



“Rock-on-a-Chip” Design

Upgrading Pressure and
Temperature Measurements

KAIA CORP

PREO's Samples: Present Limitations



Pressure @ 145 psi

Temperature @ 25 °C

New Sample: Microfluidic Chip



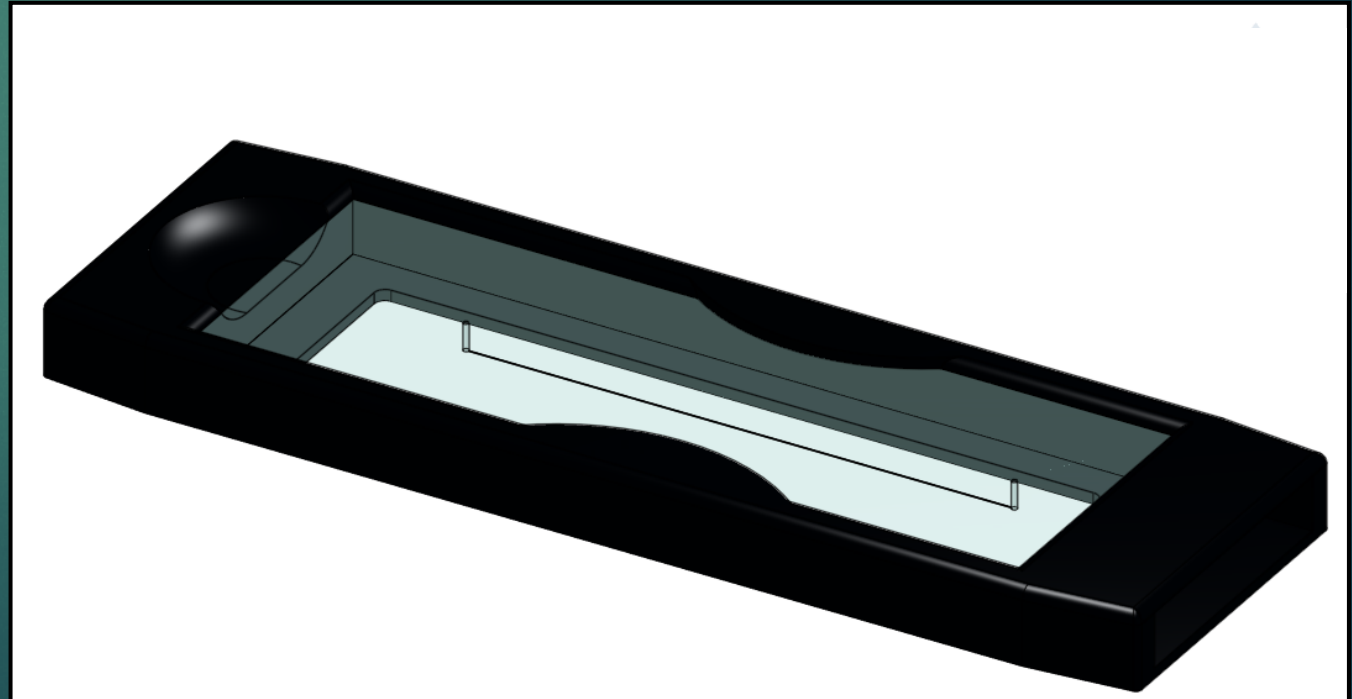
Properties:

