



**BOSS™**

Brillouin Optical Scanner System

**Dimitri A. Chernyak, PhD**  
President and CEO, Intelon Optics



# Intelon Optics Mission

Reliably measure living tissue biomechanics enabling doctors to make better treatment decisions.

**BOSS™** (Brillouin Optical Scanning System) is an unique diagnostic device with broad applications across medicine.

Initial focus on ophthalmology to ensure patient safety and increase positive outcomes of eye surgeries and therapeutics.

✓ ACCURATE  
DIAGNOSTICS

✓ PRECISION  
TREATMENT

✓ THRIVING  
PATIENTS

# Experienced Management Team



**Dimitri A. Chernyak, PhD – Chief Executive Officer**

- ✓ Director of Research, Johnson and Johnson Vision.
- ✓ R&D Director at VISX Inc. (acquired by Advanced Medical Optics, Inc). Became market leader in refractive surgery (50+% of worldwide install base, 65+% US market)
- ✓ Director at Advanced Medical Optics, Inc. (acquired by Abbott Laboratories).



**Patrick A. Green – Vice President of Commercial**

- ✓ Senior Consultant at Allergan Surgical (led commercial launch of the XEN Gel Stent, acquired from AqueSys for \$425M+ milestones)
- ✓ Vice President Commercial at AqueSys, Inc.
- ✓ Vice President at Advanced Medical Optics, Inc. (acquired by Abbott Laboratories) and was responsible for its Europe-Africa-Middle East refractive business



**Lawrence Yoo, PhD – Chairman of the Board, Founder**

- ✓ Research Scientist at Jules Stein Eye Institute at UCLA: Expertise in Biomechanics of Extra-Ocular/Ocular Tissues.
- ✓ Pre/Post Doc Fellow at Jules Stein Eye Institute.
- ✓ Over 20 Scientific Journal Articles on Biomechanics of Extra-Ocular/Ocular and Orbital Mechanics.



**Niaz Karim – Special Advisor, Co-Founder**

- ✓ Partner at Valmo Ventures
- ✓ Business Development and Venture Creation, Harvard Office of Technology Development
- ✓ Expertise in Venture Funding



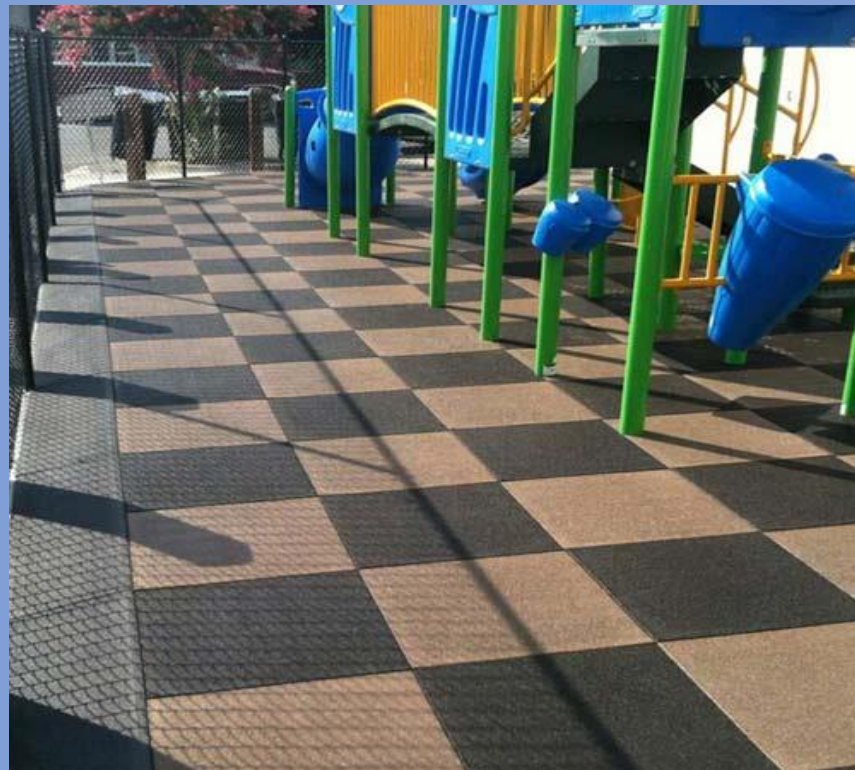
**Seok-Hyun "Andy" Yun, PhD – Scientific Advisor, Scientific Founder**

