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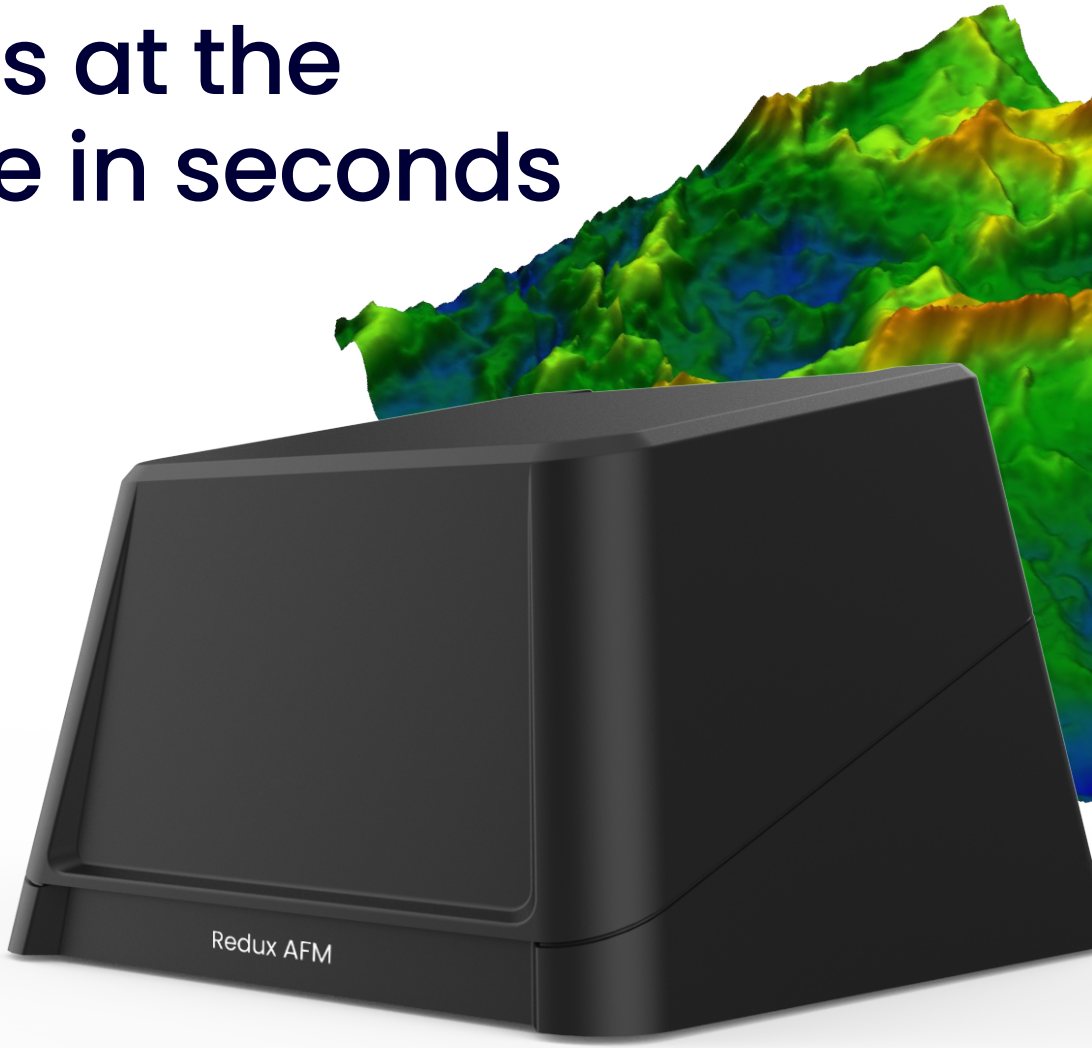
REDUX AFM

3D images at the nanoscale in seconds

- 3D images in seconds
- Fully automated
- Laserless
- 1-click operation



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OUR MISSION

ICSPI is on a mission to bring robust, easy-to-use, nanoscale metrology everywhere.

"I can attest that this technology is extremely reliable and can produce images that rival much larger and more expensive AFM systems."

