inputenc[]fontenc[]
geometry[]

Project Timeline

PhD Research Calendar

Timeline Period: August 29, 2025 – August 15, 2027
Total Duration: 716 days
Total Tasks: 63 tasks
Months Covered: 25 months

August 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29 • timeline v1 • Initial proposa...	30 • timeline v1 • Initial proposa...
31 • timeline v1 • Initial proposa...						

0.1 Task Details for August 2025

- **timeline v1** (08/29 - 08/31)
  Create initial project timeline for Tuesday review with Andy. Bring both

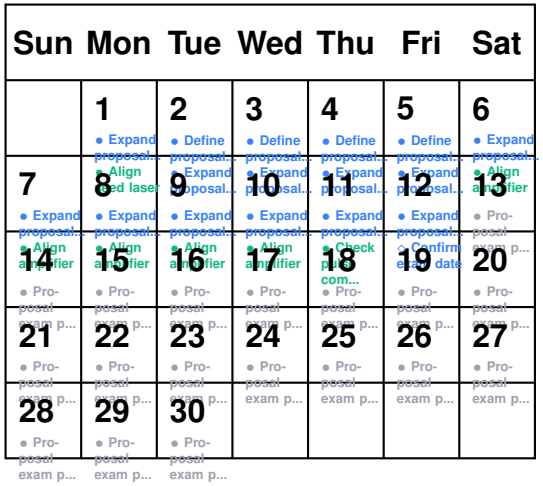
printed and digital copies to meeting.

- **Initial proposal skeleton** (08/29 - 08/31)
  Develop 1-page Specific Aims and detailed outline following BME format requirements for PhD proposal.

◇ **Submit proposal outline** (08/31 - 08/31)
MILESTONE: Send initial proposal draft to advisor for review before Monday deadline.

- **Align seed laser** (08/30 - 09/03)
  Achieve $\geq \$30mWoutputinfibercore(pre-pumpconfiguration)forstablelaseroperation.$

September 2025



0.2 Task Details for September 2025

- **Define proposal committee** (09/02 - 09/05)
  Identify committee members; confirm availability; and schedule oral exam date. Reserve room for exam.
- **Expand proposal draft** (09/01 - 09/12)

Develop 12-page Research Strategy section from outline following BME proposal guidelines.

◇ **Confirm exam date** (09/12 - 09/12)
MILESTONE: Oral exam date scheduled. Must send final proposal to committee $\geq \$2 weeks prior to exam.$

• **Align seed laser** (08/30 - 09/03)
Achieve $\geq \$30 mW output in fiber core (pre-pump configuration) for stable laser operation.$

• **Align amplifier** (09/03 - 09/10)
Restore amplified output to $\geq \$130 mW (previous benchmark performance level).$

• **Check pulse compression** (09/10 - 09/12)
Verify $\leq \$200 fs pulse duration and record specifications in equipment log.$

◇ **Calibrate microscope** (09/12 - 09/12)
Align imaging system using USAF target for optimal resolution before in vivo experiments.

◇ **Laser system ready** (09/12 - 09/12)
MILESTONE: Laser output and imaging optics meet all requirements for live animal imaging.

• **Plan imaging cohort** (09/01 - 09/05)
Plan ˜3 pilot mice cohort with IACUC protocol confirmation and surgery slot booking.

- **Annual progress review** (09/01 - 09/07)
  Complete yearly graduate student progress report (department form) due early September.
- **Proposal exam paperwork** (09/12 - 10/15)
  File committee forms; Program of Work; and confirm exam room logistics for proposal defense.

October 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 • Proposal exam p... • Design AAV vectors	2 • Proposal exam p... • Design AAV vectors	3 • Proposal exam p... • Design AAV vectors	4 • Proposal exam p... • Design AAV vectors
5 • Proposal exam p... • Design AAV vectors	6 • Proposal exam p... • Design AAV vectors	7 • Proposal exam p... • Design AAV vectors	8 • Proposal exam p... • Design AAV vectors	9 • Proposal exam p... • Design AAV vectors	10 • Proposal exam p... • Design AAV vectors	11 • Proposal exam p... • Design AAV vectors
12 • Proposal exam p... • Design AAV vectors	13 • Proposal exam p... • Design AAV vectors	14 • Proposal exam p... • Design AAV vectors	15 • Proposal exam p... • Design AAV vectors	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

0.3 Task Details for October 2025

- **Proposal exam paperwork** (09/12 - 10/15)
  File committee forms; Program of Work; and confirm exam room logistics for proposal defense.
- **Design AAV vectors** (10/01 - 10/15)
  Design and order AAV-mScarlet (vascular) and jRGECO1b (neuronal) vectors. Finalize constructs and submit production orders to core facility.

