

The (many) Interfaces between Art and Science

Helio Takai

*Interim Dean, School of Liberal Arts and Sciences
Pratt Institute*

ART

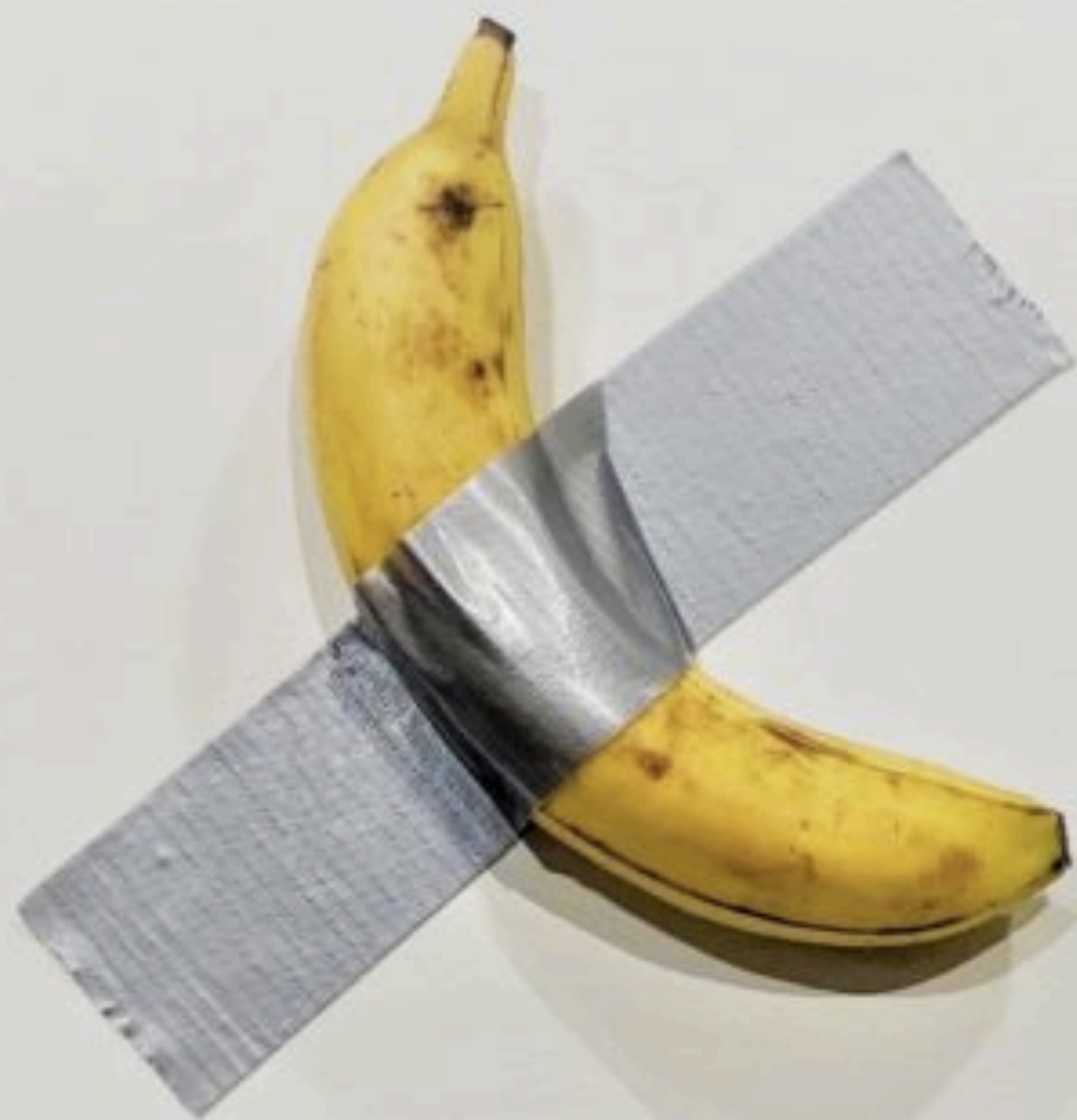


“The expression or application of human creative skill and imagination, typically in a visual form such as painting or sculpture, producing works to be appreciated primarily for their beauty or emotional power”.

SCIENCE



“The intellectual and practical activity encompassing the systematic study of the structure and behavior of the physical and natural world through observation and experiment”.