- ✓ Professor, Harvard Medical School
- ✓ Recipient of 2016 NIH Director's Pioneer Award
- ✓ Co-founder of Novera Optics, Inc (acquired by LG-Nortel)

# Providing Another Dimension of Information in Medical Fields

- Current state of art imaging technologies DO NOT provide all the necessary information
- Our technology can quantitatively measure biomechanics - BOTH ELASTICITY AND VISCOSITY of living tissues and cells

## Elasticity



Rubber tile (soft)

Stone tile (hard)

## Viscosity



Water (Thin)



Oil (Thicker)

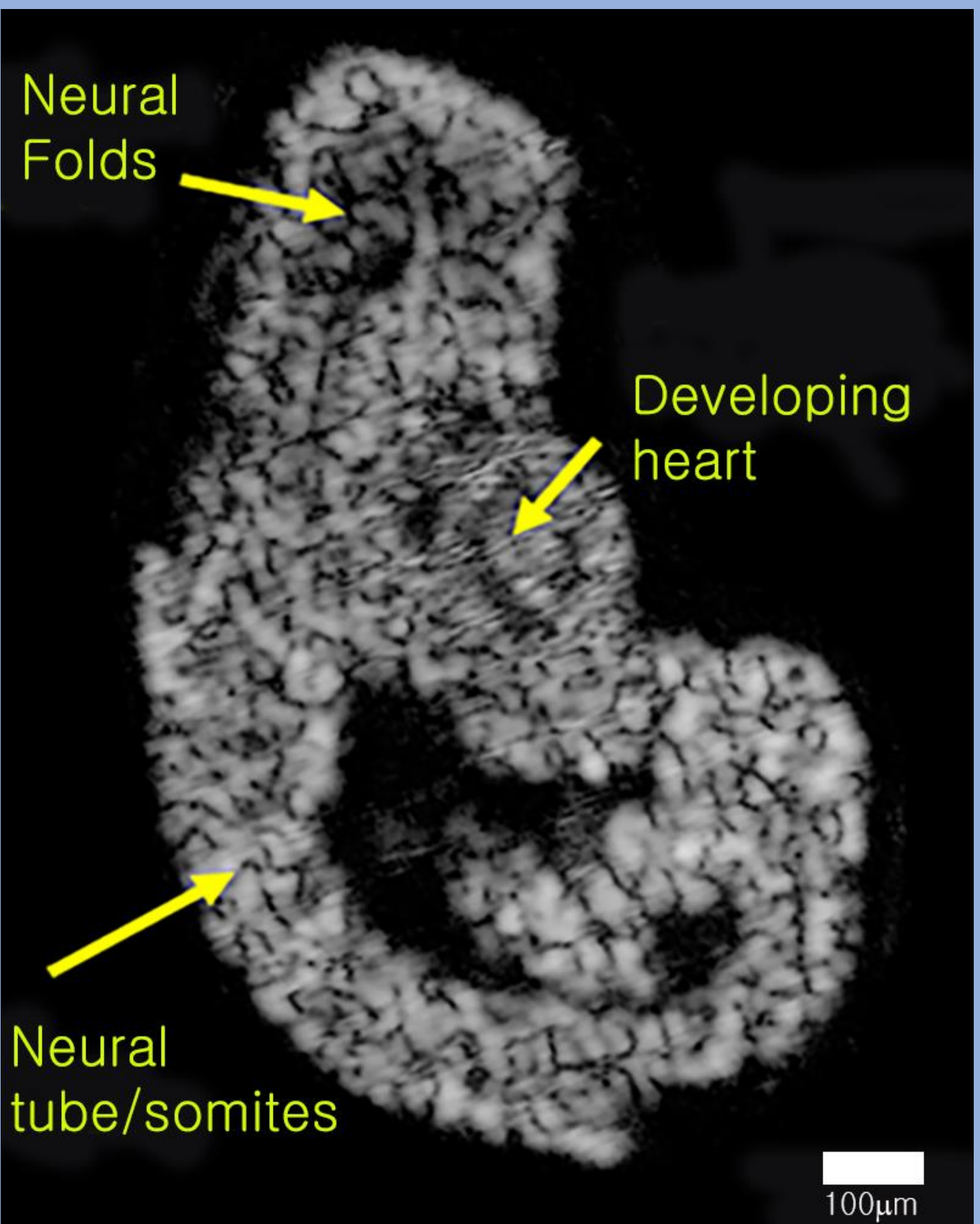


Honey (Thickest)