Clear Transparent Sapphire

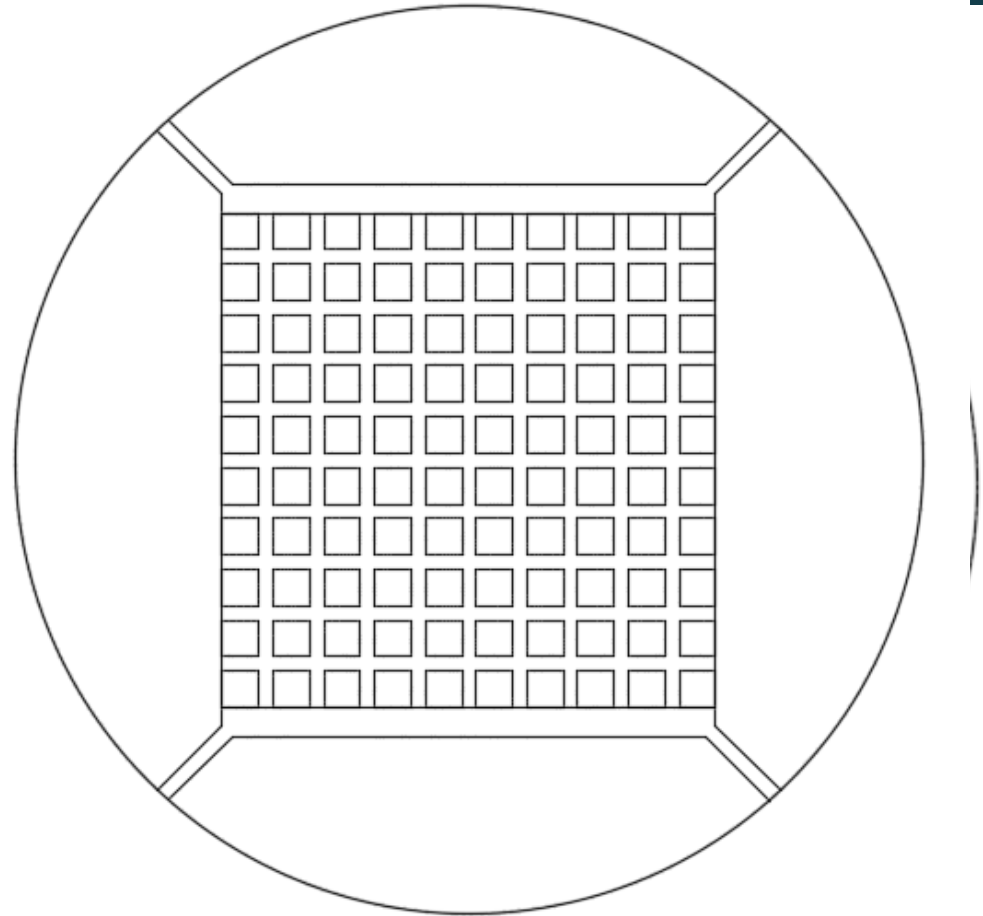
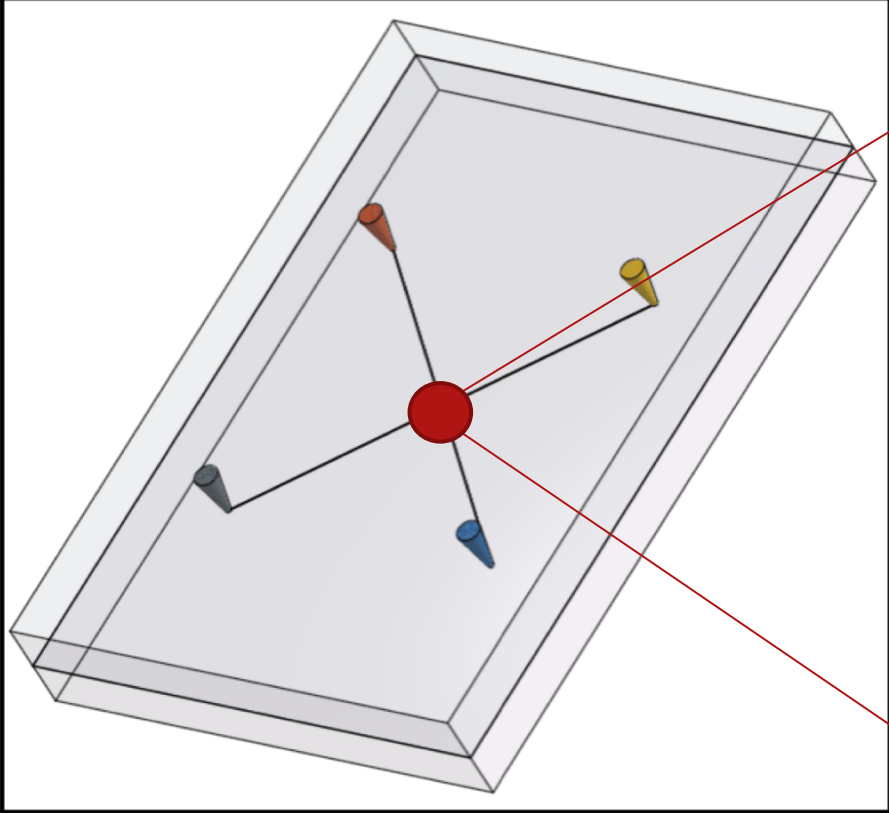
Micro and nano-scale channels