Pratt Institute



It is a school of Art and Design. It is a school of **Makers!**

Pratt



A School of Makers





Social Responsibility

Sustainability

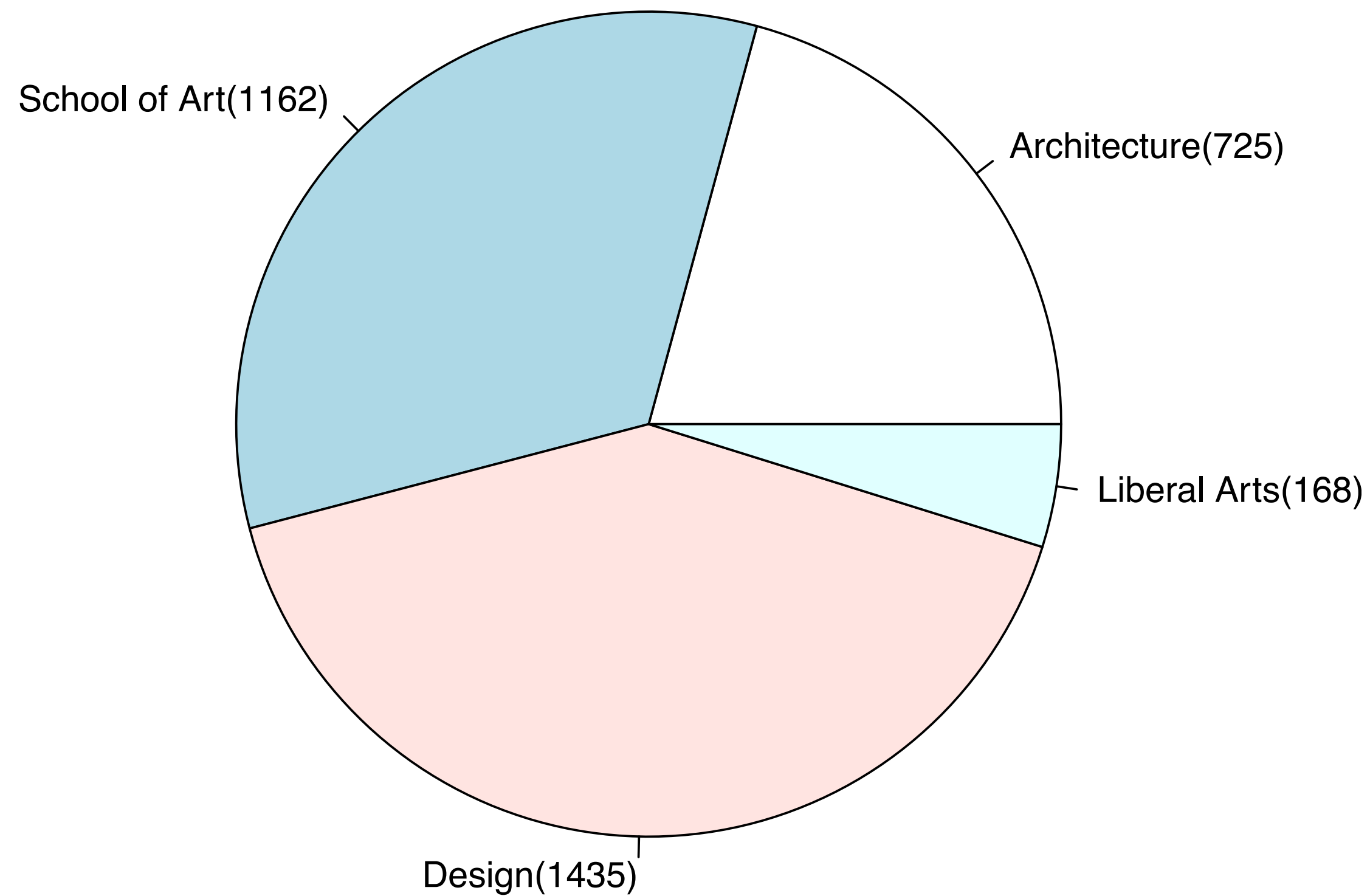
Social Justice

Equity

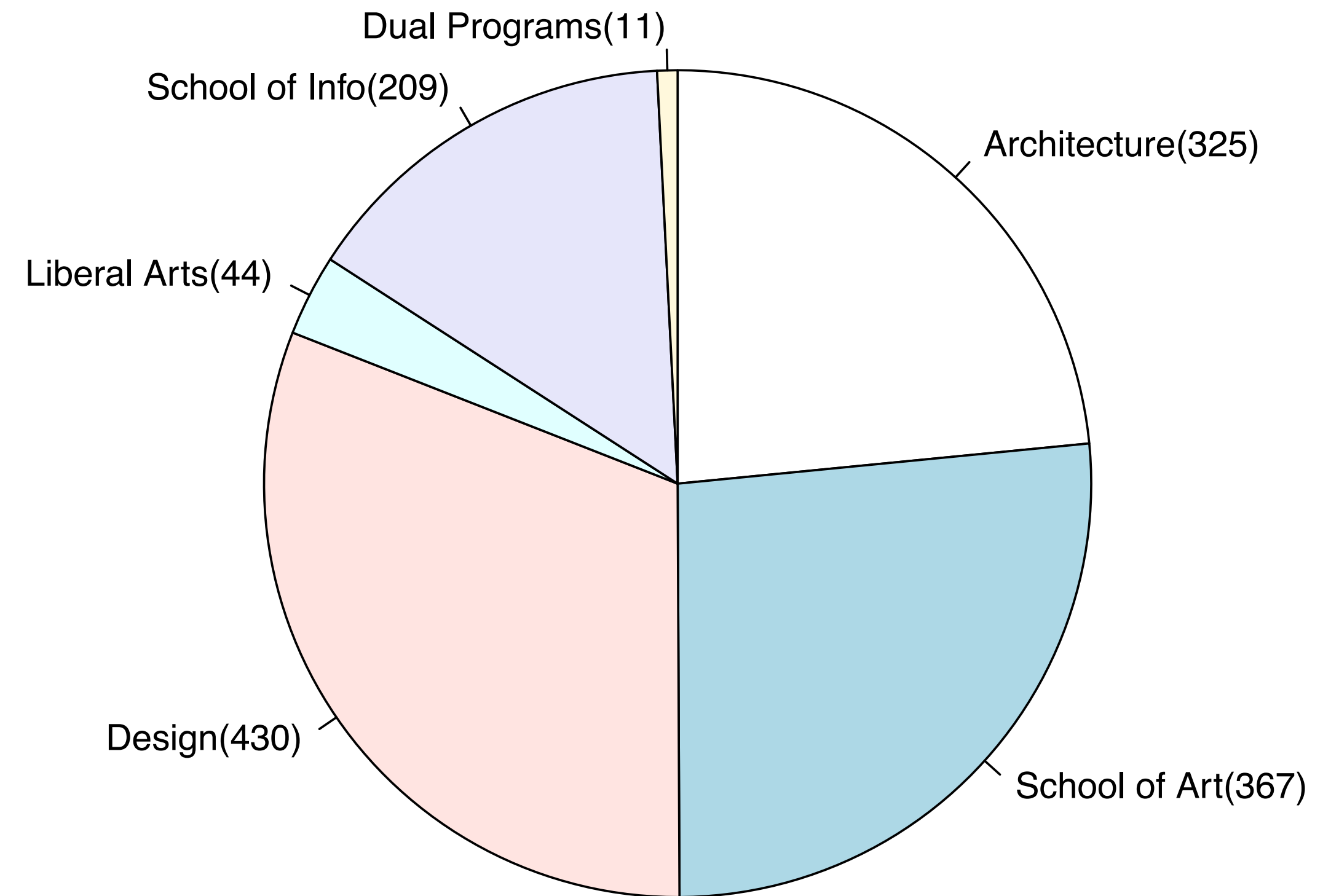
Karol Murlak

Pratt Institute

Pratt Undergraduate

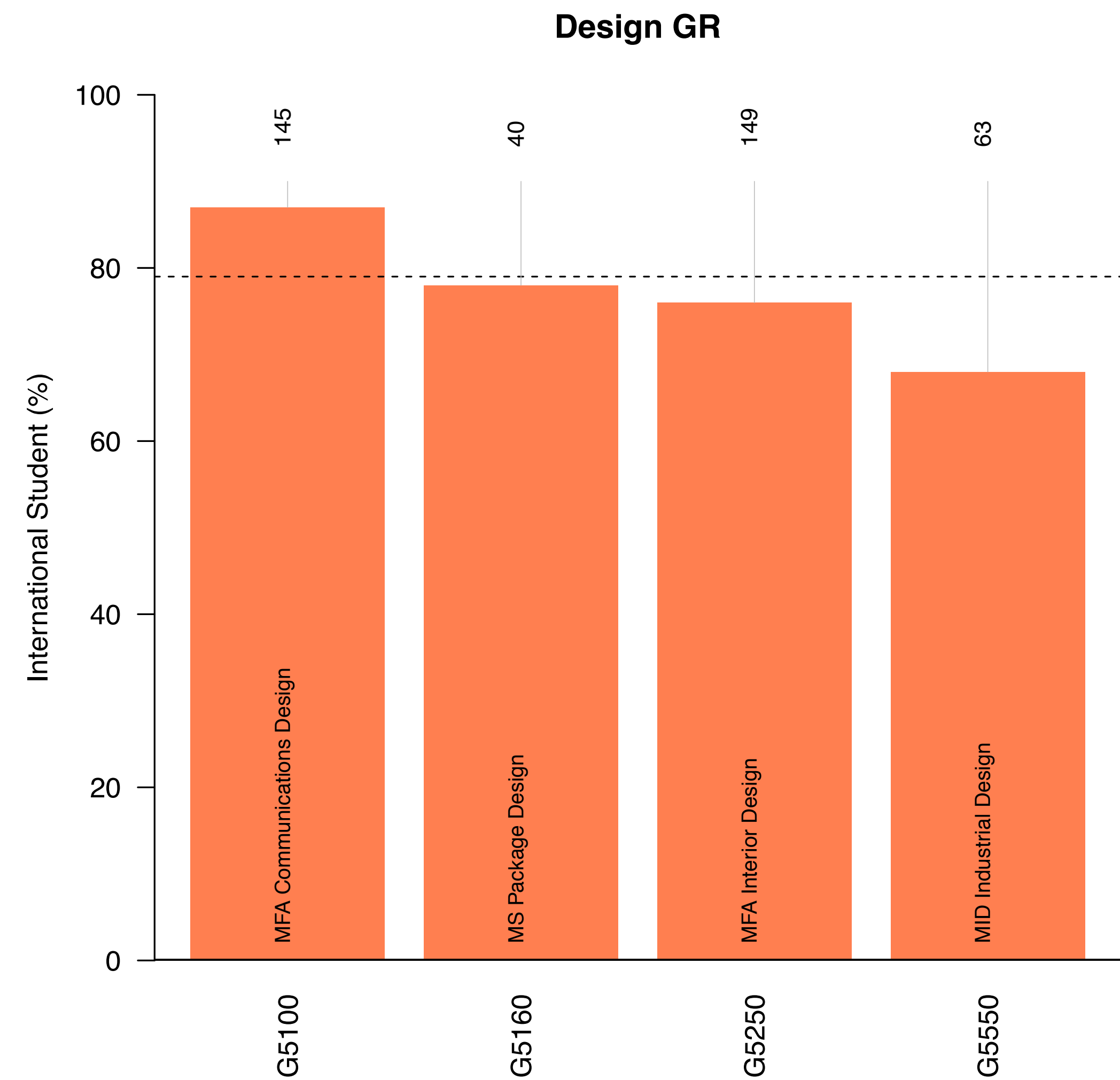
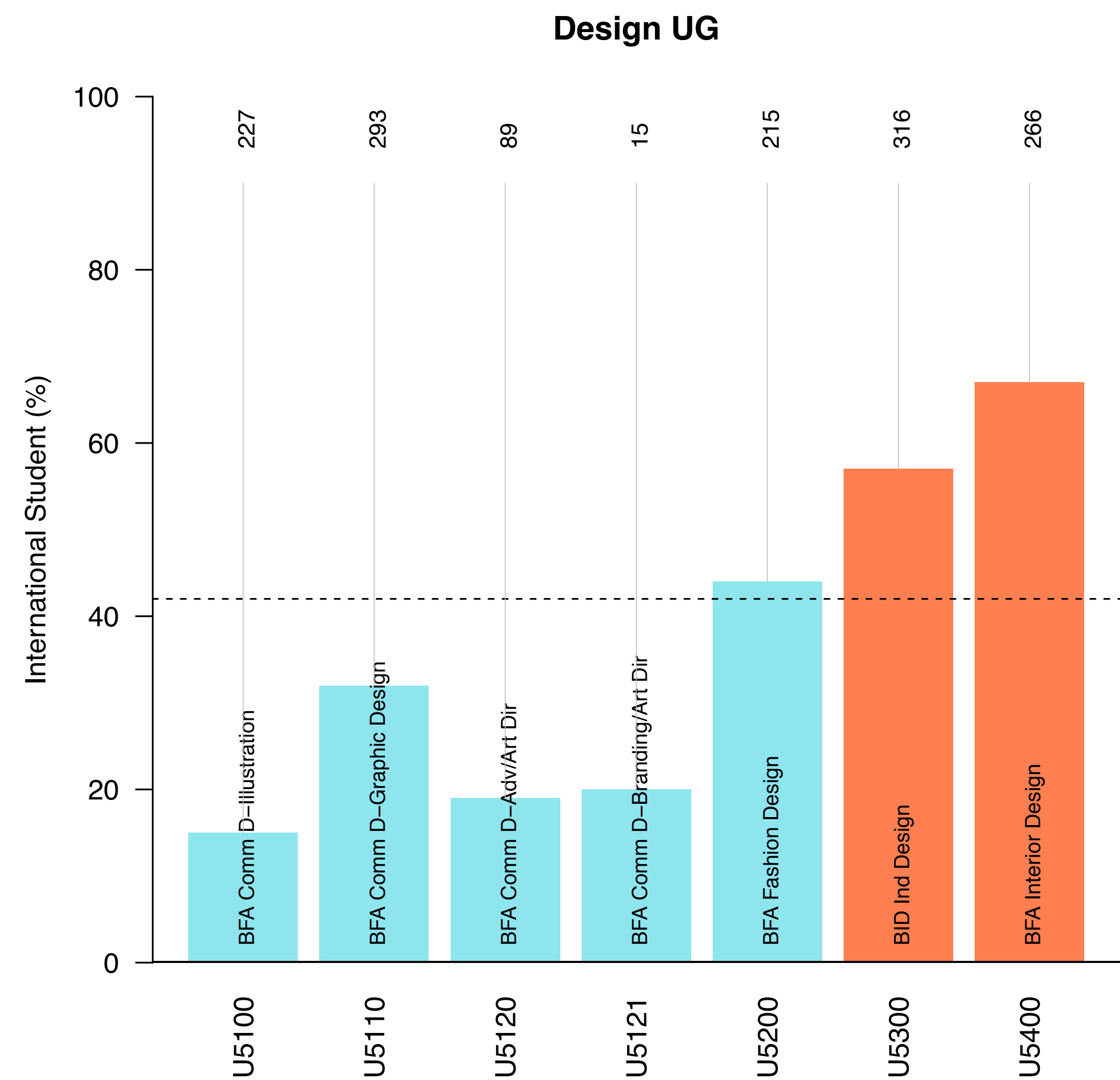


Pratt Graduate



Where are the students?