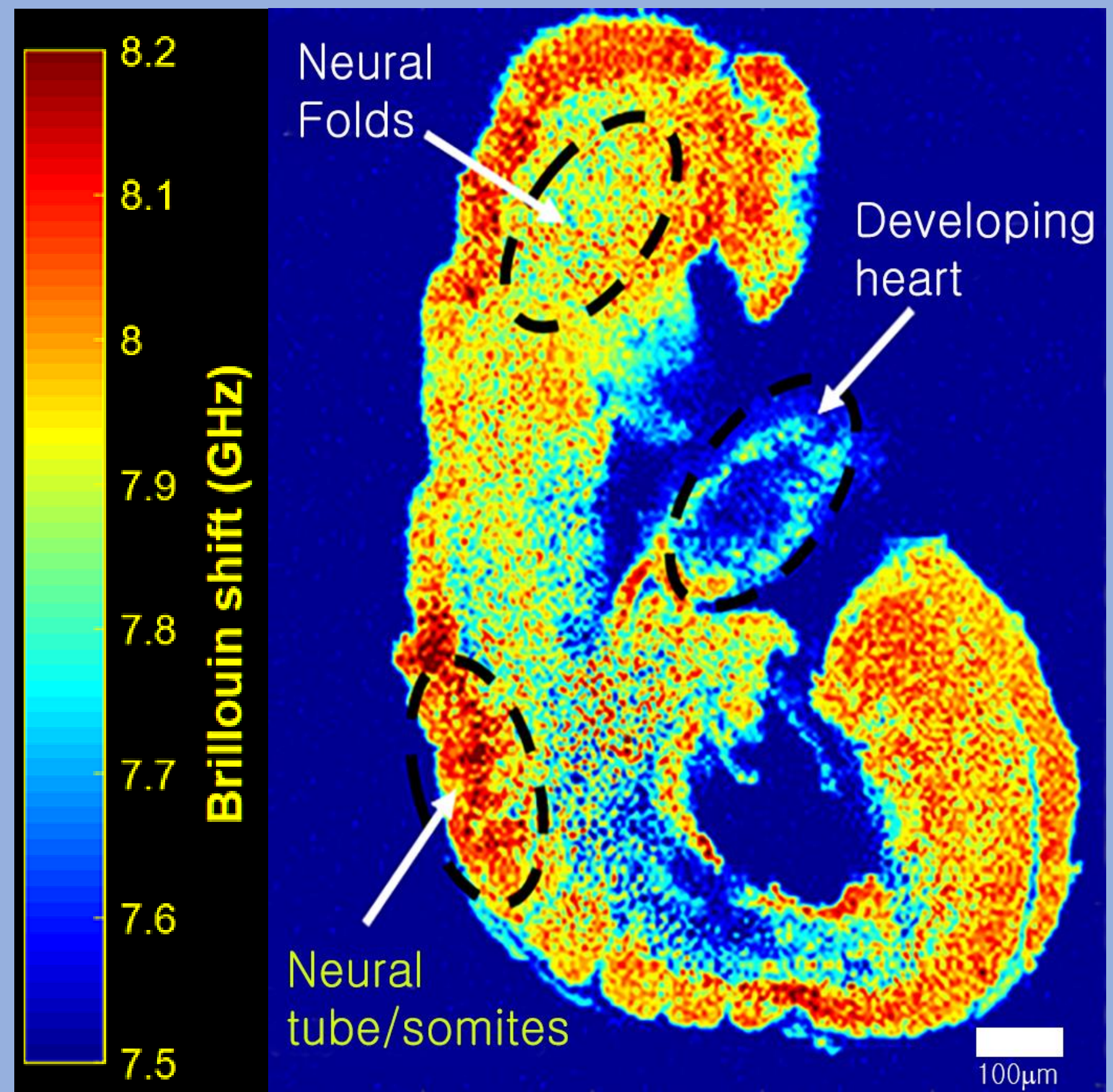
# Biomechanical Imaging Drastically Improves Diagnostic Accuracy

Brillouin imaging reveals structural differences in tissues or cells that are NOT VISIBLE in current imaging technologies (e.g. Optical Coherence Tomography - OCT)