Pressure-Capable to 3000 psi

Temperature-Capable to 100 °C



New: Microfluidic Chip – Patterns

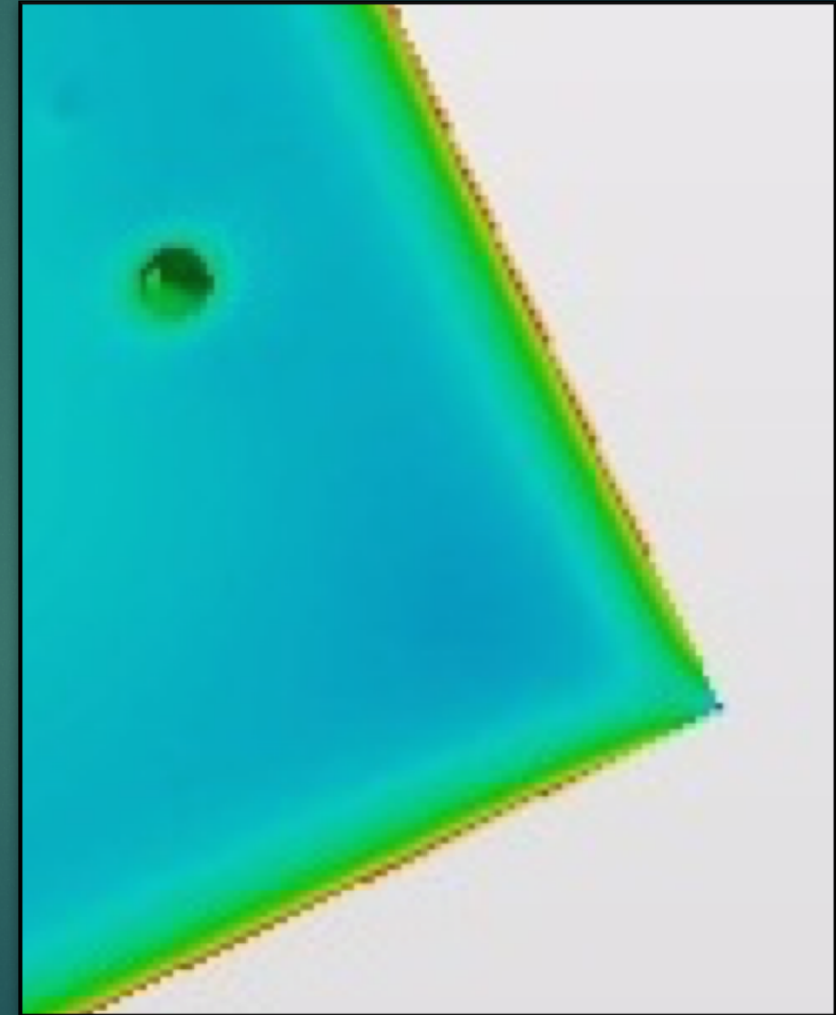
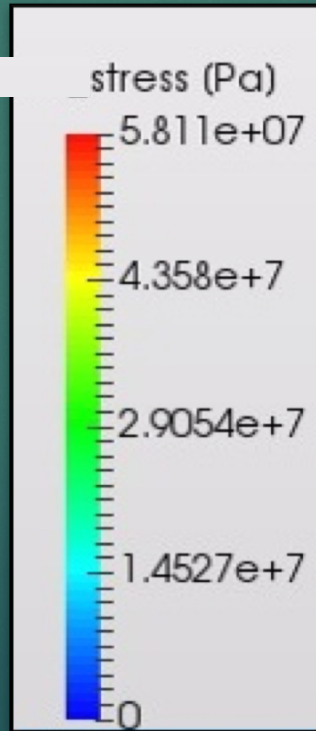
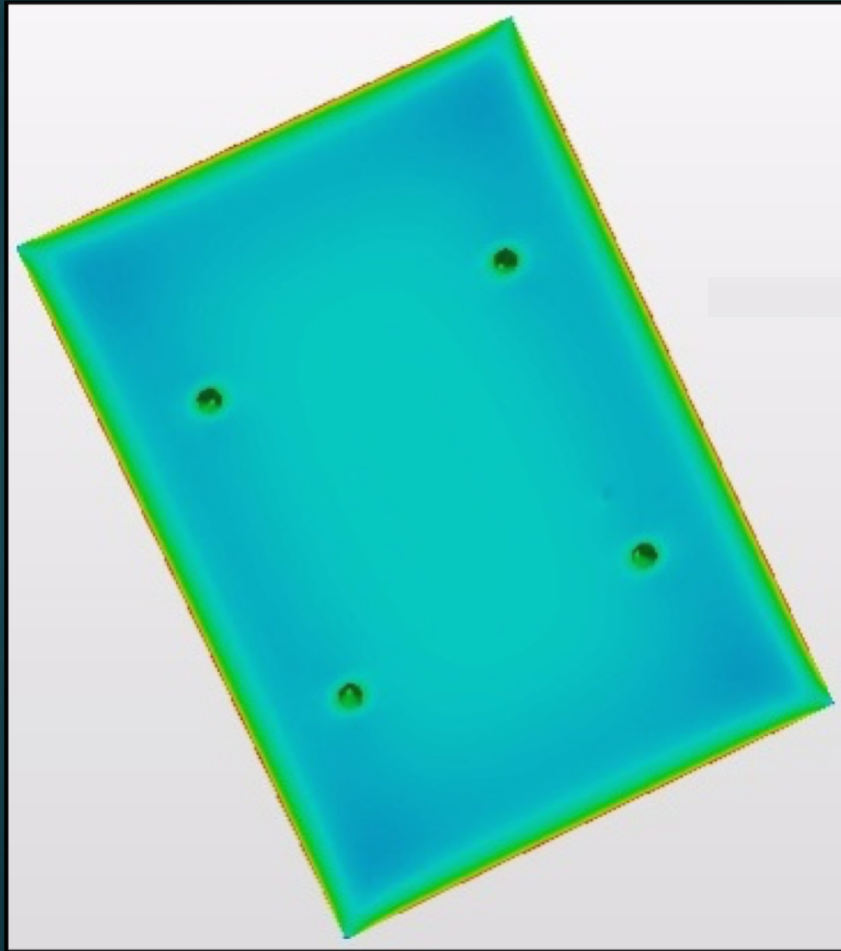