Pratt Institute





A School of Makers



Foundation



<http://www.taezoo.com/singularity>



Taezoo Park
Singularity - 480 components
www.taezoo.com/singularity
© 2010



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Singularity - 480 components
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Time is light

An Interactive Light Installation

Yaqi Wang

https://talks.pratt.edu/media/0_997wnb2u

https://talks.pratt.edu/media/1_wtgrz8wm



Architecture



Architecture

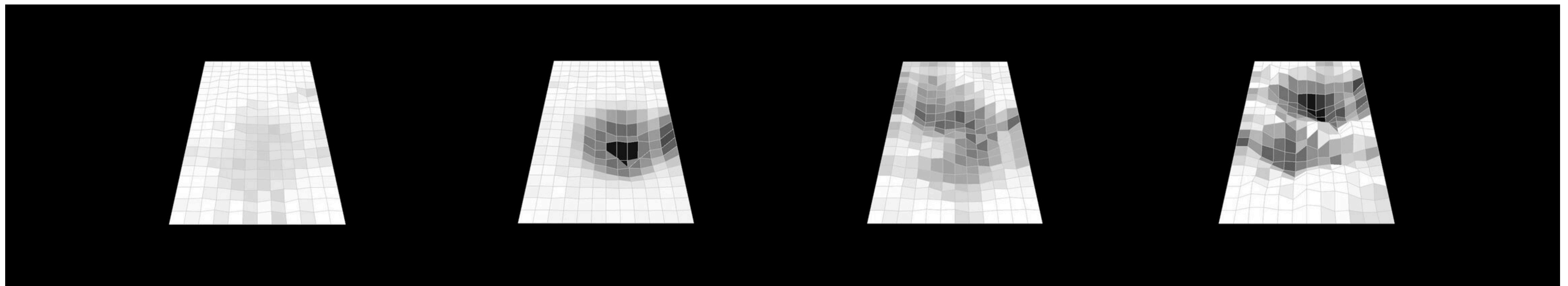
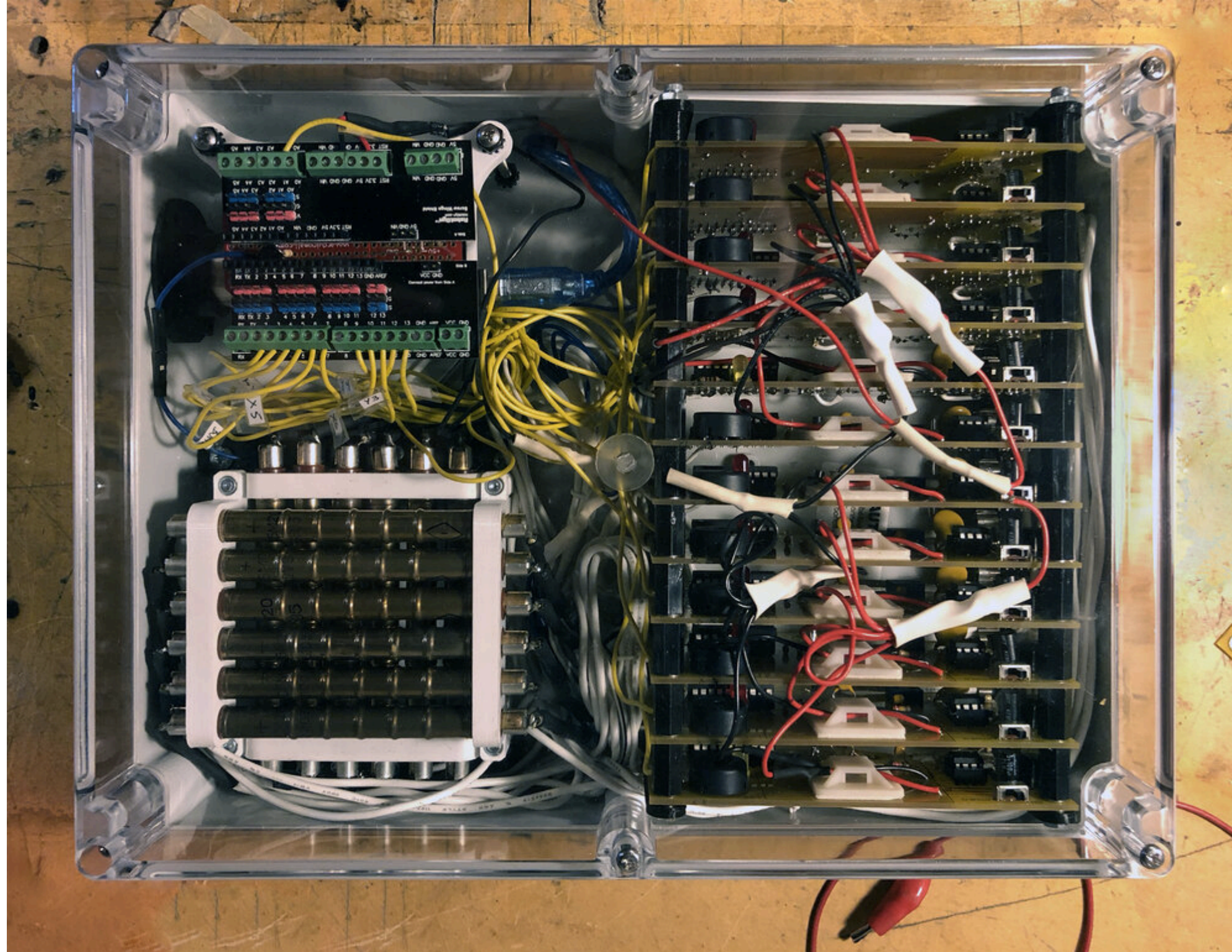


Industrial Design



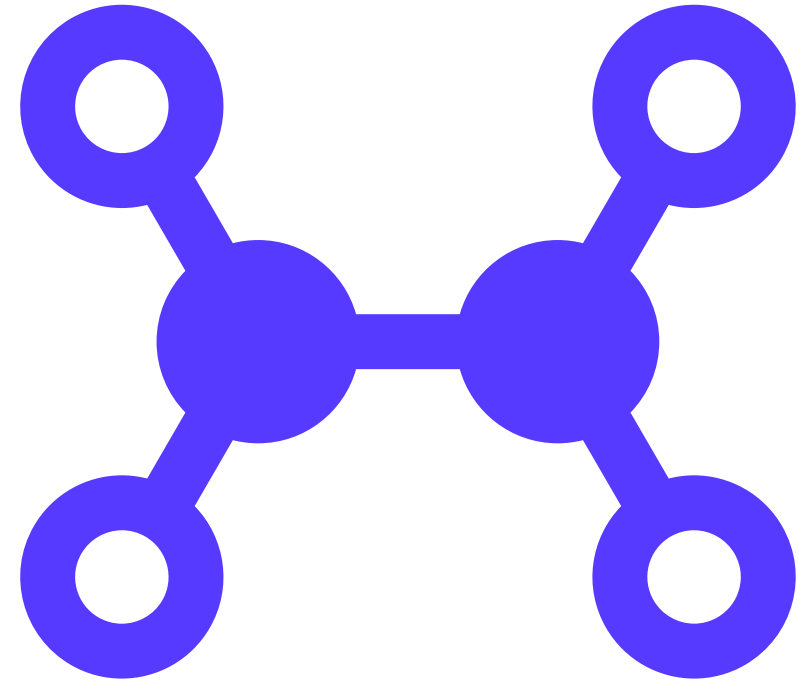
Spaces within Spaces

Joe Morris



<https://emotivemachine.net/space-within-spaces>

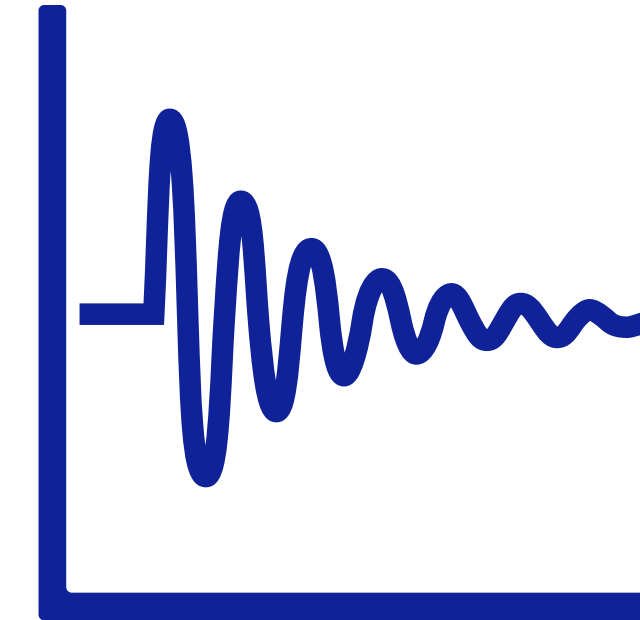
Science meet Art (and Design)