November 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15 • proposal draft
16 • proposal draft	17 • proposal draft	18 • proposal draft	19 • proposal draft	20 • proposal draft	21 • proposal draft	22 • proposal draft
23 • proposal draft	24 • proposal draft	25 • proposal draft	26 • proposal draft	27 • proposal draft	28 • proposal draft	29 • proposal draft
30 • proposal draft						

0.4 Task Details for November 2025

- **proposal draft** (11/15 - 12/15)
  Write full proposal document (˜13 pages) including all aims and research strategy for committee review.

December 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1 • proposal draft	2 • proposal draft	3 • proposal draft	4 • proposal draft	5 • proposal draft	6 • proposal draft
7 • proposal draft	8 • proposal draft	9 • proposal draft	10 • proposal draft	11 • proposal draft	12 • proposal draft	13 • proposal draft
14 • proposal draft	15 • proposal draft	16 ◇ Send proposal to committee	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

0.5 Task Details for December 2025

- **proposal draft** (11/15 - 12/15)
  Write full proposal document (˜13 pages) including all aims and research strategy for committee review.

◇ **Send proposal to committee** (12/16 - 12/16)
MILESTONE: Email proposal to committee $\geq \$2 weeksbefore exam date(satisfies pre-exam requirement).$

January 2026

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4 • Prepare present...	5 • Prepare present...	6 • Prepare present...	7 • Prepare present...	8 • Prepare present...	9 • Prepare present...	10 • Prepare present...
11 • Prepare present...	12 • Prepare present...	13 • Prepare present...	14 • Prepare present...	15 ◇ AAV vectors ready • Prepare present...	16 • Prepare present...	17 • Prepare present...
18 • Prepare present...	19	20 ◇ PhD Proposal Exam	21 • Address committ...	22 • Address committ...	23 • Address committ...	24 • Address committ...
25 • Address committ...	26 • Address committ...	27 • Address committ...	28 • Address committ...	29	30	31

0.6 Task Details for January 2026

- ◇ **AAV vectors ready** (01/15 - 01/15)
  MILESTONE: AAV vectors received from core facility. Ready for in vivo animal injections to begin expression studies.
- • **Prepare presentation** (01/04 - 01/18)

Create slide deck and practice oral exam presentation. Aim for two practice runs with lab members.

- ◇ **PhD Proposal Exam** (01/20 - 01/20)
  Qualifying Exam: Defend dissertation proposal in oral exam with committee members.

- • **Address committee feedback** (01/21 - 01/28)
  Incorporate committee revisions into proposal and submit signed approval form for final approval.

February 2026

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1 ◇ Cranial window ...	2 • Post-op recover...	3 • Post-op recover...	4 • Post-op recover...	5 • Post-op recover...	6	7
8 ◇ Cranial window ...	9 • Post-op recover...	10 • Post-op recover...	11 • Post-op recover...	12 • Post-op recover...	13	14
15 ◇ Cranial window ...	16 • Post-op recover...	17 • Post-op recover...	18 • Post-op recover...	19 • Post-op recover...	20	21
22 • Pilot imaging s...	23 • Pilot imaging s...	24	25	26	27	28

0.7 Task Details for February 2026

◇ **Cranial window surgery #1** (02/01 - 02/01)
Install cranial window and inject AAV in first pilot mouse. Begin expression timeline for vascular labeling.

• **Post-op recovery #1** (02/02 - 02/05)

Monitor and medicate Mouse #1 after surgery. No imaging during recovery period to allow healing.

- **Cranial window surgery #2** (02/08 - 02/08)
  Install cranial window and inject AAV in second pilot mouse (staggered one week after #1).
- **Post-op recovery #2** (02/09 - 02/12)
  Monitor and medicate Mouse #2 after surgery. Maintain analgesia schedule during recovery.
- **Cranial window surgery #3** (02/15 - 02/15)
  Install cranial window and inject AAV in third pilot mouse (further staggered timing).
- **Post-op recovery #3** (02/16 - 02/19)
  Monitor and medicate Mouse #3 after surgery. Complete recovery period before imaging.
- **Pilot imaging session #1** (02/22 - 02/23)
  Acquire in vivo images for Mouse #1 comparing AAV fluorescence vs traditional dye injection methods.

