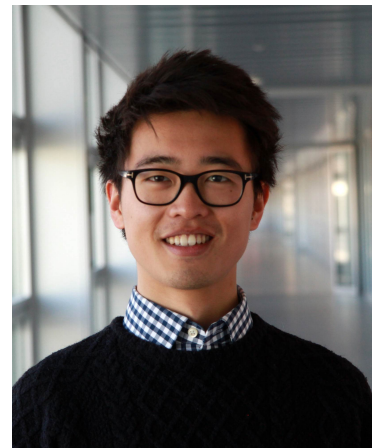


ICB PhD public presentations**ENGINEERING OF DNA DECAY
AND GOLD DISSOLUTION FOR
DIGITAL APPLICATIONS****Weida Chen**

Functional Materials Laboratory
Supervisor: Prof. Dr. Wendelin Stark
Co-examiner: Prof. Dr. Chih-Jen Shih



ETH Hönggerberg, 06/02/2019
HCI J 143, 14.30 h

Project Summary: In our digital age we are generating and storing data at an immense pace. Sensing devices in our everyday appliances contribute greatly to the amount of data generated. Part of this work presents a method to use gold as an off-grid cumulative light sensing material and demonstrates its capabilities compared to commercially available light sensors.

Storing increasing amounts of digital data is a growing challenge we are facing. DNA has gained much traction as a material which can facilitate great amounts of digital information. The data stored in DNA however, is only valuable if it can be stored safely, protected from external sources of damage. We demonstrate a method to embed DNA in a matrix with a magnetic core to enhance its weight loading as well as its resistance against external sources of damage. Finally, for the complete read-out of digital information we have stored in DNA, we require complete and intact sequences of DNA. Here, we present a technology to repair damaged synthetic DNA for enhanced information retrieval.

CV. Weida received his BSc in Chemical Engineering and MSc in Chemical- and Bioengineering from ETH Zurich in 2013 and 2015. He started his PhD in October of 2015 with a brief stay in the group of Prof. John Rogers in 2016.