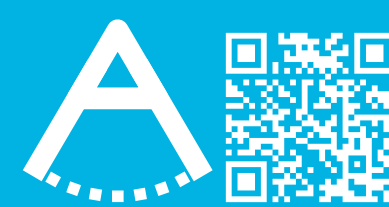
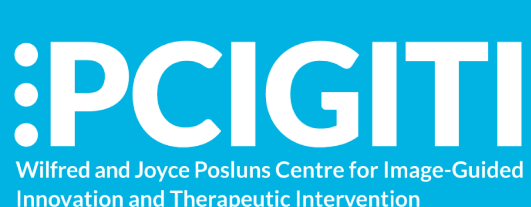




Simulating and Optimizing Focused Ultrasound Therapies

Barry Bytensky

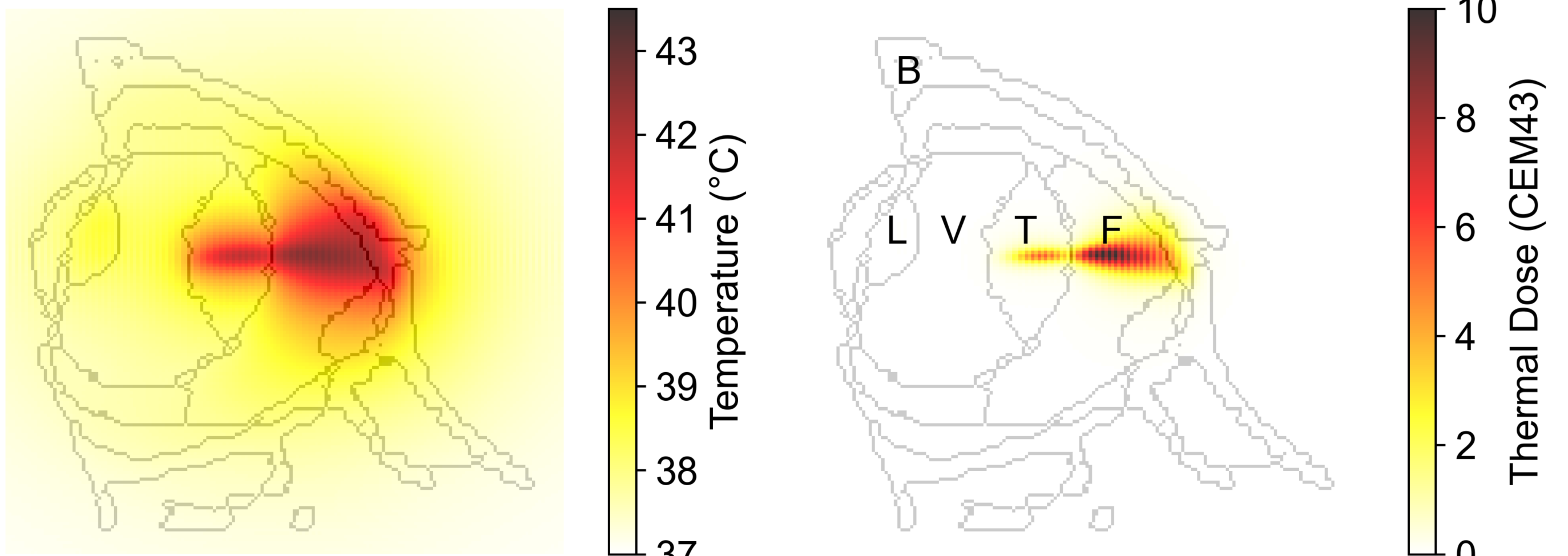
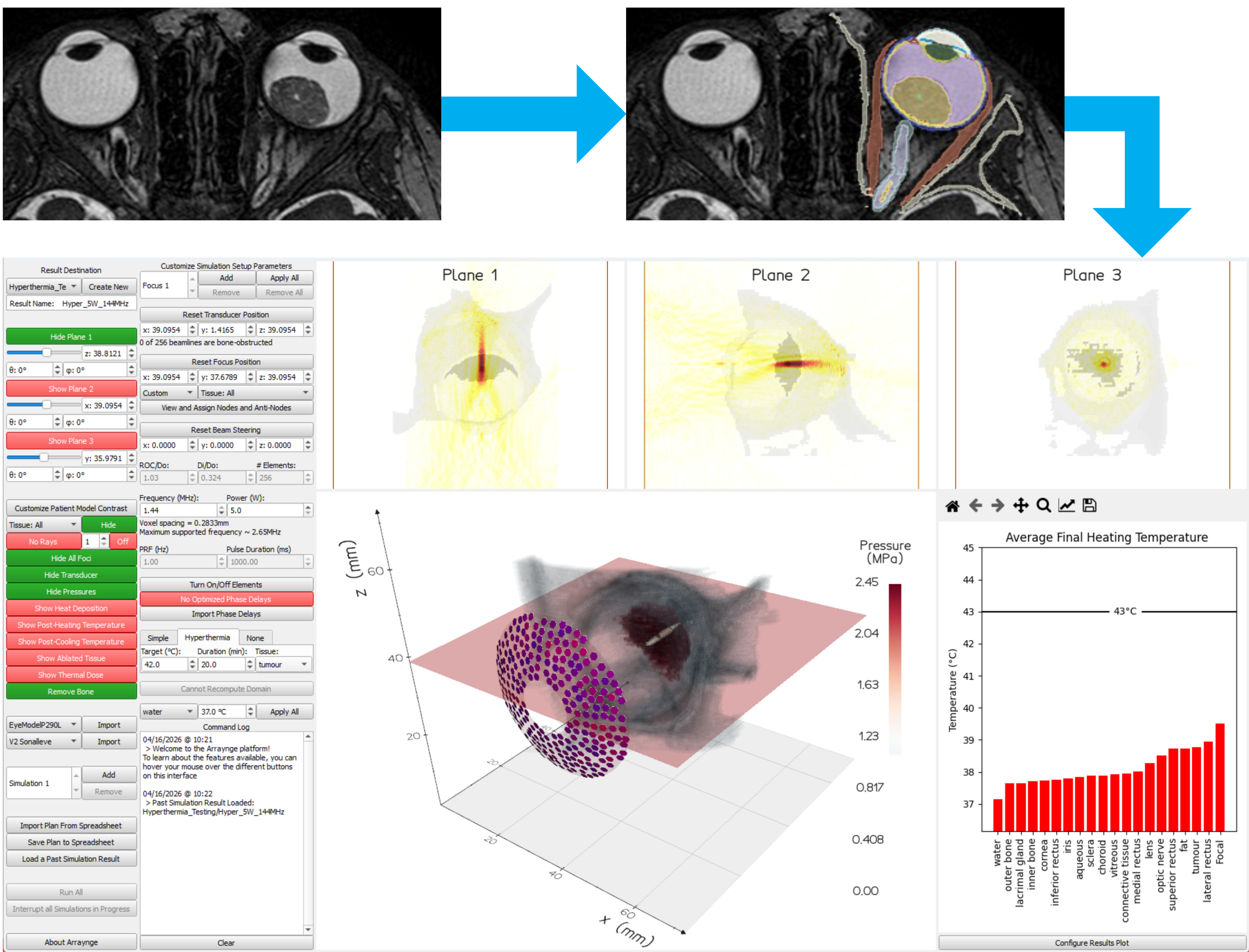
PhD Candidate | PCIGITI Lab | University of Toronto | barry.bytensky@mail.utoronto.ca