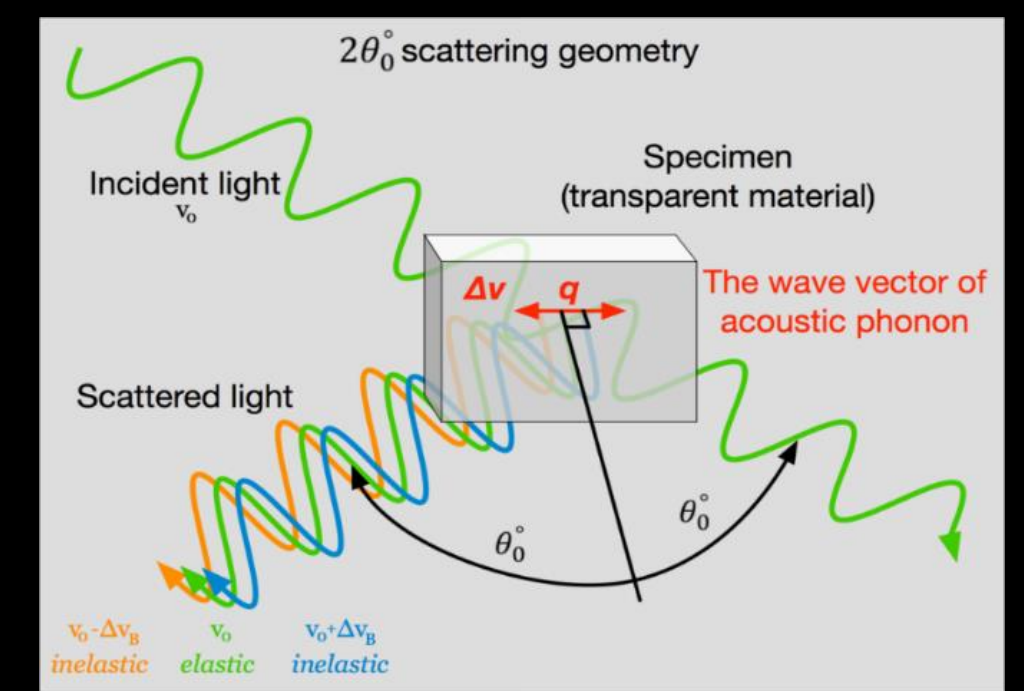
A. Murine Embryo – OCT



B. Murine Embryo – Brillouin Imaging



- 1. Light Based Technology
- 2. Non-Invasive, Non-Contact
- 3. Real-Time Measurement
- 4. High Spatial Resolution
- 5. Direct Measurement – No Deduction Calculations or Simulations Required



# BOSS™ Instrument and Data



# Why Now?

## Unmet Needs & Opportunities in the Eye Care Industry

### CORNEA/ANTERIOR SEGMENT SPECIALISTS

- ✓ Refractive Surgeries
- ✓ Cataract Surgeries
- ✓ Corneal Diseases
- ✓ Progressive Myopia

### RETINA/UVETIS SPECIALISTS

- ✓ AMD1
- ✓ Diagnosis of Retinal Detachment
- ✓ Treat Problems with Vitreous

### GLAUCOMA SPECIALISTS

- ✓ Drug Development
- ✓ Improve Accuracy of IOP2 Measurement
- ✓ Improve Diagnostic Procedures

### OPTOMETRISTS

- ✓ Complex Contact Lens Fitting
- ✓ Corneal Fitness Monitoring

**Leading ophthalmologists and Big Pharma concur - reliable measuring of stiffness and other biomechanical properties of the eye tissue is gateway to more efficient treatments.**

