

# Photonic Professional GT2: Highest resolution 3D printing in research and prototyping

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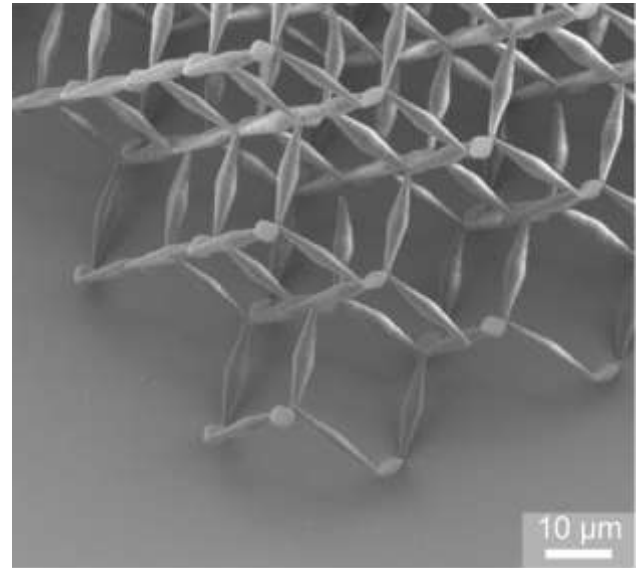
## Abstract

The achievements of the two-photon polymerization based world's highest resolution 3D micro-printer Photonic Professional GT2 will be presented. The device offers a defined control on the feature sizes and resolutions ranging from nanometer to micrometer scale and accessible print area of  $\sim \text{cm}^2$ . Subsequently, the printed structures can be transferred into metal, semiconductors or ceramics by electro-plating or coating techniques. This versatility has opened new frontiers in the field of microfluidics [1], photonics [2], biomedical engineering [3], plasmonics, micro-optics, mechanical metamaterials [4], biomimetics, life sciences [5], and micro-robotics. The decade of trusted use of this technology has found its way in world-known labs and to several industrial applications as well. This presentation will therefore cover the latest advances utilizing this art of 3D microprinting that has made small things matter across the globe.

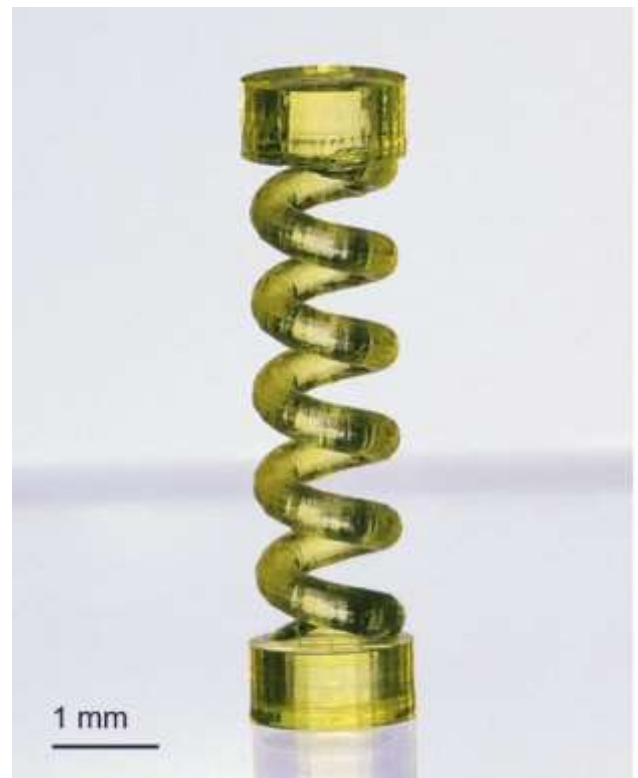
## References

- [1] A.C. Lamont, *Sci Rep* (2019), 9, 394
- [2] Yejing Liu, *Nature Com.*(2019),10,4340
- [3] Carmela de Marco et al., *Adv.Mater. Technol.* (2019),4,9
- [4] Andrew J. Gross and Katia Bertoldi, *Small* (2019), 15, 1902370
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## Figures



**Figure 1:** Pentamode structures with sub-micrometer feature sizes [6]



**Figure 2:** Volumes of  $\sim 100 \text{ mm}^3$  can easily be manufactured with micrometer feature sizes using the new 3D Large Fabrication Set.