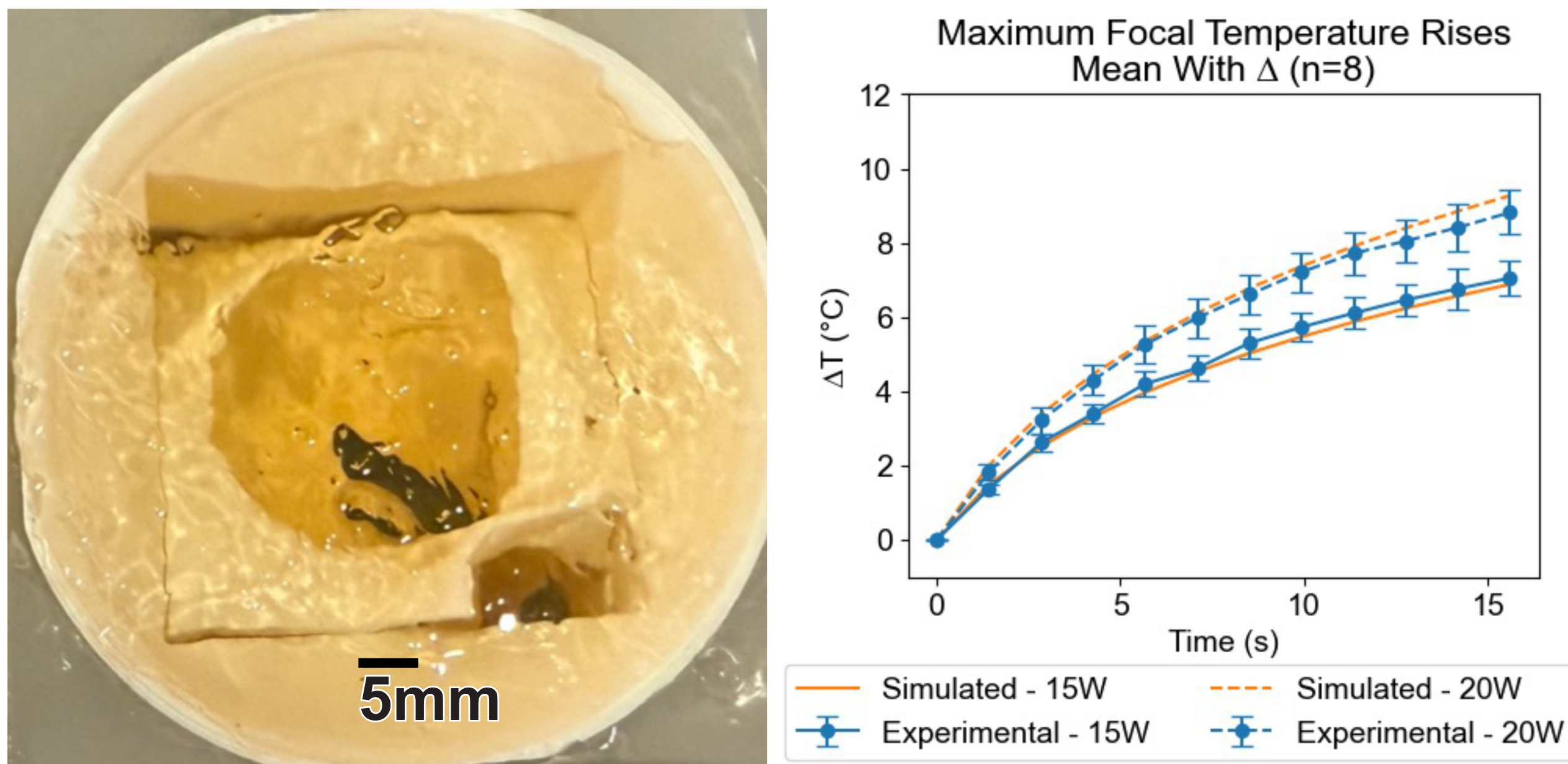
My Research

Arraynge Simulation Pipeline

Focused Ultrasound