March 2026

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1 • Pilot imaging ...	2 • Pilot imaging ...	3 • Order enhanced AAV	4 • Order enhanced AAV	5 • Order enhanced AAV	6 • Order enhanced AAV	7 • Order enhanced AAV
8 • Order enhanced AAV • Pilot imaging ...	9 • Order enhanced AAV • Pilot imaging ...	10 ◇ Pilot data check	11 • Process pilot data	12 • Process pilot data	13 • Process pilot data	14 • Process pilot data
15 • Order enhanced AAV • Process pilot data	16 • Order enhanced AAV • Develop U-Net p...	17 • Process pilot data • Develop U-Net p...	18 • Order enhanced AAV • Develop U-Net p...	19 • Order enhanced AAV • Develop U-Net p...	20 • Order enhanced AAV • Develop U-Net p...	21 • Order enhanced AAV • Develop U-Net p...
22 • Develop U-Net p... • Optimize imagin...	23 • Develop U-Net p... • Optimize imagin...	24 • Develop U-Net p... • Optimize imagin...	25 • Develop U-Net p... • Optimize imagin...	26 • Develop U-Net p... • Optimize imagin...	27 • Develop U-Net p... • Optimize imagin...	28 • Develop U-Net p... • Optimize imagin...
29 • Develop U-Net p... • Optimize imagin...	30 • Develop U-Net p... • Optimize imagin...	31 • Develop U-Net p... • Optimize imagin...	• Optimize imagin...	• Optimize imagin...	• Optimize imagin...	• Optimize imagin...

0.8 Task Details for March 2026

- **Pilot imaging session #2** (03/01 - 03/02)
  Acquire in vivo images for Mouse #2 under dual-label vs dye conditions for comparison.

- **Pilot imaging session #3** (03/08 - 03/09)
  Acquire in vivo images for Mouse #3. Complete final pilot dataset for Aim 1 validation.
- ◇ **Pilot datasets complete** (03/10 - 03/10)
  MILESTONE: Three pilot two-photon imaging datasets acquired for Aim 1 validation and proposal figures.
- **Process pilot data** (03/10 - 03/15)
  Perform image registration and SNR analysis. Calculate contrast metrics and refine imaging protocols.
- **Develop U-Net pipeline** (03/15 - 04/01)
  Begin developing automated image segmentation pipeline using U-Net architecture for vascular features.
- **Optimize imaging systems** (03/15 - 04/30)
  Tune microscope optics for dual-channel two-photon imaging and configure LSCI for blood flow measurements.
- **Order enhanced AAV** (03/01 - 05/01)
  Design and order enhanced-expression AAV with tissue-specific enhancer for improved dual-label imaging (Aim 2).

April 2026

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 • Develop U-Net p... • Optimize ima...	2 • Optimize ima... • Order enhanced AAV	3 • Optimize ima... • Order enhanced AAV	4 • Optimize ima... • Order enhanced AAV
5 • Optimize ima... • Order enhanced AAV	6 • Optimize ima... • Order enhanced AAV	7 • Optimize ima... • Order enhanced AAV	8 • Optimize ima... • Order enhanced AAV	9 • Optimize ima... • Order enhanced AAV	10 • Optimize ima... • Order enhanced AAV	11 • Optimize ima... • Order enhanced AAV
12 • Optimize ima... • Order enhanced AAV	13 • Optimize ima... • Order enhanced AAV	14 • Optimize ima... • Order enhanced AAV	15 • Optimize ima... • Order enhanced AAV	16 • Optimize ima... • Order enhanced AAV	17 • Optimize ima... • Order enhanced AAV	18 • Optimize ima... • Order enhanced AAV
19 • Optimize ima... • Order enhanced AAV	20 • Optimize ima... • Order enhanced AAV	21 • Optimize ima... • Order enhanced AAV	22 • Optimize ima... • Order enhanced AAV	23 • Optimize ima... • Order enhanced AAV	24 • Optimize ima... • Order enhanced AAV	25 • Optimize ima... • Order enhanced AAV
26 • Optimize ima... • Order enhanced AAV	27 • Optimize ima... • Order enhanced AAV	28 • Optimize ima... • Order enhanced AAV	29 • Optimize ima... • Order enhanced AAV	30 • Optimize ima... • Order enhanced AAV		

0.9 Task Details for April 2026

- **Develop U-Net pipeline** (03/15 - 04/01)
  Begin developing automated image segmentation pipeline using U-Net architecture for vascular features.

- **Optimize imaging systems** (03/15 - 04/30)
  Tune microscope optics for dual-channel two-photon imaging and configure LSCI for blood flow measurements.
- **Order enhanced AAV** (03/01 - 05/01)
  Design and order enhanced-expression AAV with tissue-specific enhancer for improved dual-label imaging (Aim 2).
- **Compare labeling methods** (04/30 - 05/31)
  Systematically compare imaging depth; SNR; and contrast across different labeling methods (AAV vs dye) in vivo.
- **methodology paper** (04/01 - 05/31)
  Write manuscript on AAV-based vascular imaging methodology and pilot results from Aim 1 studies.