Material Science



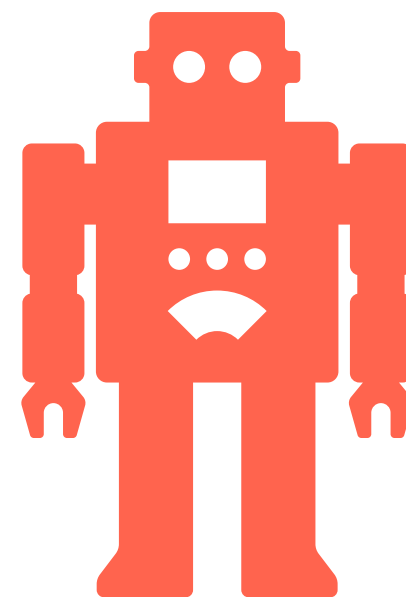
Chemistry



Electronics



Computer Science



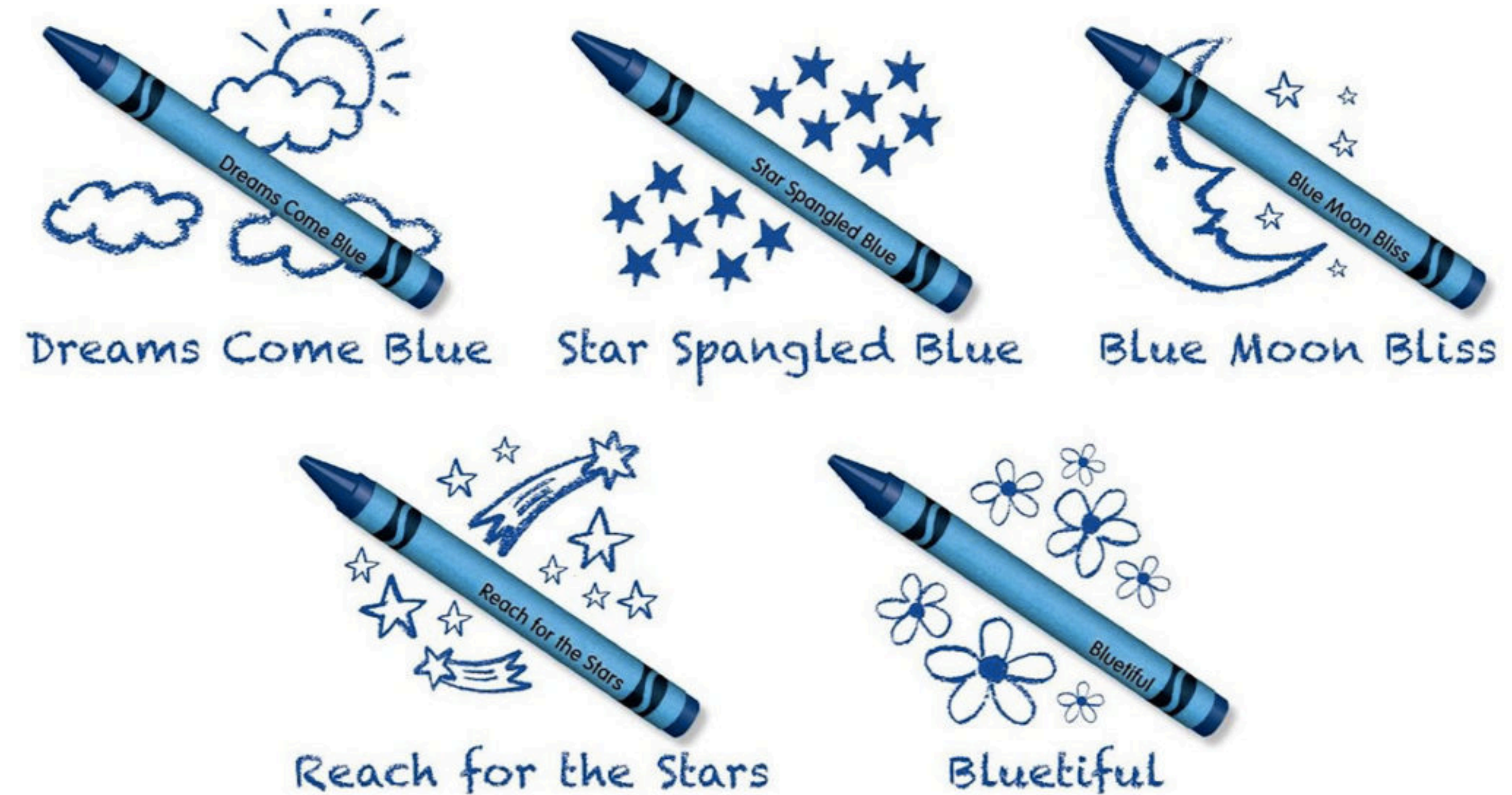
Robotics



Education

“The New Blue”

(R = 46, G = 80, B = 144)

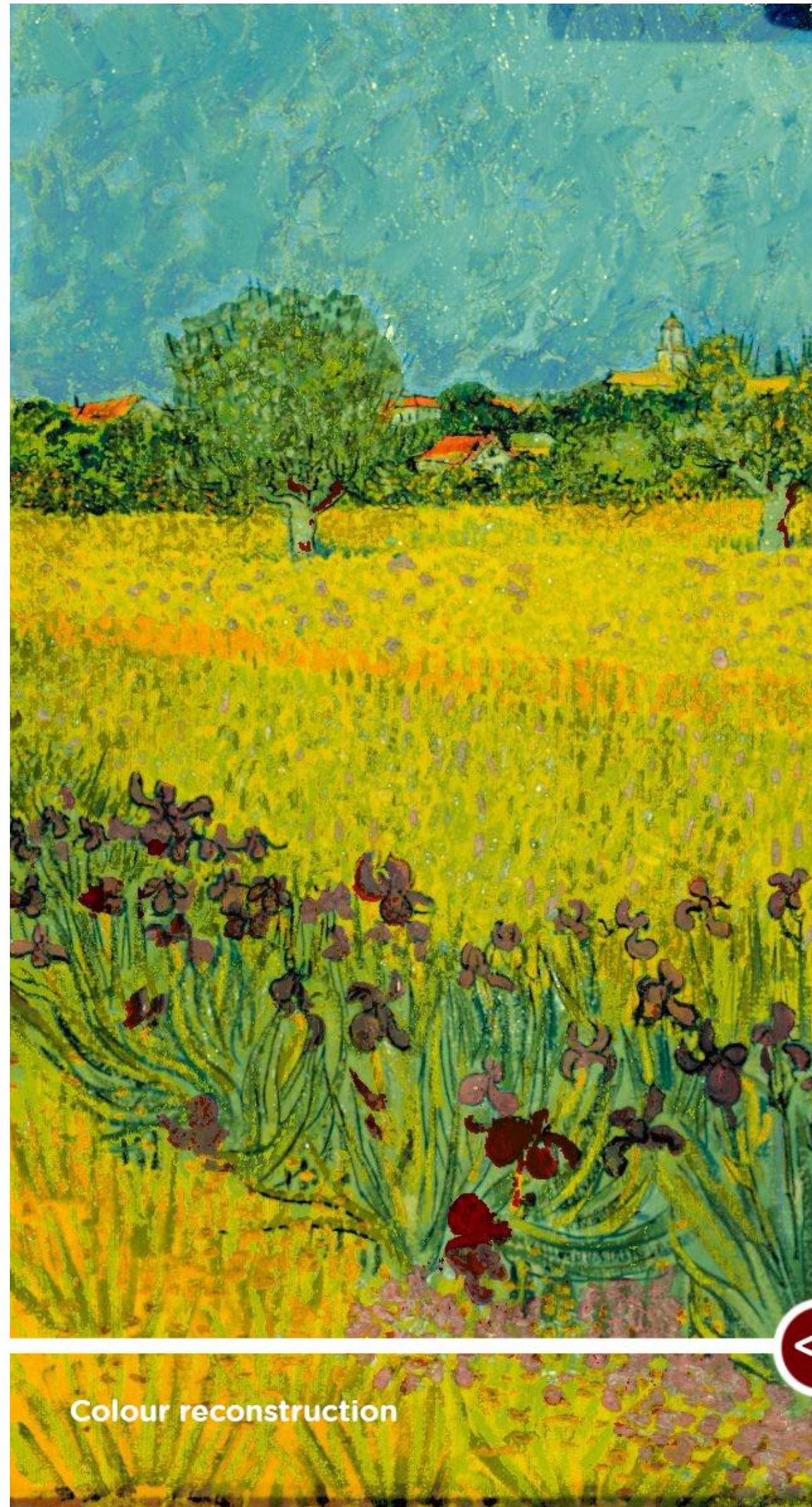


YInMn pigment was discovered
in 2009!

It is now being commercialized
by Crayola – **Bluetiful**

Fading happens...

