

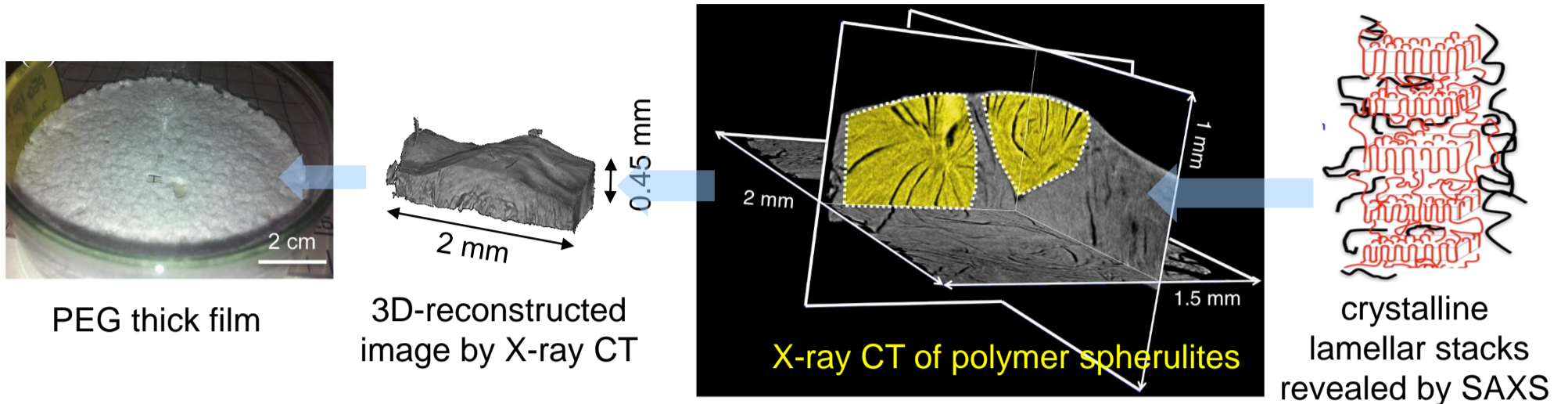
# Structural formation in crystalline polymeric materials



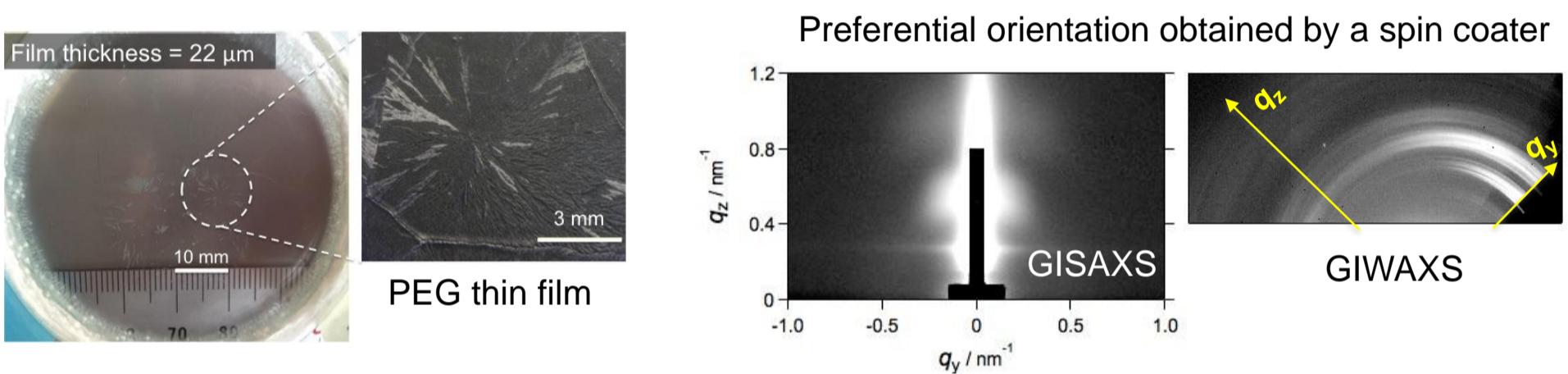
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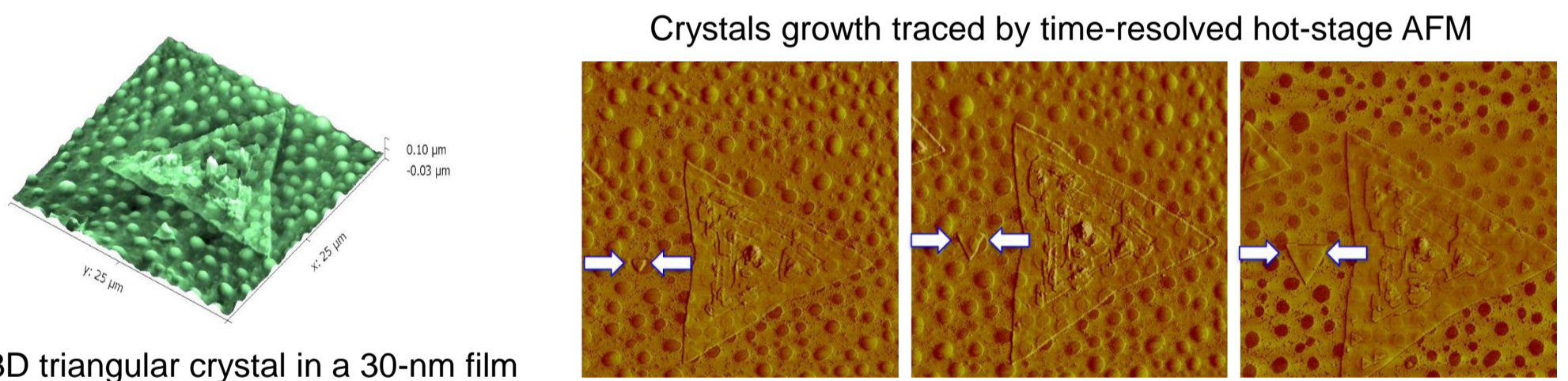
## Polymer crystallization in **thick film** studied by X-ray CT and SAXS [1,2]