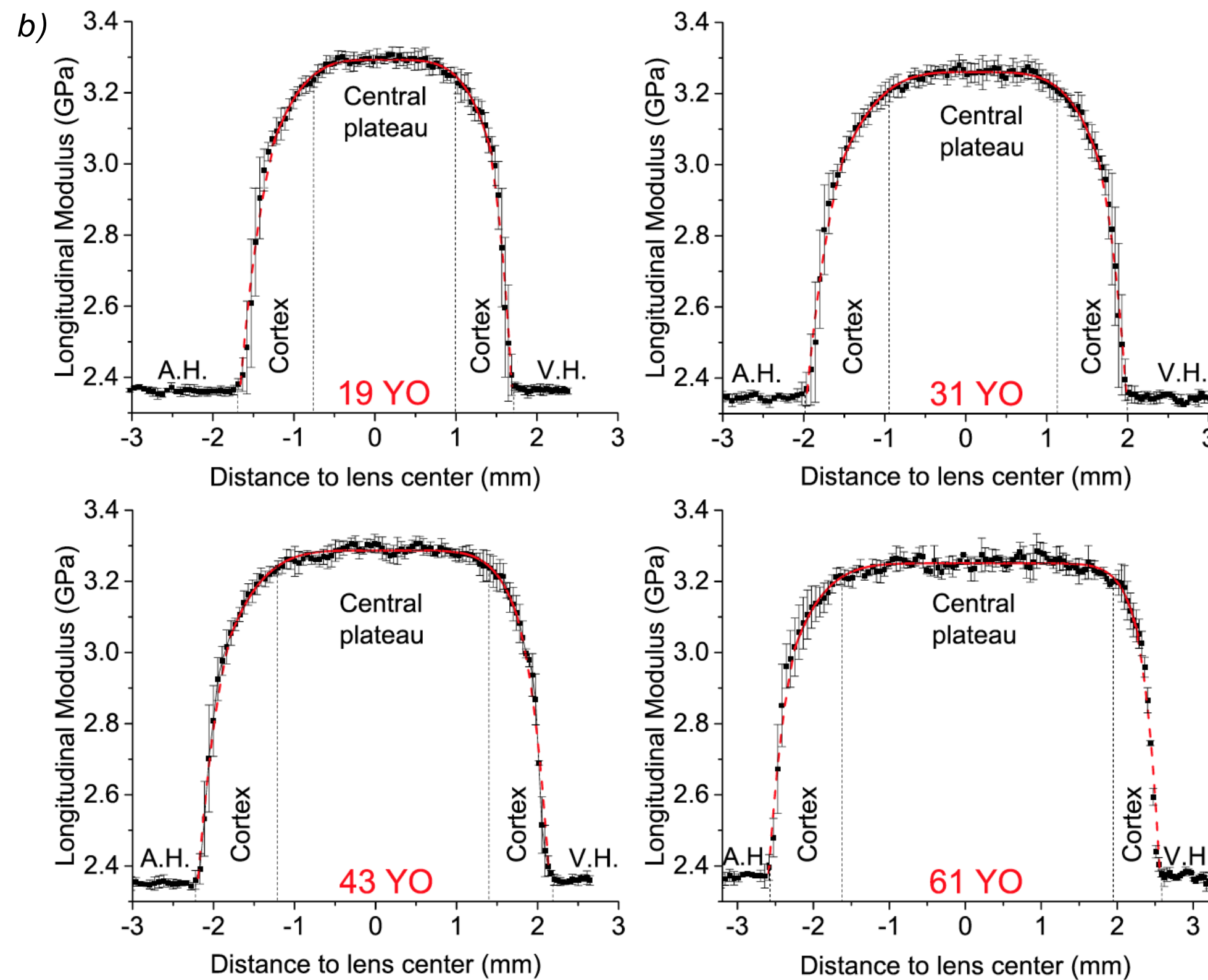
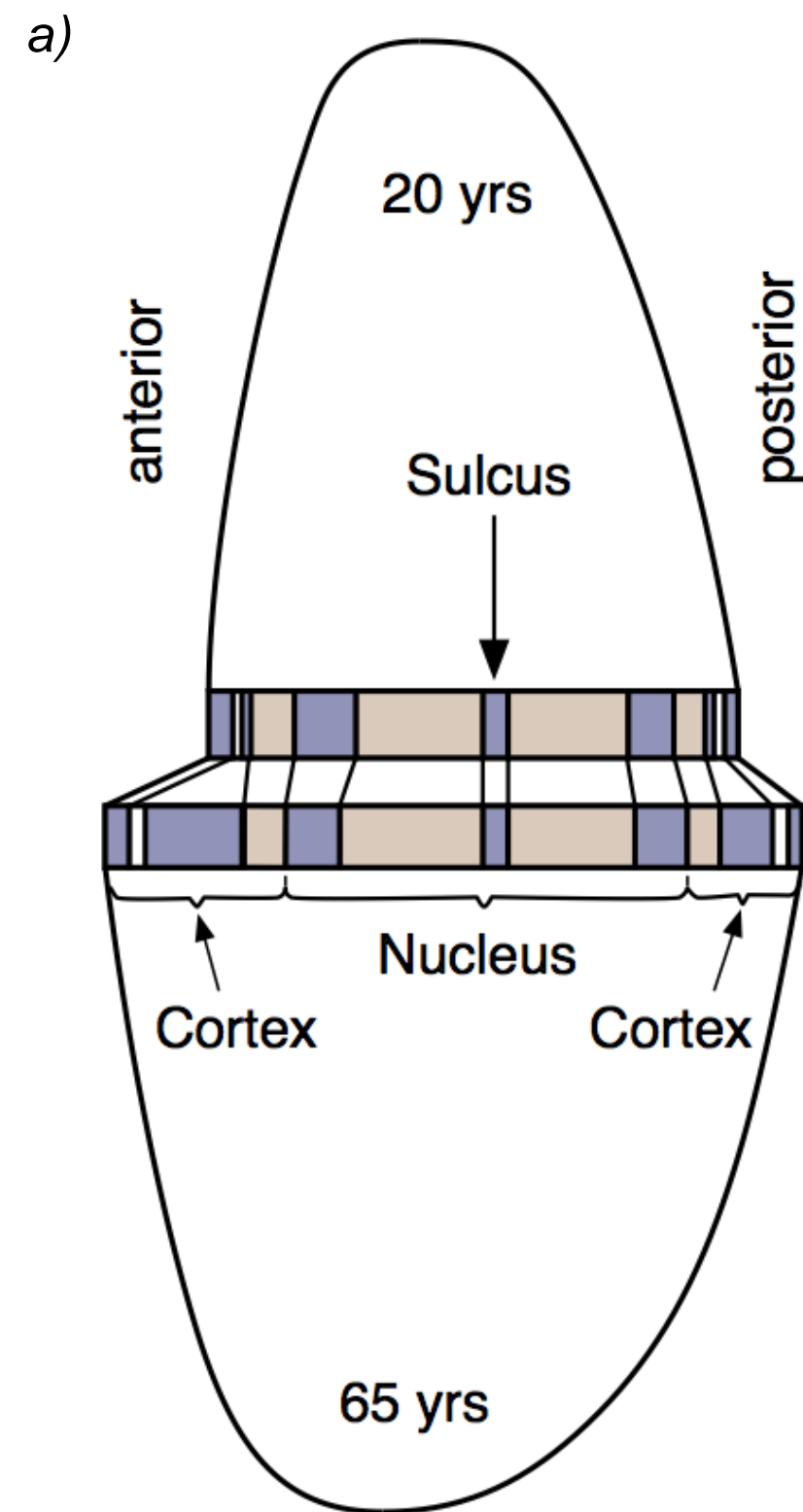
# Initial Applications in Ophthalmology – Anterior Segment