Computer
Reconstruction

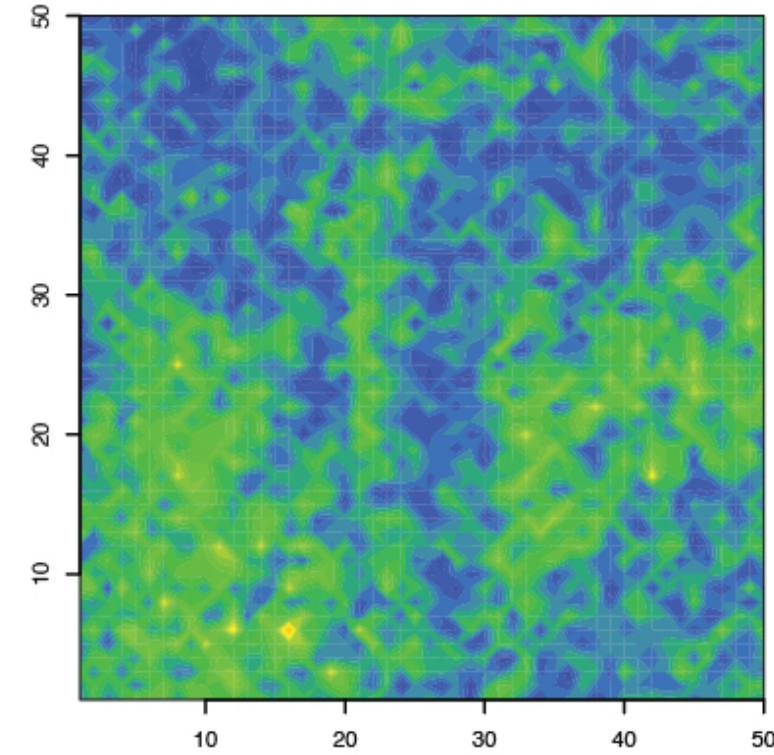


Present Day

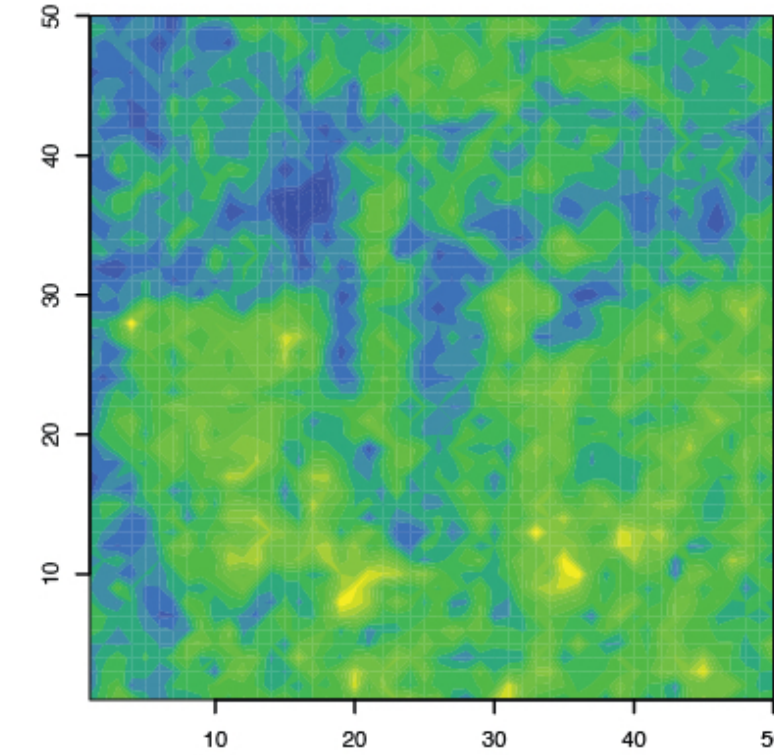


from Project REVIGO

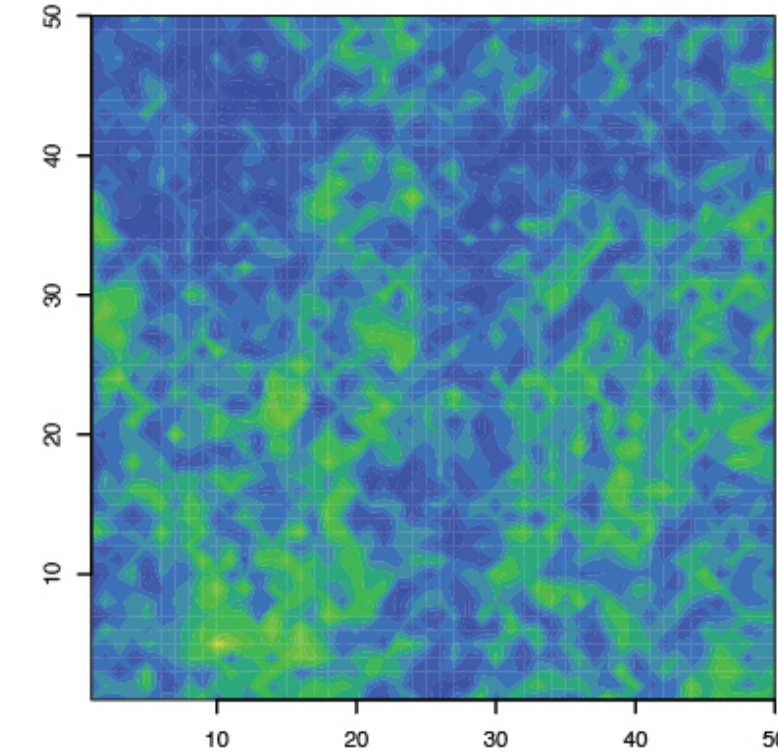
Volcano Happens...