for Retinoblastoma



Arraynge Validation



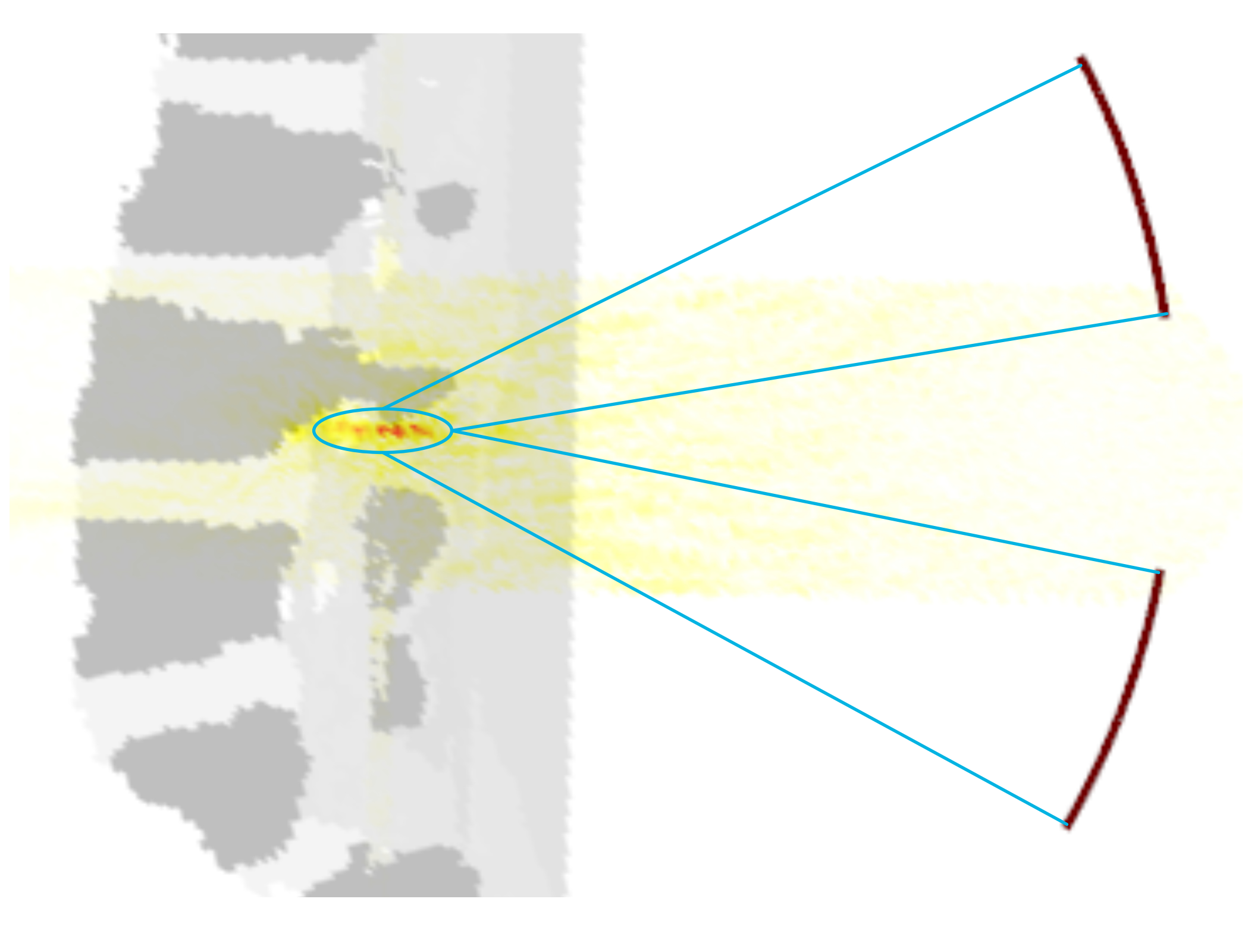
