</sup>, Niclas Roxhed<sup>1,5</sup>, Ulrik Rahbek<sup>2</sup>, Robert Langer<sup>1,2,6\*</sup>, Giovanni Traverso<sup>1,7,8\*</sup>



# SKIN TISSUE ENGINEERING: 3D BIOPRINTING

Science News

from research organizations

## 3-D bioprinter to print human skin

Date: January 23, 2017

Source: Universidad Carlos III de Madrid - Oficina de Información Científica

Summary: Scientists have presented a prototype for a 3D bioprinter that can create totally functional human skin. This skin is adequate for transplanting to patients or for use in research or the testing of cosmetic, chemical, and pharmaceutical products.

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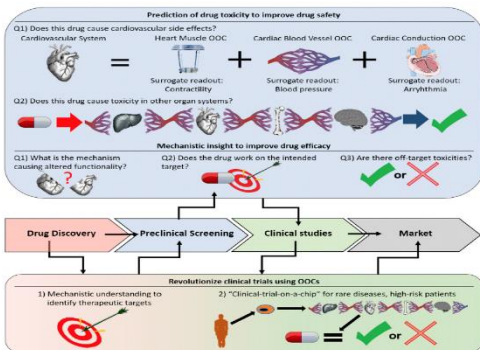
RELATED TOPICS FULL STORY

Health & Medicine

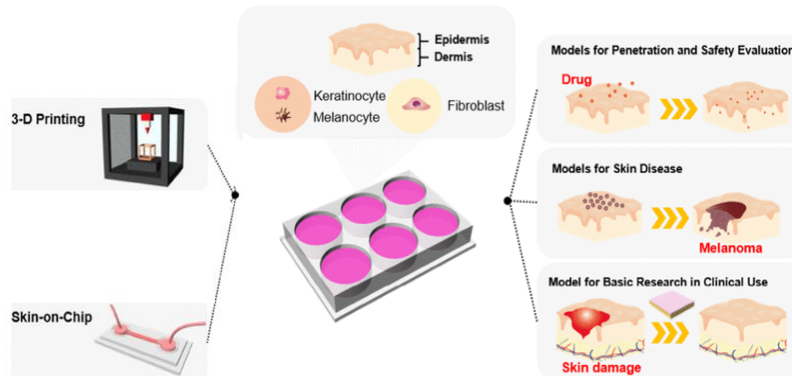
- > Skin Care
- > Psoriasis
- > Cosmetics
- > Cosmetic Surgery
- Matter & Energy
- > Biochemistry



La Hércules impresa en 3D de Evoxite



### In vitro 3-D Skin Model

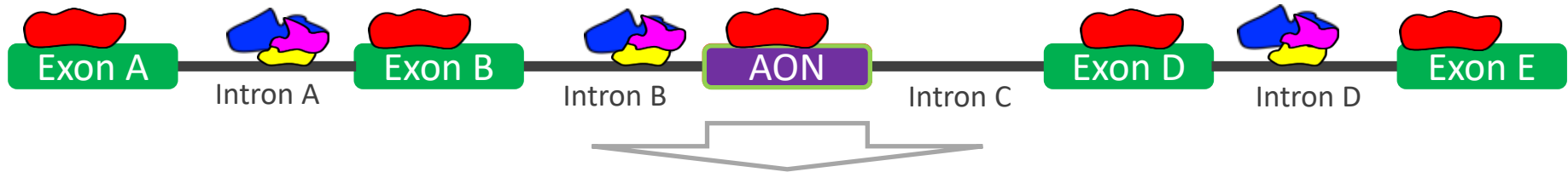


## MAIN APPLICATIONS

- Disease skin models
  - Melanoma
  - Psoriasis
  - Herpes
- Drug testing
  - Therapeutics
  - Cosmetics
- Regeneration and basic research
  - Wound healing
  - New biomaterials
  - Skin transplantation



- QR-313 skip the mutation-containing exon
- Creates a shorter but functional protein
- The approach is also known as exon skipping



## Locations

## United States, California

Stanford University School of Medicine, LRFCH  
Palo Alto, California, United States, 94305  
Contact: Kurju Sridhar 650-721-4902 [kurju@stanford.edu](mailto:kurju@stanford.edu)  
Principal Investigator: Peter Marinkovich, MD

Recruiting

## United States, Colorado

Children's Hospital Colorado  
Aurora, Colorado, United States, 80045  
Contact: Kathleen Peoples 720-777-4708 [kathleen.peoples@childrenscolorado.org](mailto:kathleen.peoples@childrenscolorado.org)  
Principal Investigator: Anna L. Bruckner, MD