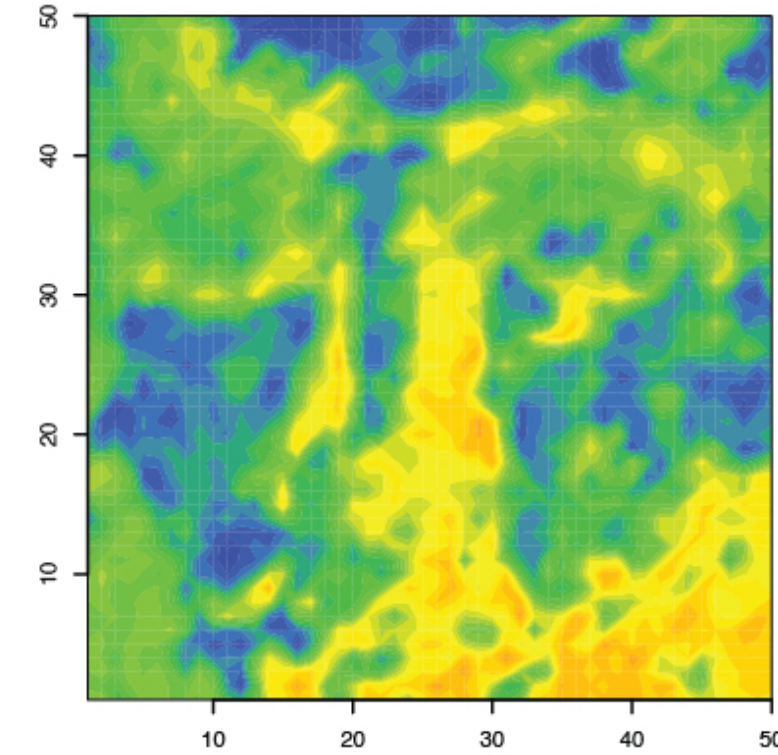
Silicon



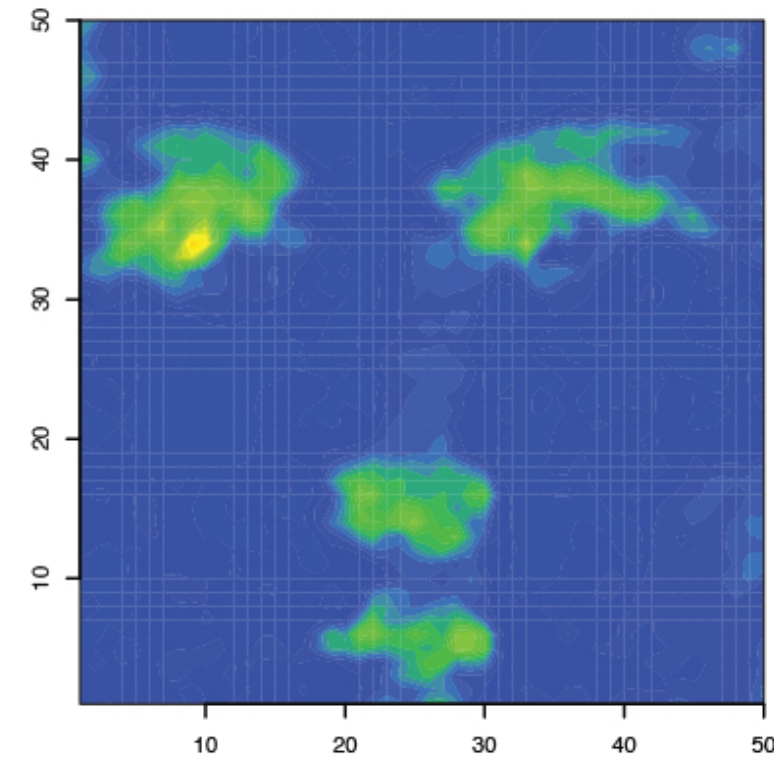
Sulfur



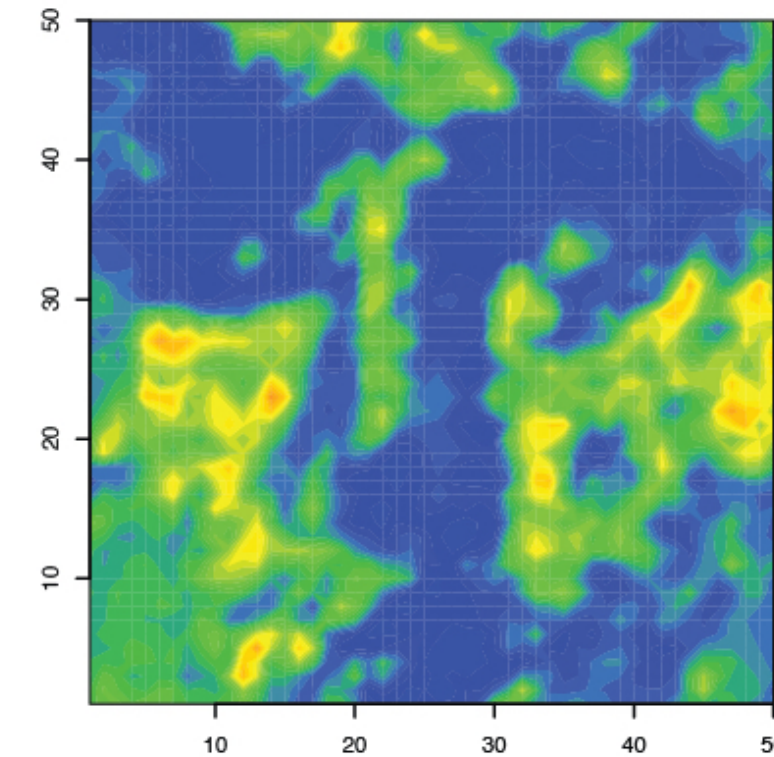
Potassium



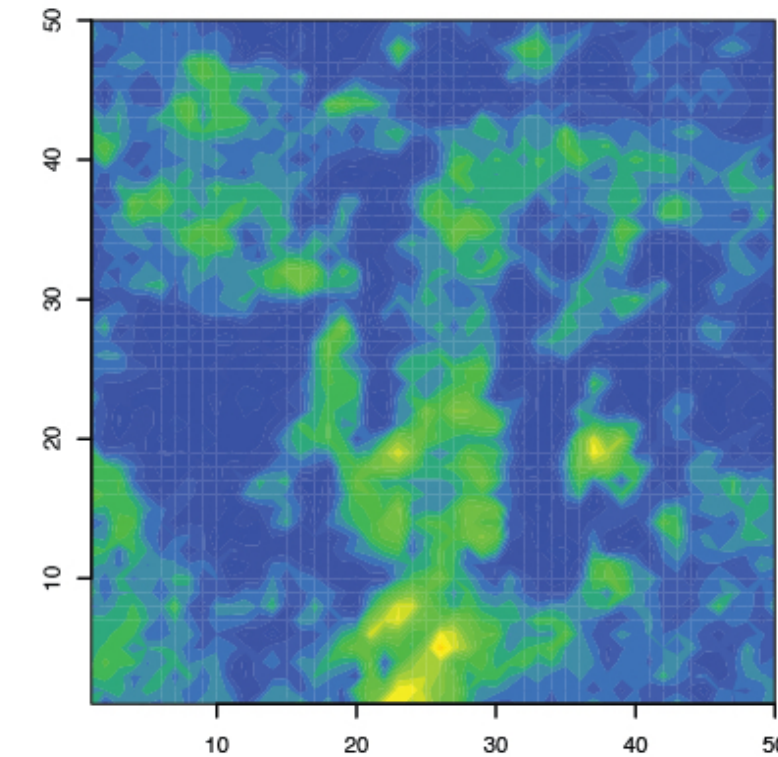
Calcium



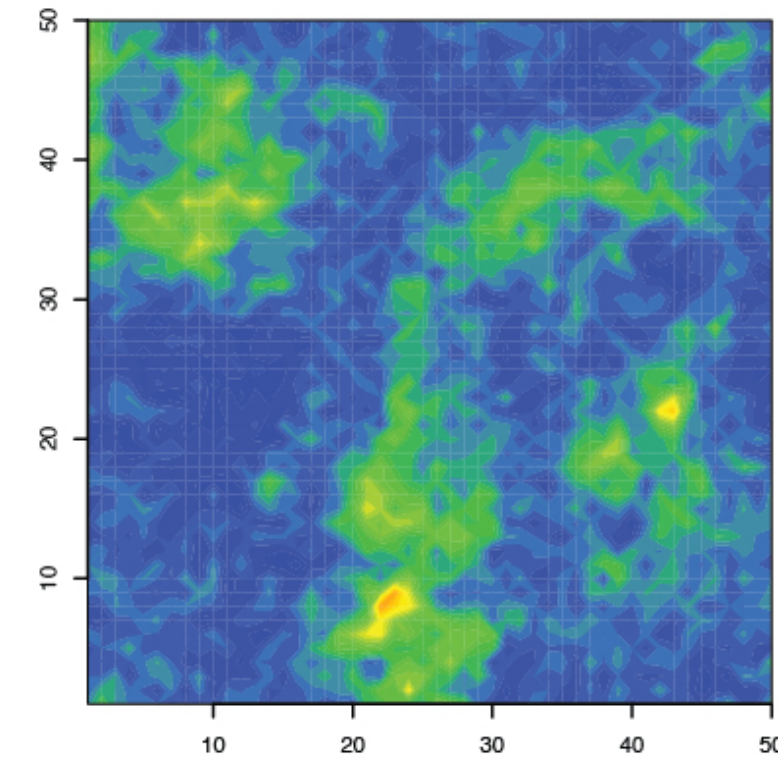
Iron



Copper



Strontium



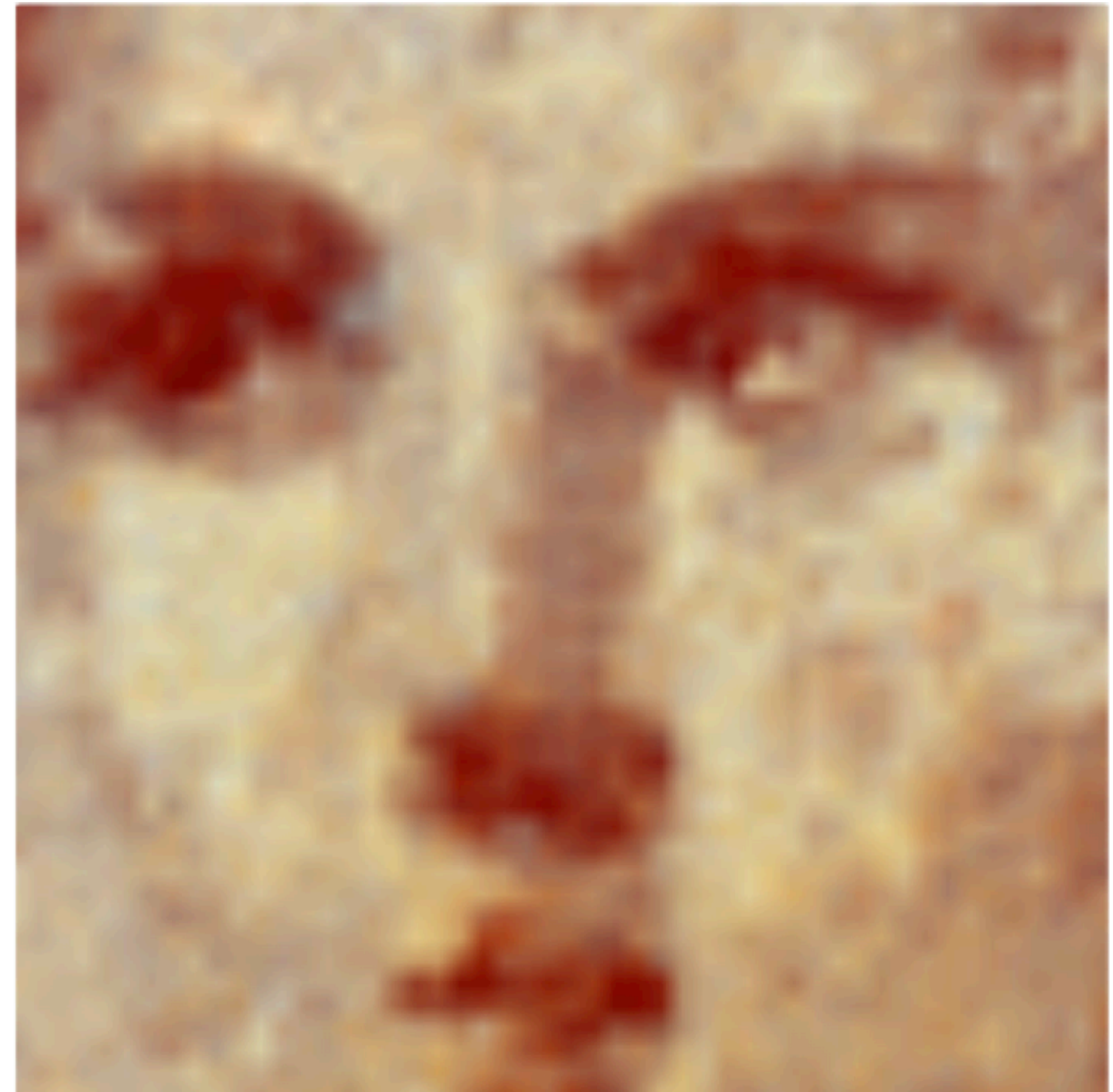
Lead

Fresco @ Herculaneum

Computer Reconstruction



Present Day



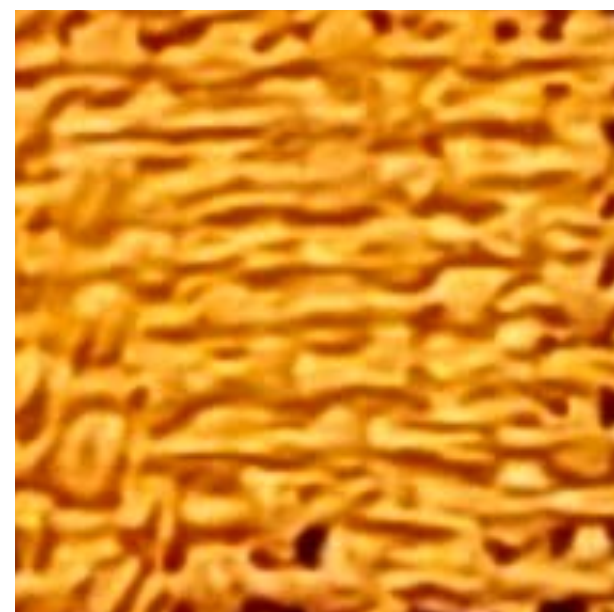
Computer Reconstruction*



Cadmium
Yellow



Mix



Cadmium
Red



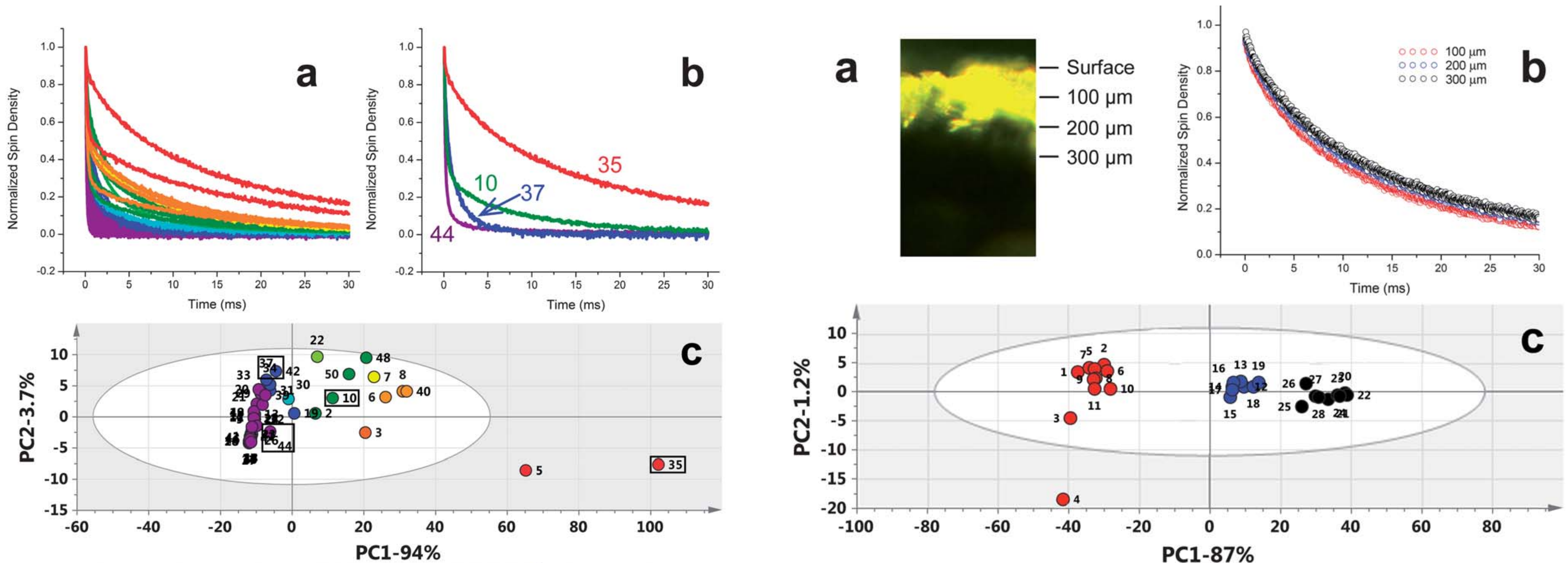


Degradation happens...