Professor Michael Cullinan
University of Texas at Austin, USA

What we do

ICSPI designs, manufactures and sells atomic force microscopes (AFM) for educational, research and industrial applications, including failure analysis and quality control. We push the limits of what is possible in nanoscale metrology with our team of engineers of the highest calibre working on our patented CMOS-MEMS technology. ICSPI is headquartered in Kitchener-Waterloo, Ontario, Canada.

REDUX AFM

Fast
Collect data in 2 minutes

Easy to use
Scans in 1 click

Automated
System weighs 500 g

Our Story

ICSPI was founded in 2007 with the goal of bringing robust, easy-to-use, nanoscale metrology to everyone. Although technology continues to shrink faster than ever, nanoscale imaging has remained relatively inaccessible. Frustrated by the poor versatility, complexity and high costs of traditional nanoscale imaging systems, ICSPI sought to revolutionize nanoscale imaging and bring the technology to every laboratory, student and researcher.

About the Redux AFM

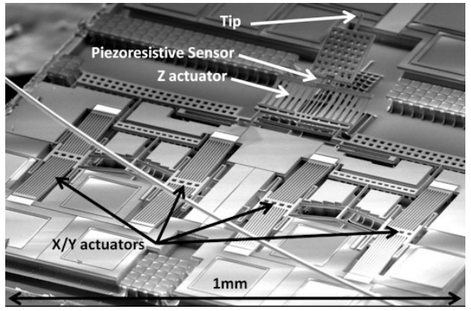
- 3D images in seconds
- Fully automated
- Continuous operation
- Auto approach in seconds
- 1-click operation
- Microscope
- Automated XY sample positioning
- Laserless
- No laser alignment
- Simple tip cartridge changes every 1,000 scans
- No more tedius tip changes required

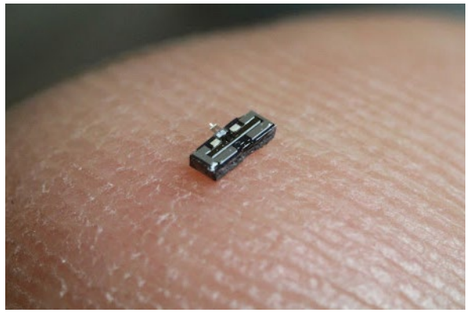
Patented AFM-on-a-chip Technology

AFM-on-a-Chip

The Redux AFM is a an automated, laserless system;the integrated piezoresistive sensor allows for alignment-free operation and a fully automatic approach – so you can collect your data effortlessly.

All of the sensors and scanners of traditional AFM instruments have been integrated onto a single 1 mm x 1 mm chip.





"We have been blown away by its performance, ease of use and portability. The tool easily saves us several thousand dollars a month in AFM usage fees at third-party labs."

Dr. Michael Helander, CEO
OTI Lumionics, Canada

Long Lifetime

Redux AFM tips are made of hard, durable materials like diamond-like carbon and aluminum oxide, which maximize lifetime, making thousands of scans possible with each chip. AFM tip exchanges only after every 6 months.

Redux AFM Specifications

Scanning

Scan types	Topography, Phase
Scan size	20 µm × 20 µm
XY Scanner Resolution	<0.5 nm
Vertical Scan Range	10 µm
Noise floor	<0.5 nm (<0.15 nm on Redux Pro)

Resolution and Speed

Quick scan	16 sec
Routine scan	80 sec
High-resolution scan	5 min
Max resolution	1024 x 1024 pixels

Samples

Max sample size	100 mm x 50 mm x 20 mm
Max sample weight	1 kg

Automation

1 click operation
Auto sample positioning
Auto approach
Auto scan
No tip replacements

Comparison

	Redux AFM	Traditional AFM	SEM
Operations in air	✓	✓	X
Automatic approach	✓	X	N/A
Install time	5 min	1–2 weeks	1–2 weeks
Time to data	2 min	1 hr	30min–1hr
Cost	$	$ $ $	$ $ $ $
Cost per scan	$	$ $	$ $
Benchtop operation	✓	X	X
Training time	1 hr	12+hrs	12+hrs
Laser/beam alignment-free	✓	X	X
Regular power and USB	✓	X	X
Easy to handle probes	✓	X	N/A
Maintenance-free	✓	X	X
3D images	✓	✓	X
Sub-nanometer resolution	✓	✓	X
Non-conductive samples	✓	✓	X