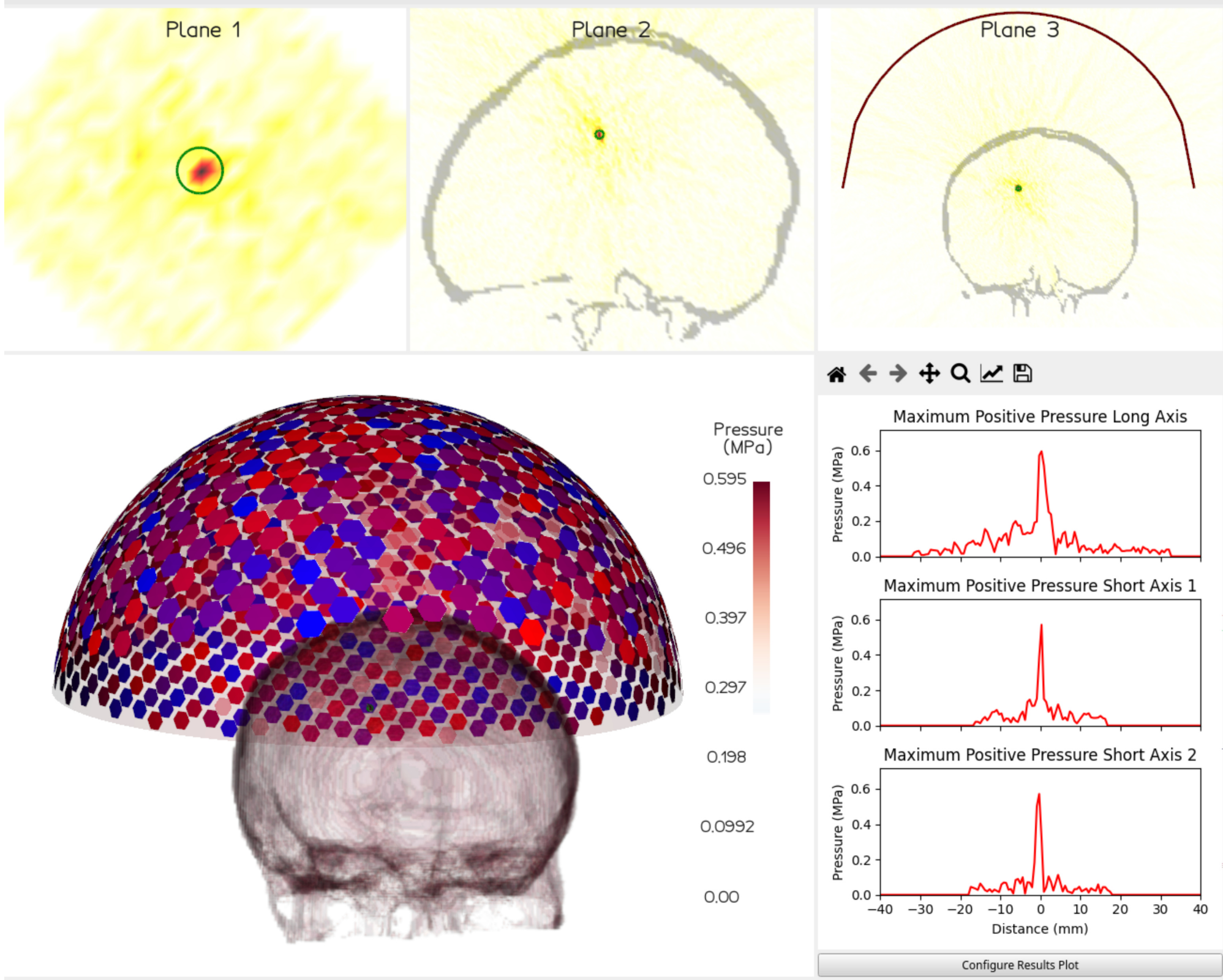
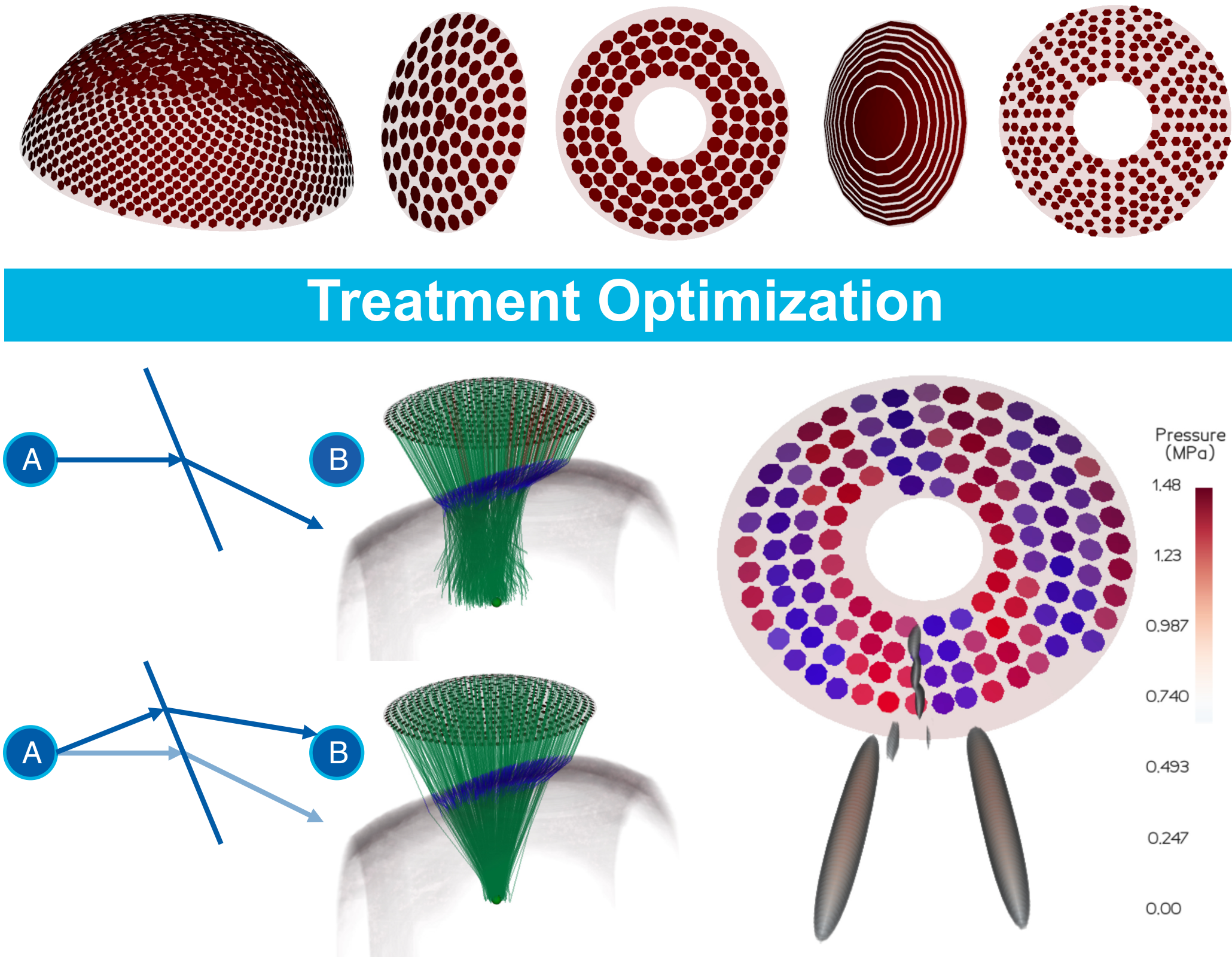
Ongoing Arraynge Projects