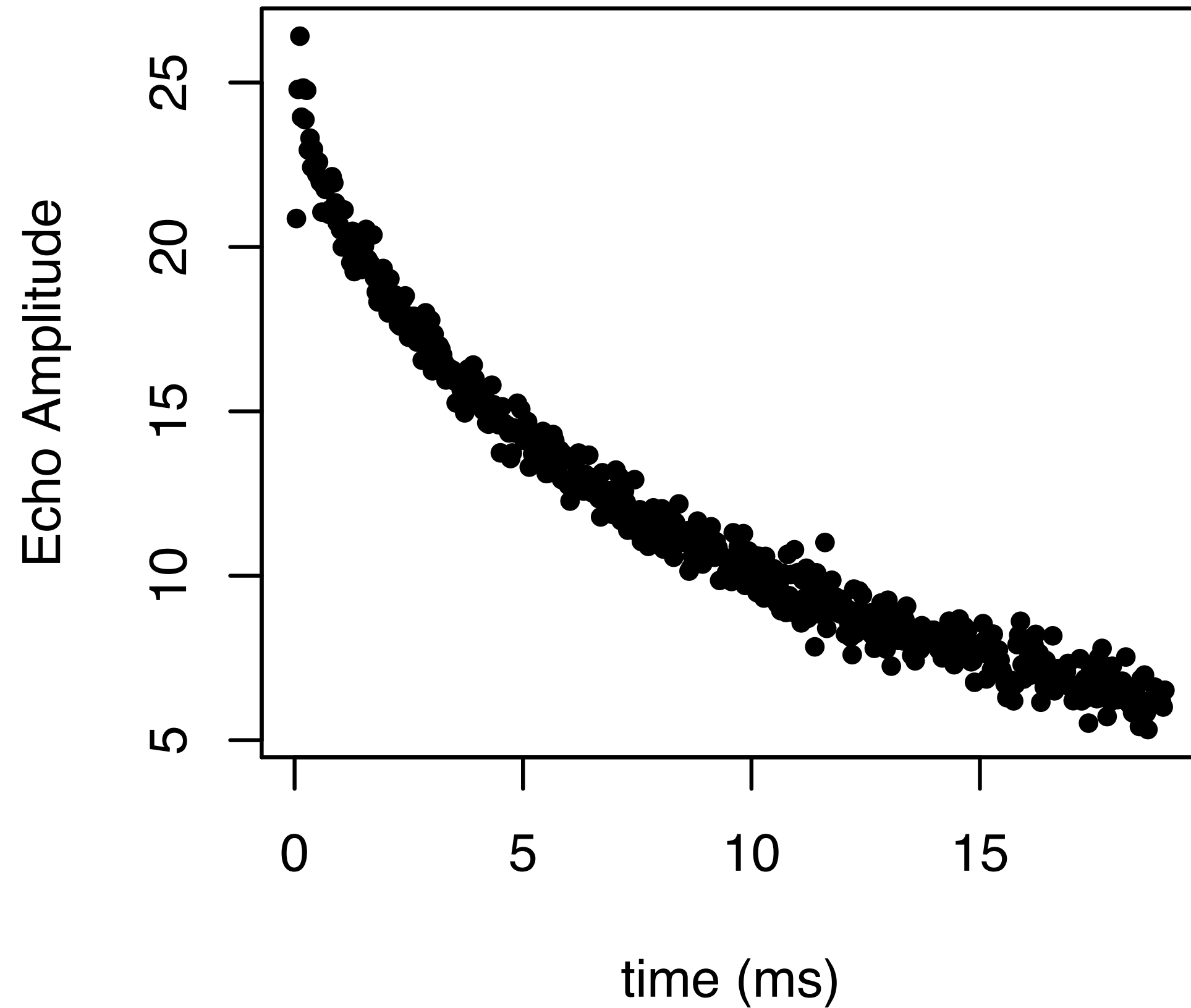


Non-invasive characterization of polymeric materials in relation to art conservation using unilateral NMR combined with multivariate data analysis

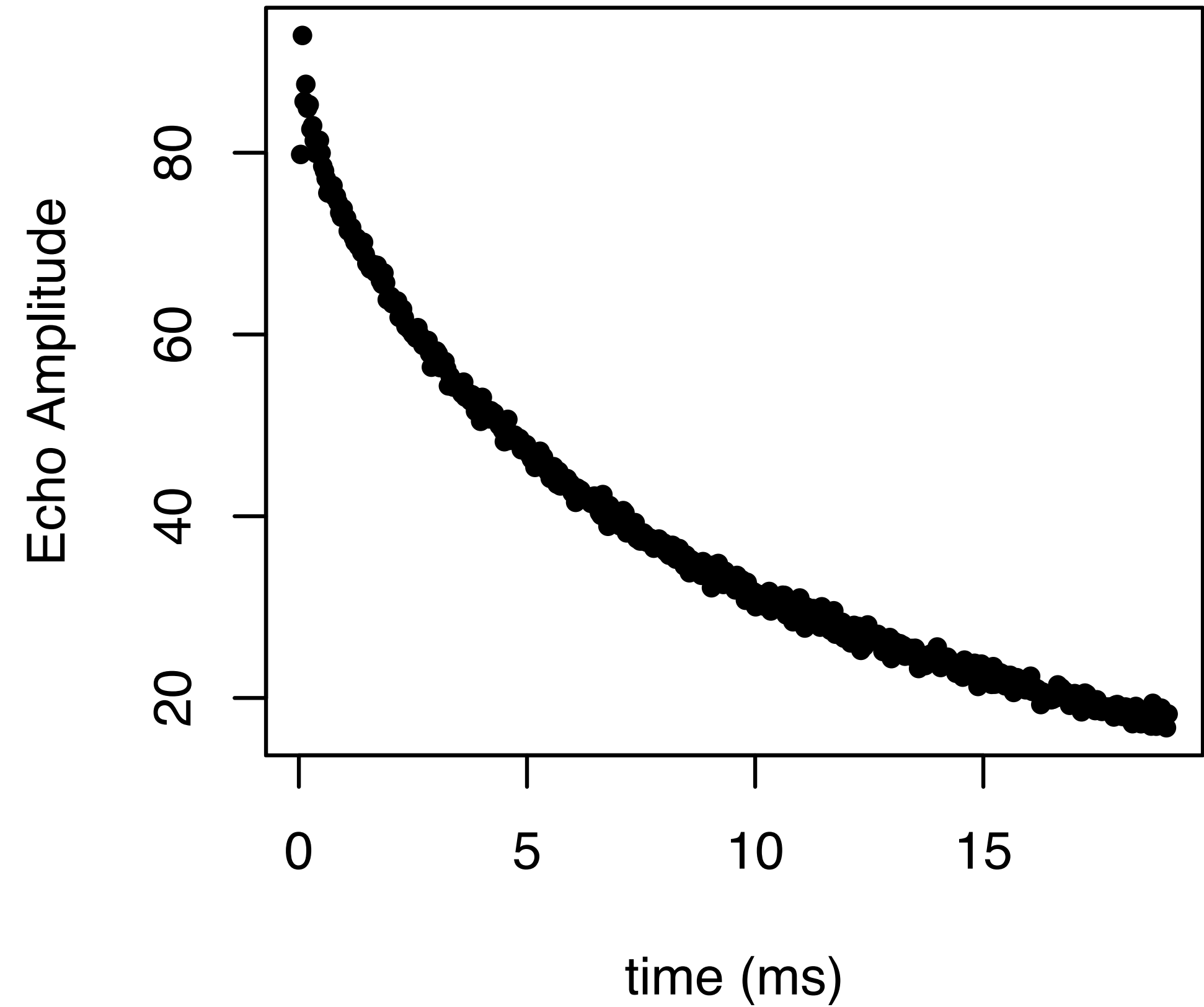
Cindie Kehlet,^{*a} Eleonora Del Federico,^a Hiba Schahbaz,^a Amelia Catalano,^a Jens Dittmer^b and Niels Chr. Nielsen^c



