

**E-SQUARED MAGAZINE**

A R T + S C I E N C E





# YOKO SHIMIZU

*“...from so simple a beginning endless forms most beautiful and most wonderful have been, and are being, evolved.” – Charles Darwin, *On the Origin of Species**



Yoko Shimizu is a contemporary artist and biochemistry researcher based in Tokyo, Japan. In her BioDesign Lab, she analyzes and studies natural and scientific phenomena to develop new technologies and methods for integrating the arts and sciences.

With plants forming the foundation of our ecosystems, Yoko Shimizu sets out to highlight one of the most important chemical reactions on planet Earth: photosynthesis. In her installation series Photosyntheograph, her botanical lab becomes the exhibition. Combining photosynthesis and photography to print graphic images on plants, films are attached to plant leaves, allowing chloroplasts to create starch based on the graphic patterns. The leaves are then chemically treated to visualize the graphics created by the chloroplasts. The entire development process is demonstrated in the artist's performance.

Expanding the possibilities of art and design, Yoko Shimizu's images show us the delicate and beautiful processes of nature but, further, provide insight into the innovative ways we can express them. She has received numerous awards for her biology-inspired installations integrating art and science and has held exhibitions in countries around the world. In addition, she has given talks and performances for events like Technology, Entertainment, and Design (TED), Future, Information, Technology, & Creativity (FITC), and Ars Electronica. She is also the founder and director of the innovative art and science lab, Lab +1e.

CONTEMPORARY ARTIST  
BIOCHEMIST

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**Left:** Printing process for *Girl with a Pearl Earring*. 2015. Plants. Dimensions variable.  
**Above:** Vermeer's *Girl with a Pearl Earring*. 2015. Printed on a leaf with photosynthesis. Dimensions variable.  
**Next Spread:** *Photosyntheograph Lab*. 2015. Plants. Dimensions variable.