## Polymer crystallization in **thin film** studied by Optical Microscopy and GISWAXS

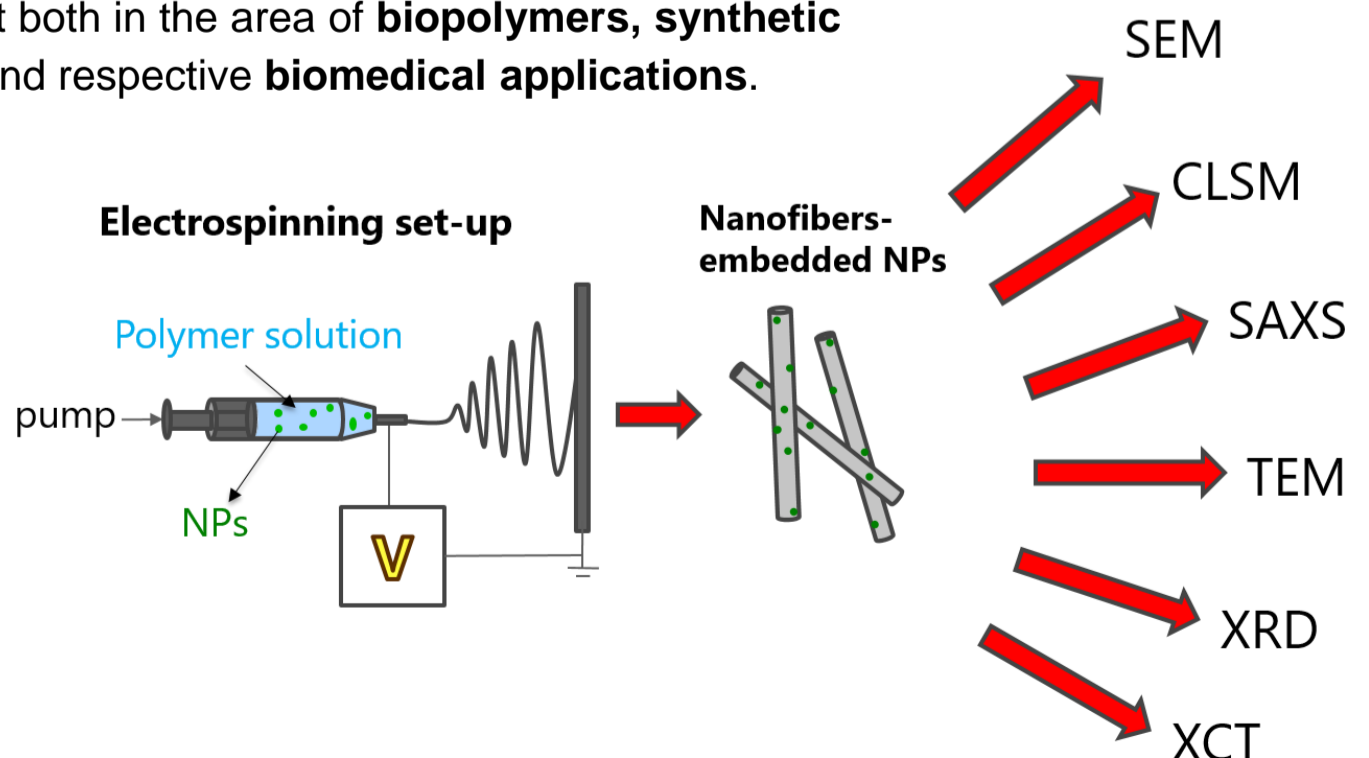


## Polymer crystallization in **ultrathin film** studied by in-situ AFM [3]



## Structural investigation of electrospun polymer nanofibers incorporated nanoparticles as novel drug carriers characterized by combination techniques

- ❖ The **polymer selection** is relevant both in the area of **biopolymers, synthetic polymers, blends, composites** and respective **biomedical applications**.
- ❖ For further applications, polymers that derive from biobased sources having **biocompatible** properties and/or polymers that have "**smart**" properties (stimuli-responsive, shape memory, self-cleaning, and self-healing) are interested.



## References

- [1] N.-D. Tien, Y. Nishikawa, M. Hashimoto, M. Tosaka, S. Sasaki, S. Sakurai. *Polymer Journal* 47(1) (2015) 37-44.
- [2] N.-D. Tien, S. Sasaki, H. Masunaga, N. Shimizu, N. Igarashi, S. Sakurai. *Polymer* 55(10) (2014) 2562-2569.
- [3] N.-D. Tien, R.E. Prud'homme. *Polymer* 117 (2017) 25-29.

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