Signal Processing



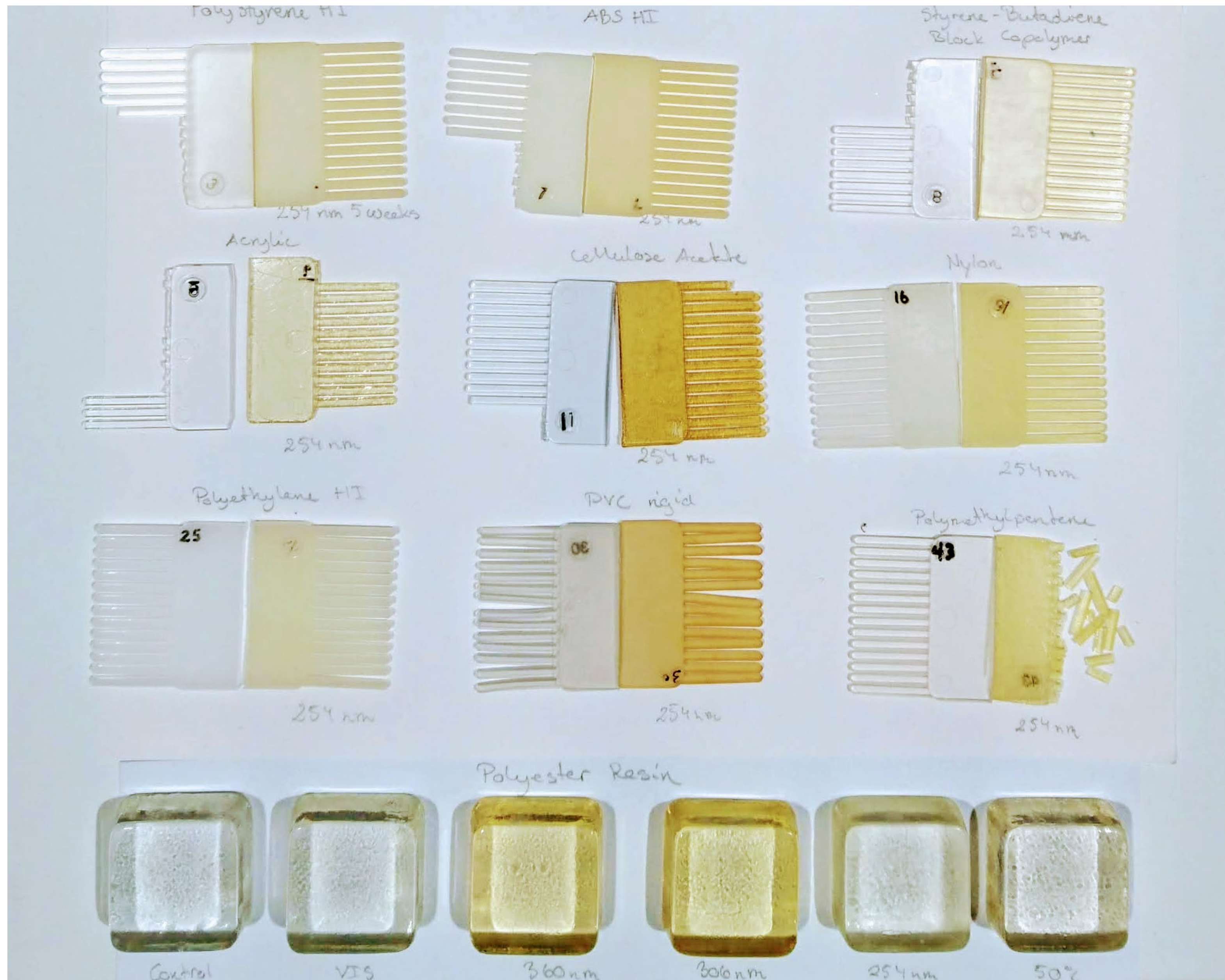
Echo Amplitude



Echo Amplitude
with Optimal Filtering

Aging

Accelerated Aging in
Environmental Chambers

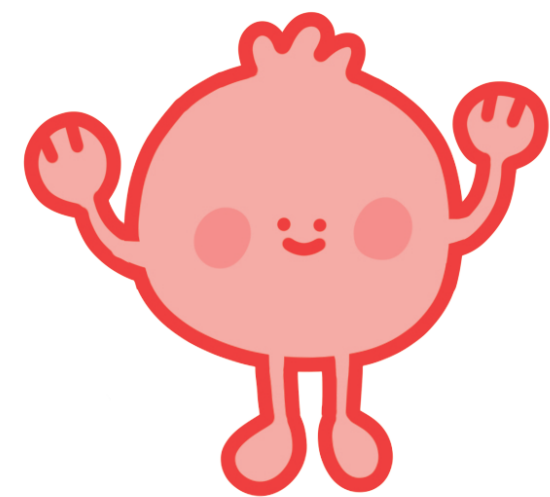


Bio-plastics

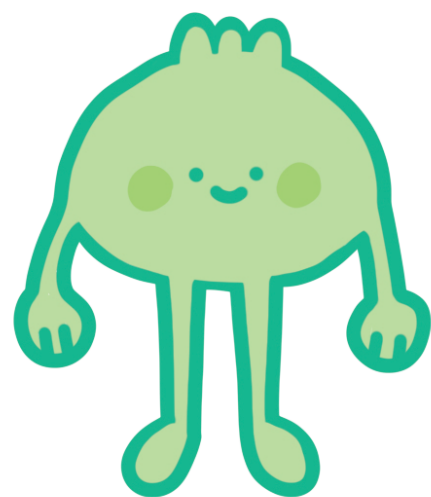


Product Manufacturing

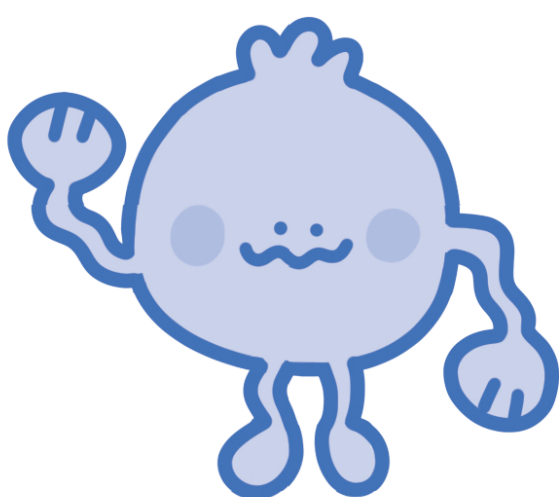
Quark Design



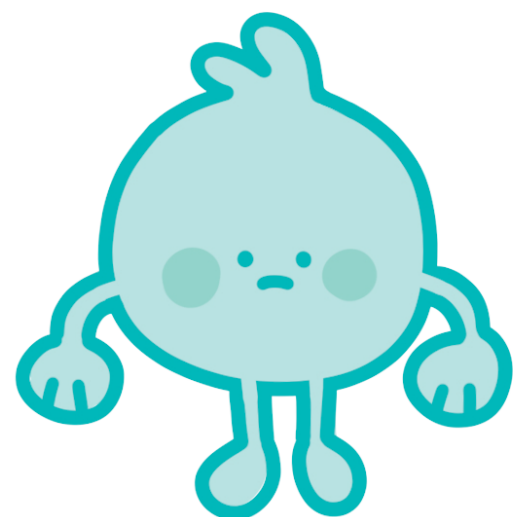
UP



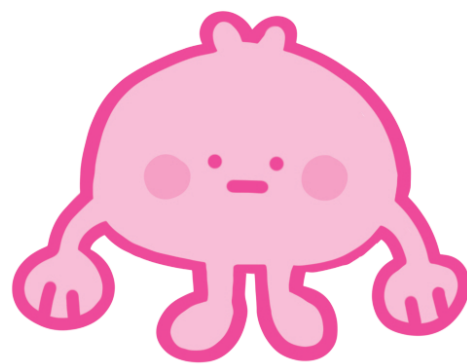
TOP



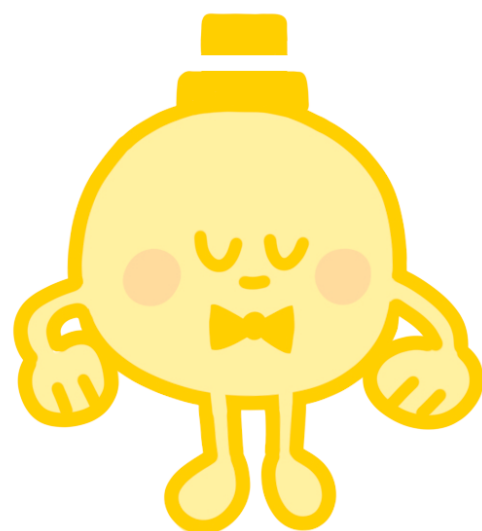
STRANGE



DOWN



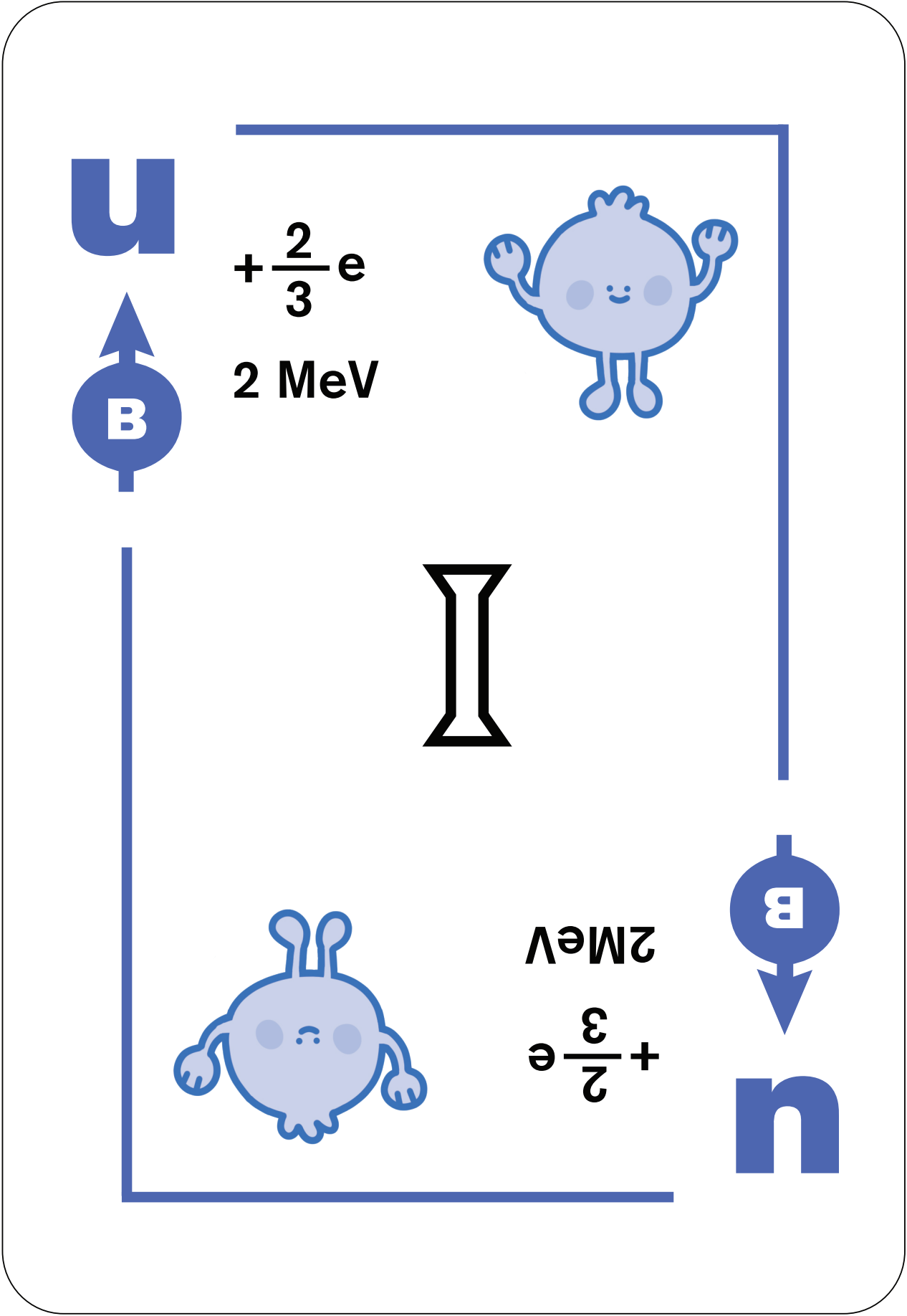
BOTTOM



CHARM



WILD QUARK



by Jooyong Park



Digital Microscope



The Future

SCIENCE ADVANCES | RESEARCH ARTICLE

APPLIED SCIENCES AND ENGINEERING

Artificial intelligence for art investigation: Meeting the challenge of separating x-ray images of the *Ghent Altarpiece*

Z. Sabetsarvestani^{1*}, B. Sober^{2*}, C. Higgitt³, I. Daubechies^{2,4}, M. R. D. Rodrigues^{1,5}



Bio-Materials, Sustainable Materials, Degradation

X-Ray Tomography, Fluorescence

Phyto-Remediation

Plastic in the Environment

Interactive Learning Station

AI, VR and AR