Disorder	Problem	BOSS™ Treatment
Refractive Errors	~3% of ~8 million total refractive corrections worldwide show preventable outcomes that require additional surgical or therapeutic attention	BOSS™ Screening of Cornea
Keratoconus Ectasia	~1-3% Prevalence of Keratoconus in general population globally, 0.5%, Incidence of Ectasia (i.e. post-refractive surgery keratoconus).	BOSS™ Screening of Cornea
Crosslinking of Cornea	~250,000 corneal crosslinking (CXL) procedures performed p.a. prevent corneal transplantation, expected to grow over 1 million procedures in the U.S. alone	BOSS™ Imaging of Cornea by Specialist
Astigmatism	~75% of post-cataract astigmatism worldwide needs to be corrected (>0.5 dpt)	BOSS™ Imaging of Cornea by Specialist
Myopia	~9-21% prevalence of pathologic myopia in 18-35 year olds (higher in Asia), impacting over 120 million worldwide; Regular Myopia can be treated with Laser vision Correction (LVC)	BOSS™ Screening of Sclera
Presbyopia	~ 300 million (of total 2 billion prevalence) individuals can afford correction of presbyopia	BOSS™ Screening of Lens
Abnormal Cornea	~15% of people show some sign of corneal abnormality (e.g., asymmetry, thinness) relevant for refractive surgery or contact lens fitting	BOSS™ Screening and Imaging of Cornea