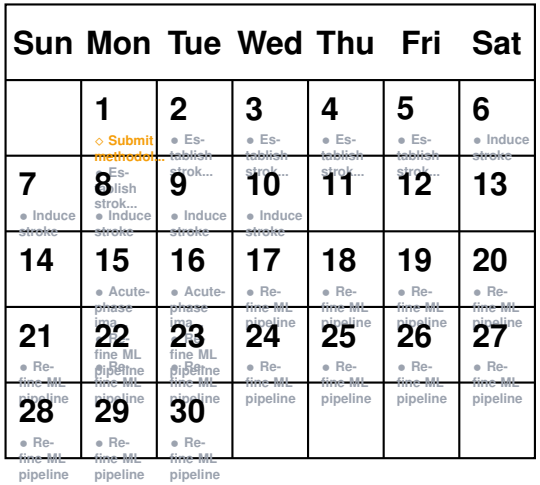
May 2026

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1 • Order enhanced AAV • Compare labelin...	2 • Compare labelin... • methodology paper
3 • Compare labelin... • methodology paper	4 • Compare labelin... • methodology paper	5 • Compare labelin... • methodology paper	6 • Compare labelin... • methodology paper	7 • Compare labelin... • methodology paper	8 • Compare labelin... • methodology paper	9 • Compare labelin... • methodology paper
10 • Compare labelin... • methodology paper	11 • Compare labelin... • methodology paper	12 • Compare labelin... • methodology paper	13 • Compare labelin... • methodology paper	14 • Compare labelin... • methodology paper	15 • Compare labelin... • methodology paper	16 • Compare labelin... • methodology paper
17 • Compare labelin... • methodology paper	18 • Compare labelin... • methodology paper	19 • Compare labelin... • methodology paper	20 • Compare labelin... • methodology paper	21 • Compare labelin... • methodology paper	22 • Compare labelin... • methodology paper	23 • Compare labelin... • methodology paper
24 • Compare labelin... • methodology paper	25 • Compare labelin... • methodology paper	26 • Compare labelin... • methodology paper	27 • Compare labelin... • methodology paper	28 • Compare labelin... • methodology paper	29 • Compare labelin... • methodology paper	30 • Compare labelin... • methodology paper
31 • Compare labelin... • methodology paper						

0.10 Task Details for May 2026

- **Order enhanced AAV** (03/01 - 05/01)
  Design and order enhanced-expression AAV with tissue-specific enhancer for improved dual-label imaging (Aim 2).
- **Compare labeling methods** (04/30 - 05/31)
  Systematically compare imaging depth; SNR; and contrast across different labeling methods (AAV vs dye) in vivo.
- **methodology paper** (04/01 - 05/31)
  Write manuscript on AAV-based vascular imaging methodology and pilot results from Aim 1 studies.
- **Establish stroke protocol** (05/31 - 06/05)
  Complete training and IACUC approval for stroke induction method (photothrombosis). Ensure all regulatory approvals are in place.

June 2026



0.11 Task Details for June 2026

- ◇ **Submit methodology paper** (06/01 - 06/01)
  Submit Aim 1 imaging methodology paper to journal for peer review and publication consideration.
- ● **Establish stroke protocol** (05/31 - 06/05)

Complete training and IACUC approval for stroke induction method (photothrombosis). Ensure all regulatory approvals are in place.

- **Induce stroke** (06/06 - 06/10)
  Perform stroke induction surgeries on experimental animal cohort to initiate Aim 3 longitudinal imaging study.
- **Acute-phase imaging** (06/15 - 06/16)
  Conduct two-photon + LSCI imaging sessions in acute phase (0-1 week post-stroke) to capture immediate vascular changes.
- **Refine ML pipeline** (06/15 - 08/31)
  Adapt and improve machine learning segmentation pipeline for stroke dataset analysis and vascular feature detection.

July 2026

0.12 Task Details for July 2026

◇ **Enhanced AAV delivered** (07/01 - 07/01)
MILESTONE: Enhanced AAV vector received and ready for in vivo testing to continue Aim 2 studies.

- **Transition-phase imaging** (07/01 - 07/02)
  Conduct imaging sessions during subacute transition phase (2-4 weeks post-stroke) to capture evolving vascular dynamics.
- **Stabilization-phase imaging** (07/30 - 07/31)
  Conduct imaging sessions in early chronic phase (5-8 weeks post-stroke) to observe vascular remodeling processes.
- **Refine ML pipeline** (06/15 - 08/31)
  Adapt and improve machine learning segmentation pipeline for stroke dataset analysis and vascular feature detection.