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3M

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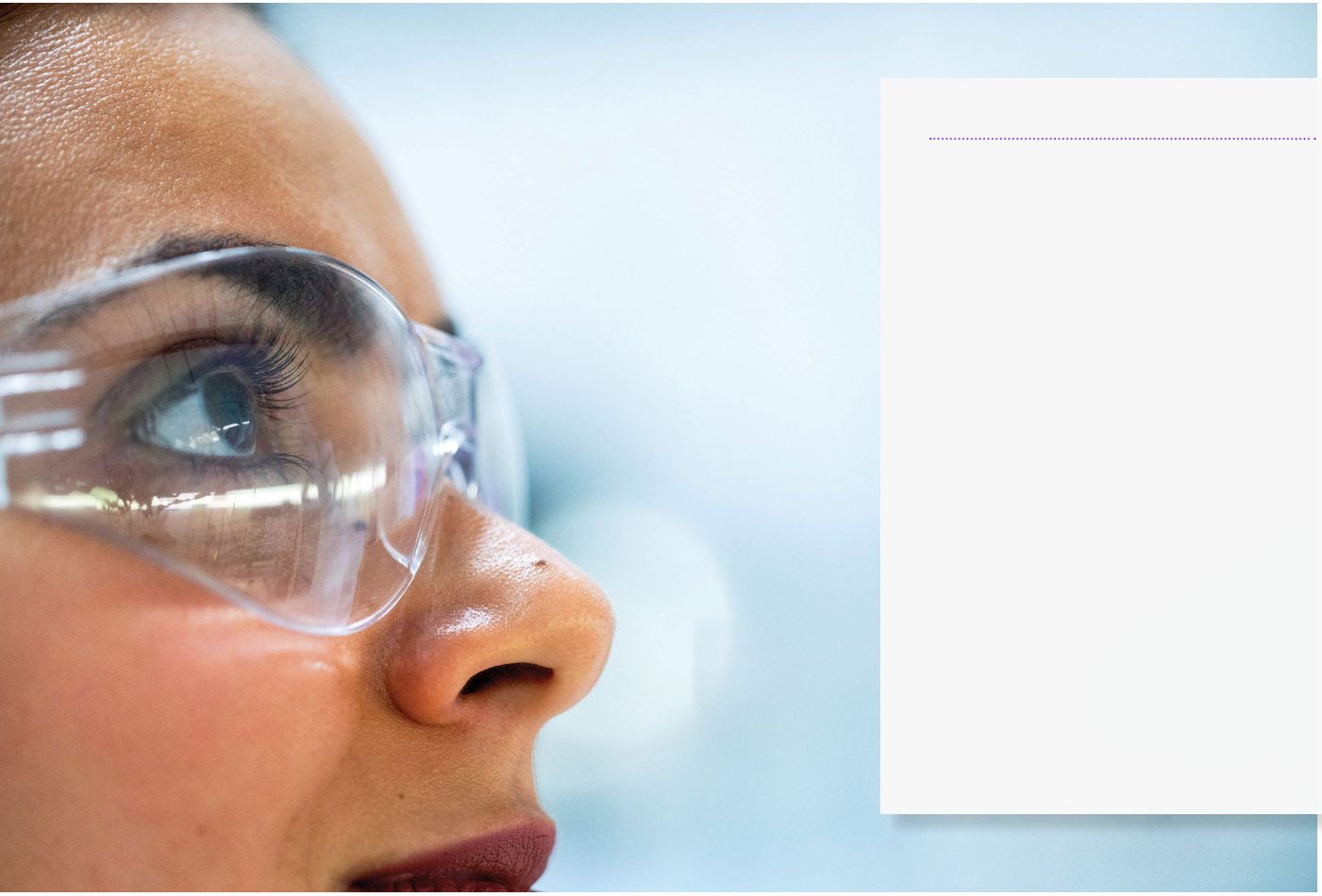
大阪大学 OSAKA UNIVERSITY