Flow Patterns

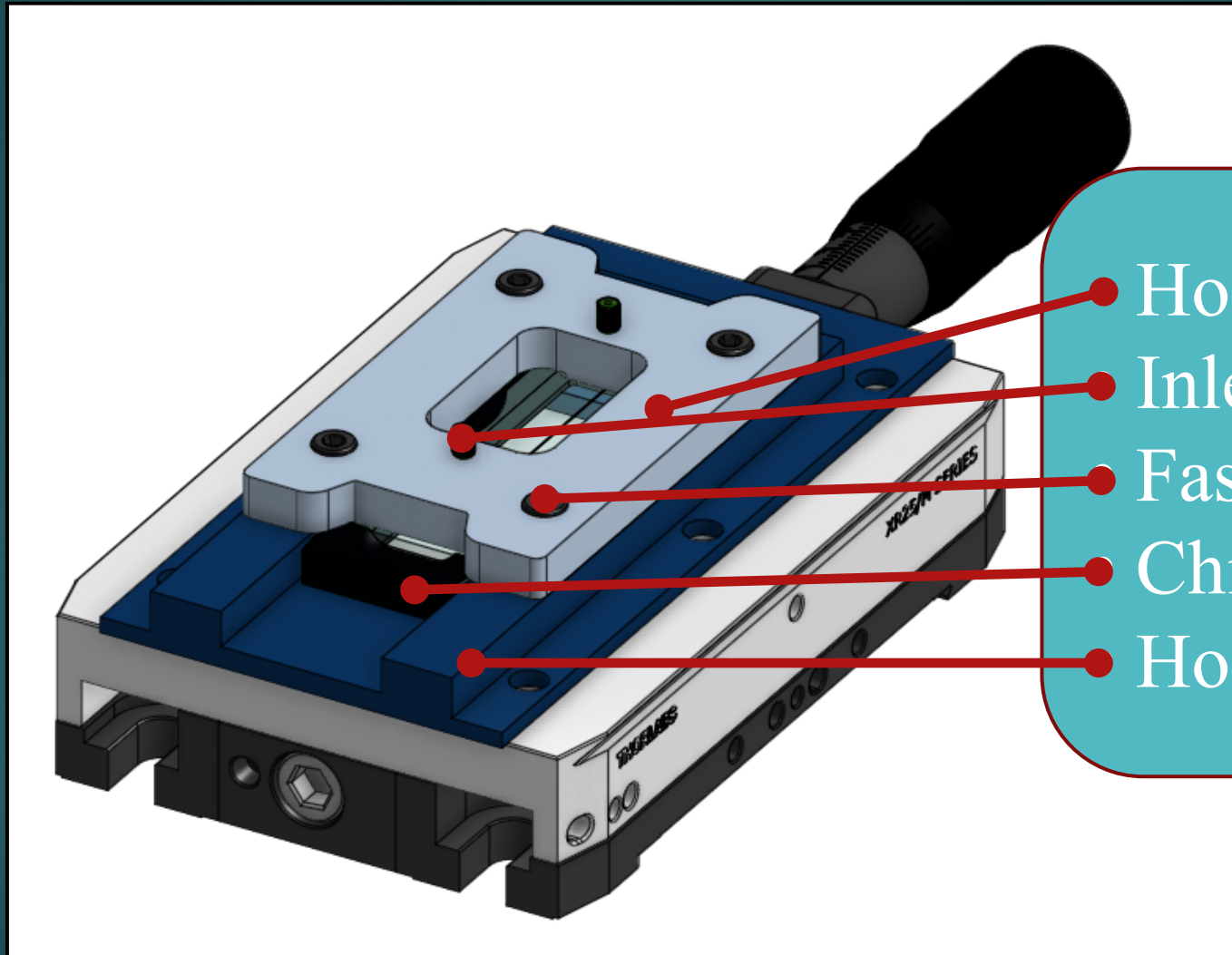
Digital Sample Prototype: Testing