August 2026

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1 • Refine ML pipeline
2 • Refine ML pipeline	3 • Refine ML pipeline	4 • Refine ML pipeline	5 • Refine ML pipeline	6 • Refine ML pipeline	7 • Refine ML pipeline	8 • Refine ML pipeline
9 • Refine ML pipeline	10 • Refine ML pipeline	11 • Refine ML pipeline	12 • Refine ML pipeline	13 • Refine ML pipeline	14 • Refine ML pipeline	15 • Refine ML pipeline
16 • Refine ML pipeline	17 • Refine ML pipeline	18 • Refine ML pipeline	19 • Refine ML pipeline	20 • Refine ML pipeline	21 • Refine ML pipeline	22 • Refine ML pipeline
23 • Refine ML pipeline	24 • Refine ML pipeline	25 • Extended chroni... • Refine ML pipeline	26 • Extended chroni... • Refine ML pipeline	27 • Refine ML pipeline	28 • Refine ML pipeline	29 • Refine ML pipeline
30 • Refine ML pipeline	31 • Refine ML pipeline ◇ Stroke data com...					

0.13 Task Details for August 2026

- **Extended chronic imaging** (08/25 - 08/26)
  Conduct imaging at ˜12 weeks post-stroke (if needed) to capture long-term vascular remodeling and recovery patterns.
- **Refine ML pipeline** (06/15 - 08/31)
  Adapt and improve machine learning segmentation pipeline for stroke dataset analysis and vascular feature detection.
- ◇ **Stroke data complete** (08/31 - 08/31)
  MILESTONE: Completion of all planned longitudinal imaging sessions for stroke study (Aim 3).

September 2026

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1 • Integrate flow ...	2 • Integrate flow ...	3 • Integrate flow ...	4 • Integrate flow ...	5 • Integrate flow ...
6 • Integrate flow ...	7 • Integrate flow ...	8 • Annual progress... • Integrate flow ...	9 • Annual progress... • Integrate flow ...	10 • Annual progress... • Integrate flow ...	11 • Annual progress... • Integrate flow ...	12 • Annual progress... • Integrate flow ...
13 • Annual progress... • Integrate flow ...	14 • Annual progress... • Integrate flow ...	15 • Integrate flow ...	16 • Integrate flow ...	17 • Integrate flow ...	18 • Integrate flow ...	19 • Integrate flow ...
20 • Integrate flow ...	21 • Integrate flow ...	22 • Integrate flow ...	23 • Integrate flow ...	24 • Integrate flow ...	25 • Integrate flow ...	26 • Integrate flow ...
27 • Integrate flow ...	28 • Integrate flow ...	29 • Integrate flow ...	30 • Integrate flow ...			

0.14 Task Details for September 2026

- **Integrate flow data** (09/01 - 09/30)
  Combine LSCI blood flow metrics with two-photon structural/functional data for comprehensive vascular analysis.
- **Annual progress review** (09/01 - 09/07)

Complete yearly graduate student progress review (department form) with advisor due early September.

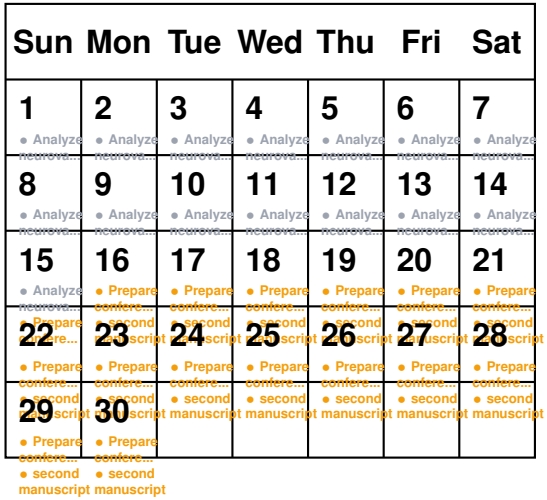
October 2026

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1 • Analyze neurovas...	2 • Analyze neurovas...	3 • Analyze neurovas...
4 • Analyze neurovas...	5 • Analyze neurovas...	6 • Analyze neurovas...	7 • Analyze neurovas...	8 • Analyze neurovas...	9 • Analyze neurovas...	10 • Analyze neurovas...
11 • Analyze neurovas...	12 • Analyze neurovas...	13 • Analyze neurovas...	14 • Analyze neurovas...	15 • Analyze neurovas...	16 • Analyze neurovas...	17 • Analyze neurovas...
18 • Analyze neurovas...	19 • Analyze neurovas...	20 • Analyze neurovas...	21 • Analyze neurovas...	22 • Analyze neurovas...	23 • Analyze neurovas...	24 • Analyze neurovas...
25 • Analyze neurovas...	26 • Analyze neurovas...	27 • Analyze neurovas...	28 • Analyze neurovas...	29 • Analyze neurovas...	30 • Analyze neurovas...	31 • Analyze neurovas...

0.15 Task Details for October 2026

- **Analyze neurovascular coupling** (10/01 - 11/15)
  Quantify microvascular network changes and neurovascular coupling dynamics from post-stroke imaging data.

