

# INKJET PRINTING, PROCESSING, AND CHARACTERIZATION FOR THE DEVELOPMENT OF PRINTABLE SENSORS

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## Printable sensor developments Surface functionalisation by inkjet printing

### Context

Aptamers and other molecules have gained attention, e.g. in view of the replacement of antibodies in research for drug discovery and diagnostic platforms.

The controlled deposition of molecules is of interest for the development of locally bio-functionalized surfaces and sensors.

### Solution & Competences

#### Inkjet printing

- ✓ Local bio-functionalization of sensor electrodes
- ✓ Printing process for smart sensor developments

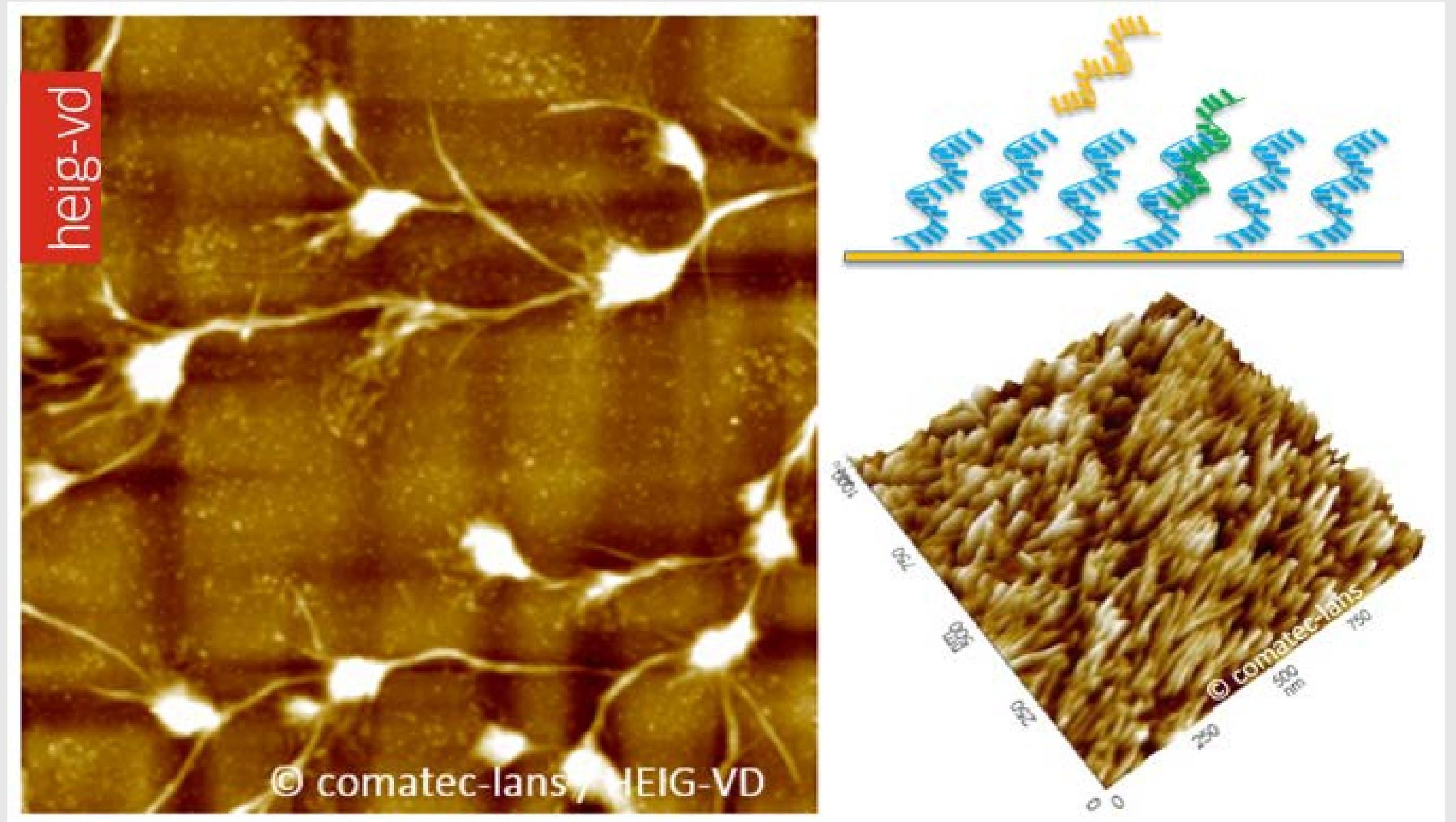
#### Advanced atomic force microscopy (AFM)

- ✓ Analysis of molecular assemblies

### Advantages

- ✓ Controlled local bio-functionalization of surfaces
- ✓ Advanced analysis for mastering printing process parameters in sensor developments

The developed competences are transferable to industrial biosensor developments.