Stress and Deflection Analysis @ 3000 psi

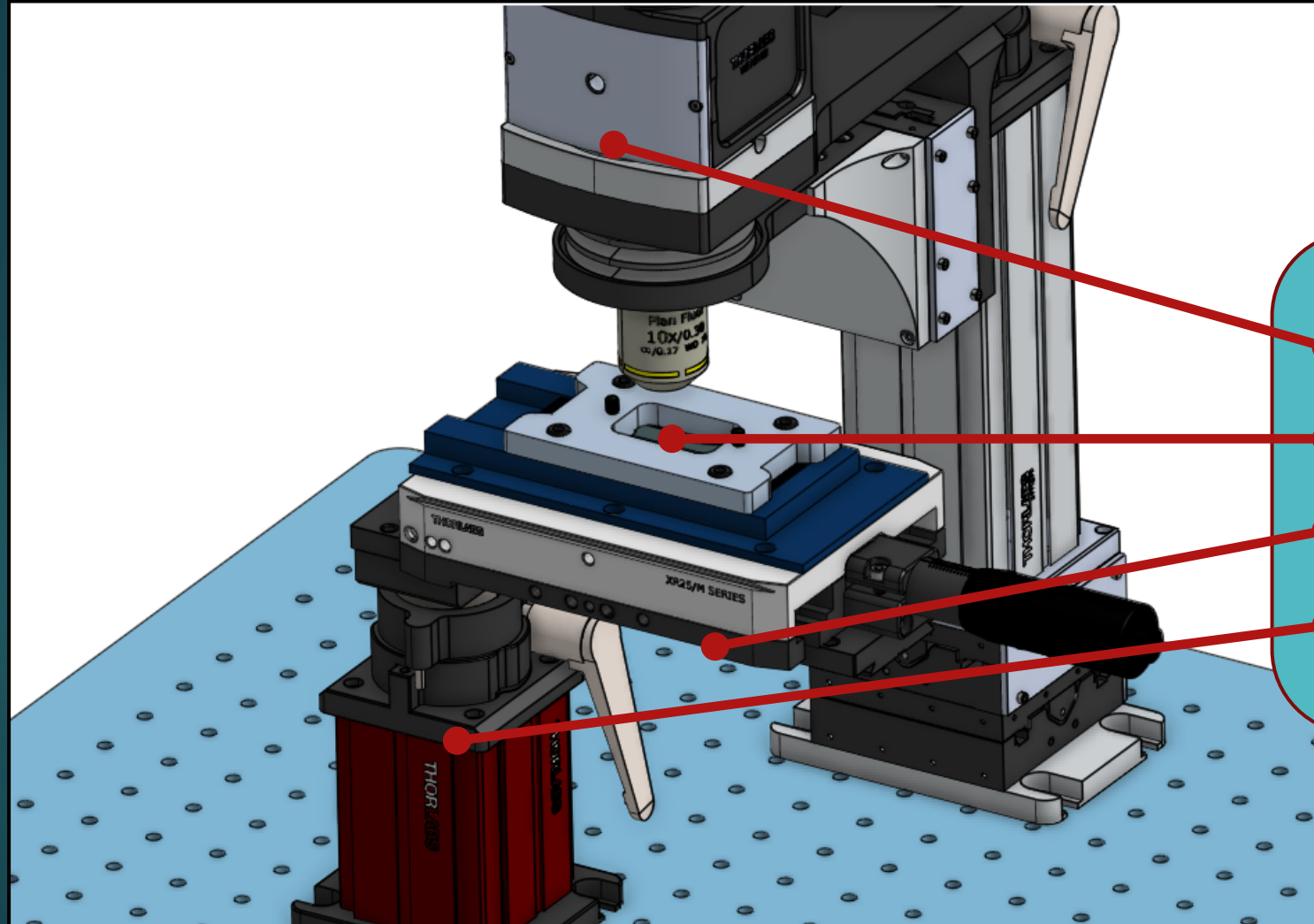


Upgraded Sample Holder