November 2026



0.16 Task Details for November 2026

- **Analyze neurovascular coupling** (10/01 - 11/15)
  Quantify microvascular network changes and neurovascular coupling dynamics from post-stroke imaging data.
- **Prepare conference presentation** (11/15 - 12/01)

Create talk/poster for conference presentation (SPIE or neuroscience meeting) showcasing Year 5-6 research results.

- **second manuscript** (11/15 - 11/30)
  Write second research paper covering dual-color imaging platform and initial stroke study findings (Aim 2/3).

December 2026

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1 ● Prepare confere... ● PhD Disser- tatio...	2 ● PhD Disser- tatio...	3 ● PhD Disser- tatio...	4 ● PhD Disser- tatio...	5 ● PhD Disser- tatio...
6 ● PhD Disser- tatio...	7 ● PhD Disser- tatio...	8 ● PhD Disser- tatio...	9 ● PhD Disser- tatio...	10 ● PhD Disser- tatio...	11 ● PhD Disser- tatio...	12 ● PhD Disser- tatio...
13 ● PhD Disser- tatio...	14 ● PhD Disser- tatio...	15 ◇ Submit second ... ● PhD Disser- tatio...	16 ● PhD Disser- tatio... ● Intro- duction	17 ● PhD Disser- tatio... ● Intro- duction	18 ● PhD Disser- tatio... ● Intro- duction	19 ● PhD Disser- tatio... ● Intro- duction
20 ● PhD Disser- tatio... ● Intro- duction	21 ● PhD Disser- tatio... ● Intro- duction	22 ● PhD Disser- tatio... ● Intro- duction	23 ● PhD Disser- tatio... ● Intro- duction	24 ● PhD Disser- tatio... ● Intro- duction	25 ● PhD Disser- tatio... ● Intro- duction	26 ● PhD Disser- tatio... ● Intro- duction
27 ● PhD Disser- tatio... ● Intro- duction	28 ● PhD Disser- tatio... ● Intro- duction	29 ● PhD Disser- tatio... ● Intro- duction	30 ● PhD Disser- tatio... ● Intro- duction	31 ● PhD Disser- tatio... ● Intro- duction		

0.17 Task Details for December 2026

- **Prepare conference presentation** (11/15 - 12/01)
  Create talk/poster for conference presentation (SPIE or neuroscience meeting) showcasing Year 5-6 research results.

- **Submit second manuscript** (12/15 - 12/15)
  Submit second major manuscript (Aim 2/3 results) to journal for peer review and publication consideration.
- **PhD Dissertation & Defense** (12/01 - 08/15)
  Complete dissertation write-up; final defense; and all graduation requirements by Summer 2027.
- **Introduction** (12/15 - 01/31)
  Write dissertation Introduction chapter including literature review and study rationale for PhD thesis.

January 2027

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1 • PhD Dissertatio... • Introduction	2 • PhD Dissertatio... • Introduction
3 • PhD Dissertatio... • Introduction	4 • PhD Dissertatio... • Introduction	5 • PhD Dissertatio... • Introduction	6 • PhD Dissertatio... • Introduction	7 • PhD Dissertatio... • Introduction	8 • PhD Dissertatio... • Introduction	9 • PhD Dissertatio... • Introduction
10 • PhD Dissertatio... • Introduction	11 • PhD Dissertatio... • Introduction	12 • PhD Dissertatio... • Introduction	13 • PhD Dissertatio... • Introduction	14 • PhD Dissertatio... • Introduction	15 • PhD Dissertatio... • Introduction	16 • PhD Dissertatio... • Introduction
17 • PhD Dissertatio... • Introduction	18 • PhD Dissertatio... • Introduction	19 • PhD Dissertatio... • Introduction	20 • PhD Dissertatio... • Introduction	21 • PhD Dissertatio... • Introduction	22 • PhD Dissertatio... • Introduction	23 • PhD Dissertatio... • Introduction
24 • PhD Dissertatio... • Introduction	25 • PhD Dissertatio... • Introduction	26 • PhD Dissertatio... • Introduction	27 • PhD Dissertatio... • Introduction	28 • PhD Dissertatio... • Introduction	29 • PhD Dissertatio... • Introduction	30 • PhD Dissertatio... • Introduction
31 • PhD Dissertatio... • Introduction						

0.18 Task Details for January 2027

- **PhD Dissertation & Defense** (12/01 - 08/15)
  Complete dissertation write-up; final defense; and all graduation require-

ments by Summer 2027.

- **Introduction** (12/15 - 01/31)
  Write dissertation Introduction chapter including literature review and study rationale for PhD thesis.
- **Aim 1 chapter** (01/01 - 02/28)
  Write chapter detailing Aim 1 (AAV imaging) methods; experiments; and results for dissertation.
- **Aim 2 chapter** (01/15 - 03/31)
  Write chapter detailing Aim 2 (dual-color imaging platform) methods and results for dissertation.