3d nanoscale scans in 1 click

1. Insert Sample

2. Click Start

3. Auto Sample Positioning

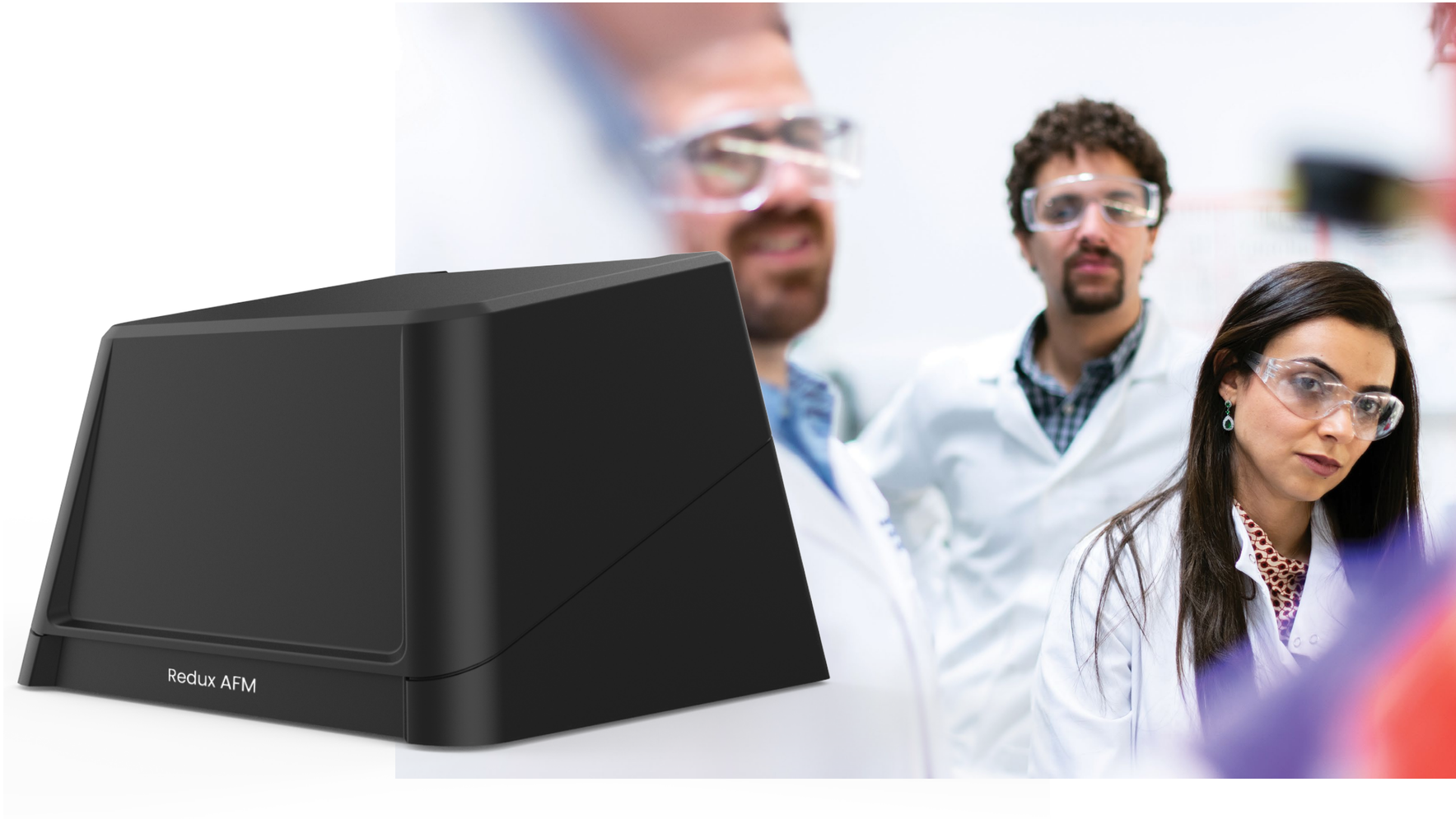
4. Auto Approach

5. Auto Scan

REDUX AFM

Reveal insights at the nanoscale on your benchtop.

- Sample loading stage
- Microscope
- AFM chip/cartridge
- AFM tip



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