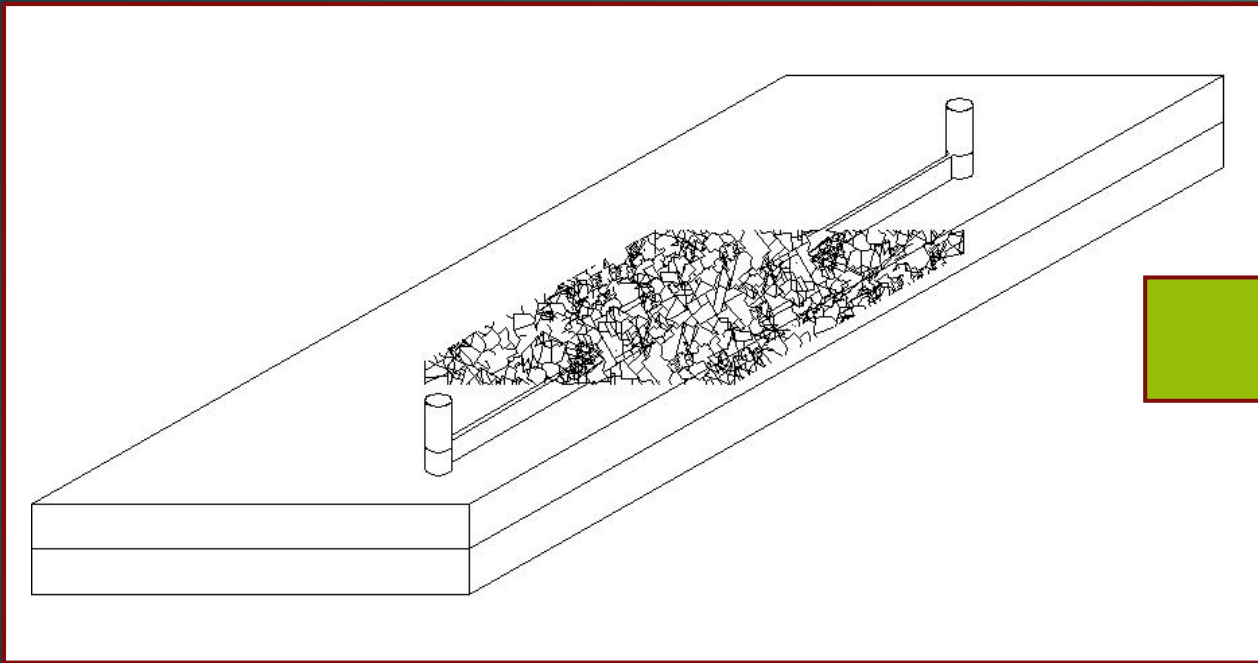
- Holder Top Cover
- Inlet Ports
- Fasteners
- Chip Sheath
- Holder Bottom Cover