February 2027

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1 • PhD Dissertation & Defense	2 • PhD Dissertation & Defense	3 • PhD Dissertation & Defense	4 • PhD Dissertation & Defense	5 • PhD Dissertation & Defense	6 • PhD Dissertation & Defense
7 • PhD Dissertation & Defense	8 • PhD Dissertation & Defense • Aim 1 chapter	9 • PhD Dissertation & Defense • Aim 1 chapter	10 • PhD Dissertation & Defense • Aim 1 chapter	11 • PhD Dissertation & Defense • Aim 1 chapter	12 • PhD Dissertation & Defense • Aim 1 chapter	13 • PhD Dissertation & Defense • Aim 1 chapter
14 • PhD Dissertation & Defense • Aim 1 chapter	15 • PhD Dissertation & Defense • Aim 1 chapter	16 • PhD Dissertation & Defense • Aim 1 chapter	17 • PhD Dissertation & Defense • Aim 1 chapter	18 • PhD Dissertation & Defense • Aim 1 chapter	19 • PhD Dissertation & Defense • Aim 1 chapter	20 • PhD Dissertation & Defense • Aim 1 chapter
21 • PhD Dissertation & Defense • Aim 1 chapter	22 • PhD Dissertation & Defense • Aim 1 chapter	23 • PhD Dissertation & Defense • Aim 1 chapter	24 • PhD Dissertation & Defense • Aim 1 chapter	25 • PhD Dissertation & Defense • Aim 1 chapter	26 • PhD Dissertation & Defense • Aim 1 chapter	27 • PhD Dissertation & Defense • Aim 1 chapter
28 • PhD Dissertation & Defense • Aim 1 chapter						

0.19 Task Details for February 2027

- **PhD Dissertation & Defense** (12/01 - 08/15)
  Complete dissertation write-up; final defense; and all graduation requirements by Summer 2027.

- **Aim 1 chapter** (01/01 - 02/28)
  Write chapter detailing Aim 1 (AAV imaging) methods; experiments; and results for dissertation.
- **Aim 2 chapter** (01/15 - 03/31)
  Write chapter detailing Aim 2 (dual-color imaging platform) methods and results for dissertation.
- **Aim 3 chapter** (02/01 - 04/15)
  Write chapter detailing Aim 3 (stroke model imaging study) methods; data; and findings for dissertation.

March 2027

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1 • PhD Dissertatio... • Aim 2 chapter	2 • PhD Dissertatio... • Aim 2 chapter	3 • PhD Dissertatio... • Aim 2 chapter	4 • PhD Dissertatio... • Aim 2 chapter	5 • PhD Dissertatio... • Aim 2 chapter	6 • PhD Dissertatio... • Aim 2 chapter
7 • PhD Dissertatio... • Aim 2 chapter	8 • PhD Dissertatio... • Aim 2 chapter	9 • PhD Dissertatio... • Aim 2 chapter	10 • PhD Dissertatio... • Aim 2 chapter	11 • PhD Dissertatio... • Aim 2 chapter	12 • PhD Dissertatio... • Aim 2 chapter	13 • PhD Dissertatio... • Aim 2 chapter
14 • PhD Dissertatio... • Aim 2 chapter	15 • PhD Dissertatio... • Aim 2 chapter	16 • PhD Dissertatio... • Aim 2 chapter	17 • PhD Dissertatio... • Aim 2 chapter	18 • PhD Dissertatio... • Aim 2 chapter	19 • PhD Dissertatio... • Aim 2 chapter	20 • PhD Dissertatio... • Aim 2 chapter
21 • PhD Dissertatio... • Aim 2 chapter	22 • PhD Dissertatio... • Aim 2 chapter	23 • PhD Dissertatio... • Aim 2 chapter	24 • PhD Dissertatio... • Aim 2 chapter	25 • PhD Dissertatio... • Aim 2 chapter	26 • PhD Dissertatio... • Aim 2 chapter	27 • PhD Dissertatio... • Aim 2 chapter
28 • PhD Dissertatio... • Aim 2 chapter	29 • PhD Dissertatio... • Aim 2 chapter	30 • PhD Dissertatio... • Aim 2 chapter	31 • PhD Dissertatio... • Aim 2 chapter			

0.20 Task Details for March 2027

- **PhD Dissertation & Defense** (12/01 - 08/15)
  Complete dissertation write-up; final defense; and all graduation requirements by Summer 2027.

- **Aim 2 chapter** (01/15 - 03/31)
  Write chapter detailing Aim 2 (dual-color imaging platform) methods and results for dissertation.
- **Aim 3 chapter** (02/01 - 04/15)
  Write chapter detailing Aim 3 (stroke model imaging study) methods; data; and findings for dissertation.
- **Conclusions** (03/01 - 04/30)
  Write final dissertation chapter summarizing findings; implications; and future research directions.