Recruiting

## United States, Minnesota

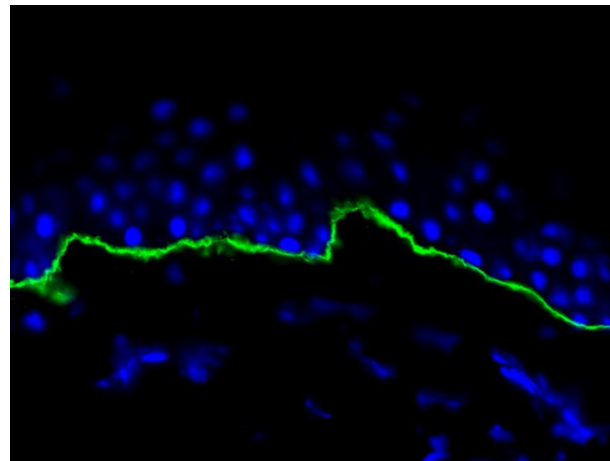
Journey Clinic, Center for Pediatric Blood and Marrow Transplantation  
Minneapolis, Minnesota, United States, 55454  
Contact: Christen Ebens, MD 612-626-8094 [ebens012@umn.edu](mailto:ebens012@umn.edu)  
Principal Investigator: Christen Ebens, MD

Recruiting

## United States, Ohio

Cincinnati Children's Hospital  
Cincinnati, Ohio, United States, 15005  
Contact: Bret Augstburger 513-803-9009 [Bret.Augstburger@cchmc.org](mailto:Bret.Augstburger@cchmc.org)  
Principal Investigator: Anne Lucky, MD

Recruiting



## France

Hopital Necker Enfants Malades  
Paris, France, 75015  
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Principal Investigator: Christine Bodemer, Pr

Recruiting

## Spain

Hospital Universitario La Paz  
Madrid, Spain, 28046  
Contact: Rocio Masada Pedrero, Dr +34 620 042 691 [rociomasada@gmail.com](mailto:rociomasada@gmail.com)  
Contact: Vega Mauleón Martínez +34 912071876 [vegamauleon@gmail.com](mailto:vegamauleon@gmail.com)  
Principal Investigator: Rocio Masada Pedrero, Dr

Recruiting

**Topical QR-313 in Recessive Dystrophic Epidermolysis Bullosa (RDEB) Due to Mutation(s) in Exon 73 of the COL7A1gene**



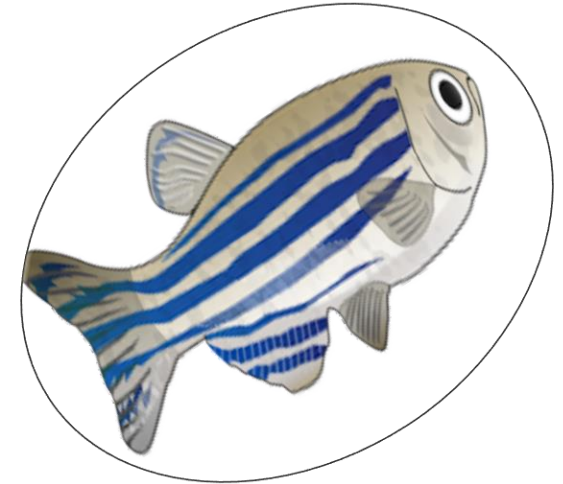
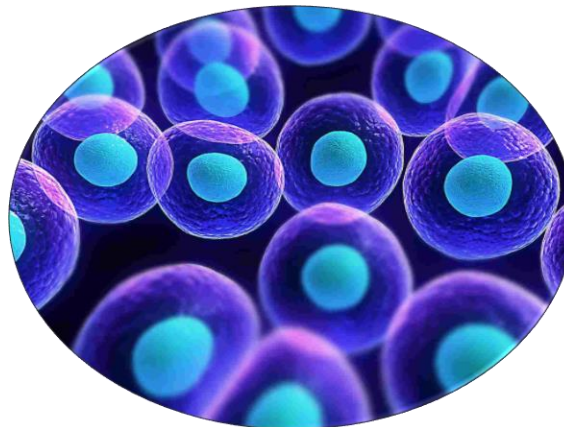


# CRISPR

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Given that the scientific community has already mapped many genes that cause the genetic disease, CRISPR could be useful for numerous research and medical applications



OMICS MEDICINE and...

Tiny wearable UV sensors can help clinicians to optimize dosing during phototherapy



Stick-on wireless temperature monitors



WELCOME TO A WORLD OF SENSORS IN PEDIATRICS !



Glucose measuring systems that eliminate the need for finger sticks, through small sensors that are applied to the back of a user's upper arm



Continuous Glucose Measuring Smartwatches

Smart socks that track heart rate and oxygen levels while the baby sleeps



WELCOME TO A WORLD OF SENSORS IN PEDIATRICS !



DEVICES and  
INSTRUMENTS