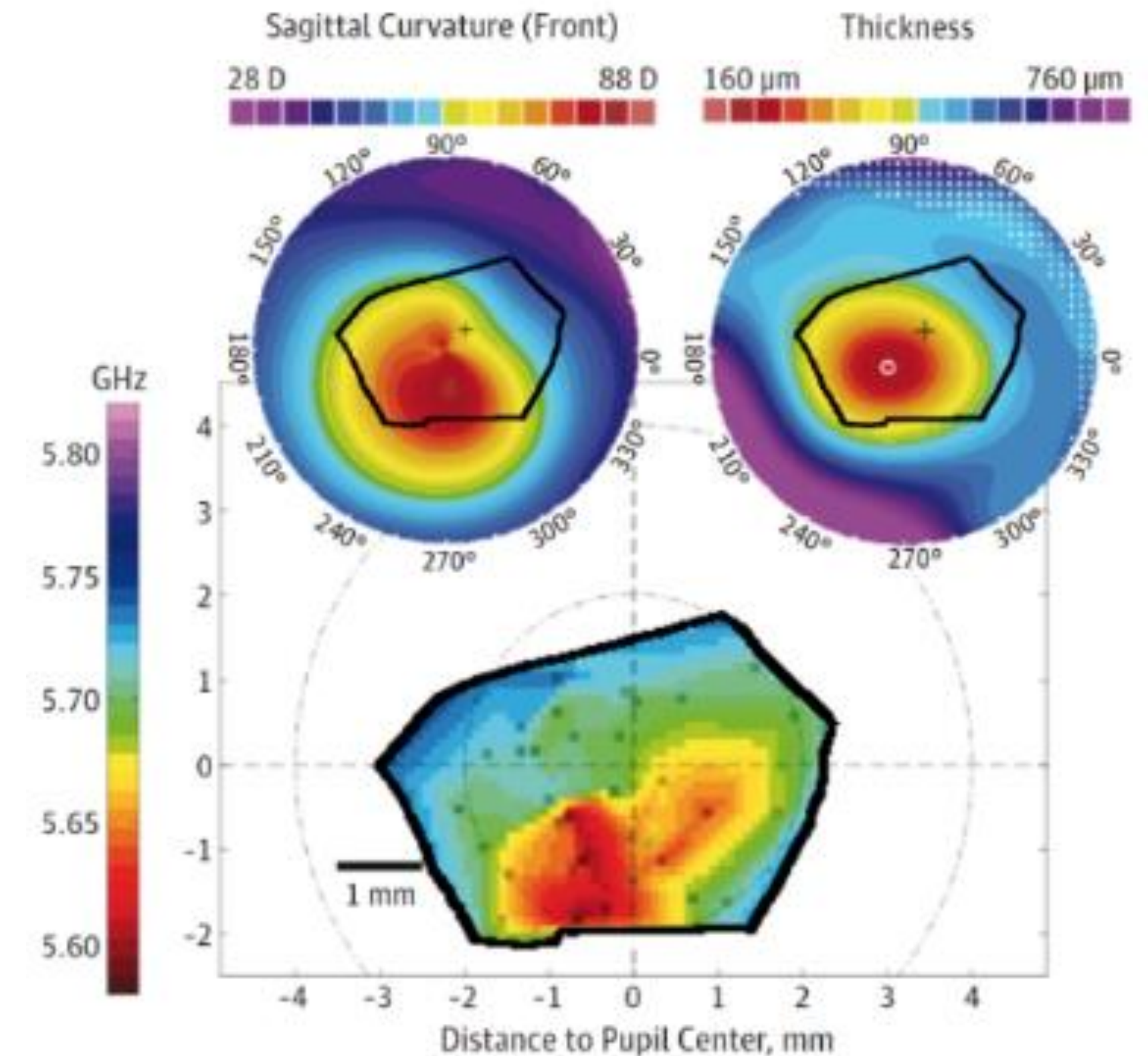


# Initial Applications in Ophthalmology – Anterior Segment

## Crystalline lens



## Cornea



# Why EPIC?

## Business 2 Business Networking

- ✓ Pharma: Accelerated clinical trials and drug discovery
- ✓ Personalized medicine
- ✓ Novel treatment procedures
- ✓ Big data and AI for SaaS
- ✓ Manufacturing Partnerships
- ✓ Vendors for Optics, Motion Control

## Fundraising: \$10MM Series B round open to investment partners

- ✓ BOSS™ GEN-I (First Commercial Product) Clinical Program
- ✓ BOSS™ GEN-II Commercial Launch
- ✓ Expand the team
- ✓ Regulatory approval in US, S. Korea
- ✓ \$2.69M already raised via convertible notes from Two Investors

## Clinical Partnerships

- ✓ New Application Discovery
- ✓ Technology Validation



Thank you