## Inkjet printing of aptamers for printable sensor developments

Narcis Fosso, Charles Tematio, Jane Krähenbühl, Enrico Condemi, Origène Nyanguile, and Silvia Schintke, International conference and trade fair LOPEC 2017, 28-30 March 2017, Munich, Germany.



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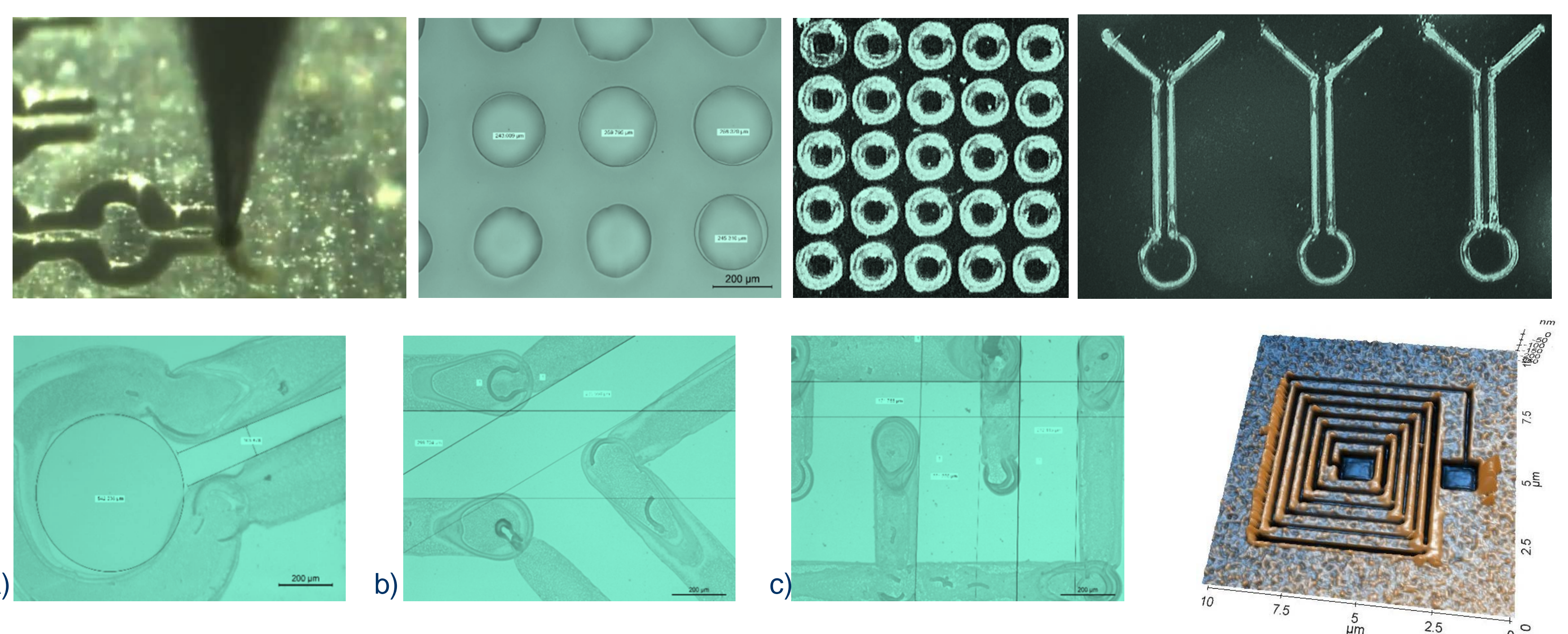


## Design and process developments for paper based microfluidic systems



- ✓ Structuring techniques
- ✓ Surface treatment & wetting behaviour
- ✓ Lateral flow studies

## Microchannel and microreservoir manufacturing by inkjet printing and AFM-nanolithography techniques



- ✓ Inkjet-printed microchannel structures
- a) reservoir with channel, b) Y structure, c) meander structure.

N. Fosso et al. EuroNanoForum, Riga 2015  
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