Upgraded Sample Holder System

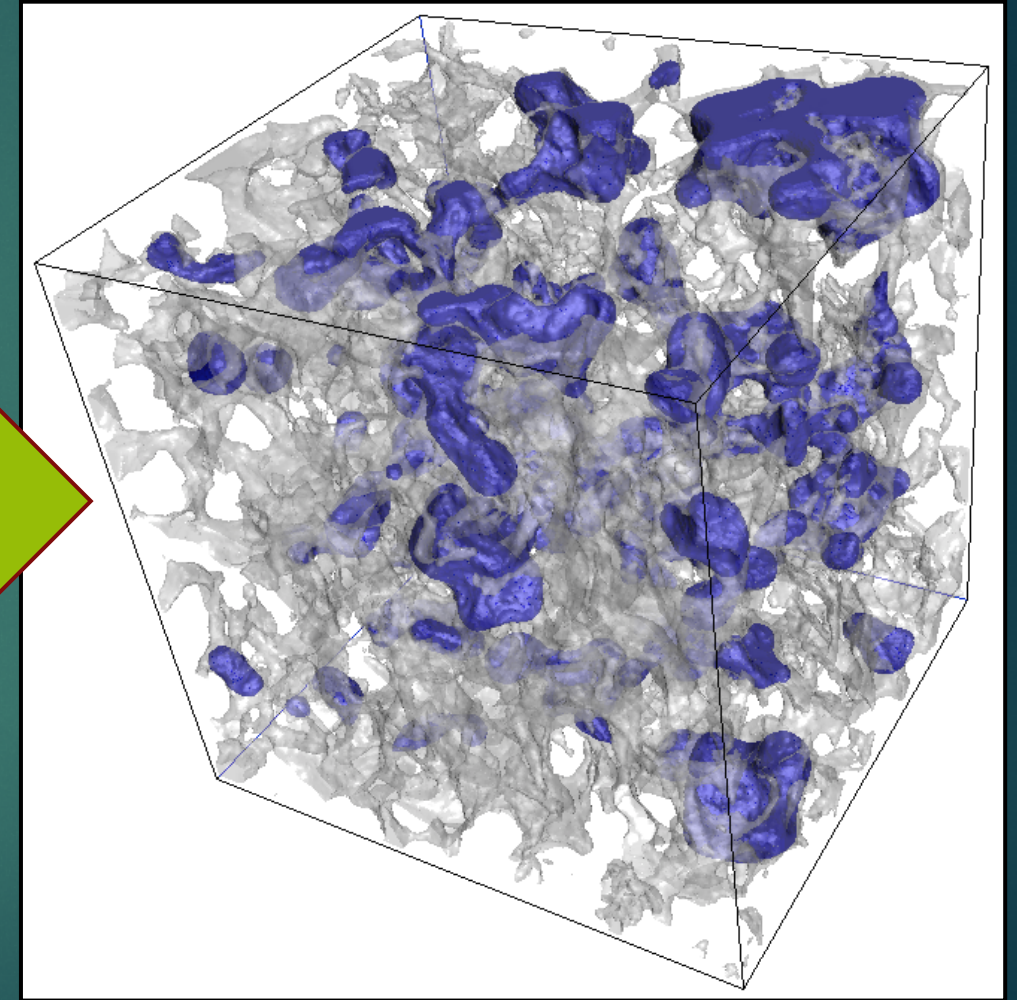
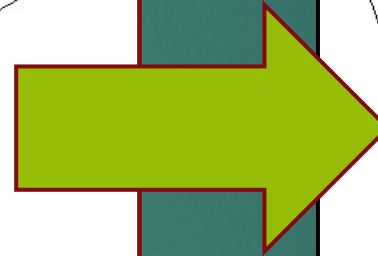


- Microscope
- Chip Holder
- Chip Holder Stage
- Stage Platform

Transferring Data from Rock-on A-Chip to the Digital Rock



Sample



Digital Rock



Thank You

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