Transducer Design

Transcranial Therapies

Selective Dorsal Rhizotomy

Treatment Optimization



My Research at ISTU!

- 9-10am, June 18th (Poster):** "Arraynge, a 3D, k-Wave based, simulation platform for FUS treatment planning, optimization, and device design", **B. Bytensky**, J. Papasodaro, C. Liu, R. Casas, G. M. Ibrahim, A. C. Waspe
- 9-10am, June 18th (Poster):** "Validation of a focused ultrasound simulation platform for investigating ocular thermal therapies", **B. Bytensky**, J. Craig, A. Mallipatna, G. M. Ibrahim, A. C. Waspe
- 10:15am, June 18th (Oral):** "Radiation-free planning for pediatric transcranial focused ultrasound using T1-w MRI-derived synthetic CT", J. Papasodaro, **B. Bytensky**, R. Casas, G. M. Ibrahim, A. C. Waspe

About Me

Awards

Education

2026-2029:	CGRS-D	(NSERC)	\$40000CAD/yr
2025-2026:	CGS-M	(NSERC)	\$27000CAD
2025-2029:	Restracomp Scholarship	(SickKids)	\$35000CAD/yr
2024:	Cultivate the Next Generation (FUS Foundation)		\$2000USD
2024:	High Honours $\geq 87.5\%$ Average	(UofT Engineering)	
2024:	Engineering Science Award of Excellence	(UofT Engineering)	
2022-2023:	PEY Co-op Student of the Year	(UofT Engineering)	

2024-2028:	PhD	Biomedical Engineering	UofT
2019-2024:	BASc	Biomedical Systems Engineering	UofT

Professional Experience

2022-2024:	Research Student	SickKids	Toronto
2020-2021:	Engineering Intern	Kepstrum	Toronto

Technical Strengths

Programming:	Python, C/C++, Verilog, MATLAB, Git
Software:	CAD, MacOS, Windows, Linux, QT, Vedo, Conda
Skills:	Fabrication, UI Design, Sonalleve, MRI, Verasonics