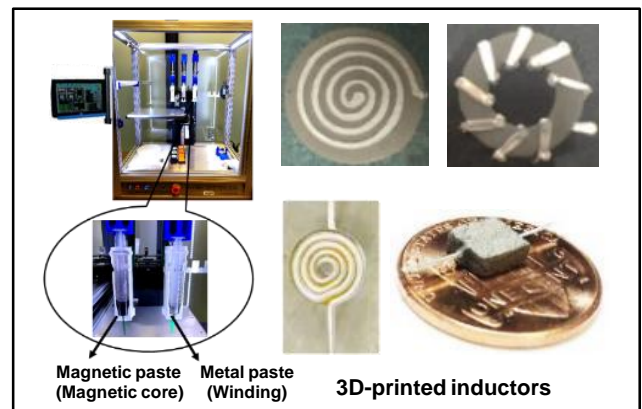


5th October 2018**Additive Manufacturing of Magnetic Components****Chao Ding¹**, Yi Yan², Lanbing Liu¹, Shengchang Lu^{3,4}, Jim Moss², and Guo-Quan Lu^{1,3,4}¹*Dept. of Materials Science and Engineering, Virginia Tech*²*Texas Instruments Inc.*³*Center for Power Electronics Systems (CPES), Virginia Tech*⁴*The Bradley Dept. of Electrical and Computer Engineering, Virginia Tech***Abstract**

Magnetic components, like inductors and transformers, are ubiquitous in switch-mode power converters. Additive manufacturing or 3D printing of these components has the potential to accelerate their design and prototyping, and to simplify manufacturing and integration processes. In this work, a paste-extrusion 3D printer was utilized to fabricate magnetic core and winding simultaneously for inductors. A metal paste was selected and a magnetic paste was developed as the feedstocks for 3D printer. Several inductors with elaborate winding or core structures were made by 3D printing.

**Biography**

Chao Ding received the B.S. degree in Materials Science and Engineering from Tianjin University, Tianjin, China, in 2016. He is currently working toward the Ph.D. degree in Materials Science and Engineering in Dr. Guo-Quan Lu's group and he is expected to graduate in 2021. He is working on developing novel soft magnetic composites for power electronics application and improving manufacturing capability of magnetic components with 3D printing technology.