April 2027

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1 • PhD Disser- tatio... • Aim 3 chapter	2 • PhD Disser- tatio... • Aim 3 chapter	3 • PhD Disser- tatio... • Aim 3 chapter
4 • PhD Disser- tatio... • Aim 3 chapter	5 • PhD Disser- tatio... • Aim 3 chapter	6 • PhD Disser- tatio... • Aim 3 chapter	7 • PhD Disser- tatio... • Aim 3 chapter	8 • PhD Disser- tatio... • Aim 3 chapter	9 • PhD Disser- tatio... • Aim 3 chapter	10 • PhD Disser- tatio... • Aim 3 chapter
11 • PhD Disser- tatio... • Aim 3 chapter	12 • PhD Disser- tatio... • Aim 3 chapter	13 • PhD Disser- tatio... • Aim 3 chapter	14 • PhD Disser- tatio... • Aim 3 chapter	15 • PhD Disser- tatio... • Aim 3 chapter	16 • PhD Disser- tatio... • Conclu- sions	17 • PhD Disser- tatio... • Conclu- sions
18 • PhD Disser- tatio... • Conclu- sions	19 • PhD Disser- tatio... • Conclu- sions	20 • PhD Disser- tatio... • Conclu- sions	21 • PhD Disser- tatio... • Conclu- sions	22 • PhD Disser- tatio... • Conclu- sions	23 • PhD Disser- tatio... • Conclu- sions	24 • PhD Disser- tatio... • Conclu- sions
25 • PhD Disser- tatio... • Conclu- sions	26 • PhD Disser- tatio... • Conclu- sions	27 • PhD Disser- tatio... • Conclu- sions	28 • PhD Disser- tatio... • Conclu- sions	29 • PhD Disser- tatio... • Conclu- sions	30 • PhD Disser- tatio... • Conclu- sions	

0.21 Task Details for April 2027

- **PhD Dissertation & Defense** (12/01 - 08/15)
  Complete dissertation write-up; final defense; and all graduation requirements by Summer 2027.

- **Aim 3 chapter** (02/01 - 04/15)
  Write chapter detailing Aim 3 (stroke model imaging study) methods; data; and findings for dissertation.
- **Conclusions** (03/01 - 04/30)
  Write final dissertation chapter summarizing findings; implications; and future research directions.

May 2027

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1 • PhD Dissertatio...
2 • PhD Dissertatio...	3 • PhD Dissertatio...	4 • PhD Dissertatio...	5 • PhD Dissertatio...	6 • PhD Dissertatio...	7 • PhD Dissertatio...	8 • Dissertation dr... • PhD Dissertatio...
9 • PhD Dissertatio...	10 • PhD Dissertatio...	11 • PhD Dissertatio...	12 • PhD Dissertatio...	13 • PhD Dissertatio...	14 • PhD Dissertatio...	15 • PhD Dissertatio...
16 • PhD Dissertatio...	17 • PhD Dissertatio...	18 • PhD Dissertatio...	19 • PhD Dissertatio...	20 • PhD Dissertatio...	21 • PhD Dissertatio...	22 • PhD Dissertatio...
23 • PhD Dissertatio...	24 • PhD Dissertatio...	25 • PhD Dissertatio...	26 • PhD Dissertatio...	27 • PhD Dissertatio...	28 • PhD Dissertatio...	29 • PhD Dissertatio...
30 • PhD Dissertatio...	31 • PhD Dissertatio...					

0.22 Task Details for May 2027

- **PhD Dissertation & Defense** (12/01 - 08/15)
  Complete dissertation write-up; final defense; and all graduation requirements by Summer 2027.

- **Dissertation draft complete** (05/01 - 05/01)
  MILESTONE: Complete PhD dissertation draft compiled and ready for committee review.

June 2027

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1 • PhD Dissertatio...	2 • PhD Dissertatio...	3 • PhD Dissertatio...	4 • PhD Dissertatio...	5 • PhD Dissertatio...
6 • PhD Dissertatio...	7 • PhD Dissertatio...	8 • PhD Dissertatio...	9 • PhD Dissertatio...	10 • PhD Dissertatio...	11 • PhD Dissertatio...	12 • PhD Dissertatio...
13 • PhD Dissertatio...	14 • PhD Dissertatio...	15 • PhD Dissertatio...	16 • PhD Dissertatio...	17 • PhD Dissertatio...	18 • PhD Dissertatio...	19 • PhD Dissertatio...
20 • PhD Dissertatio...	21 • PhD Dissertatio...	22 • PhD Dissertatio...	23 • PhD Dissertatio...	24 • PhD Dissertatio...	25 • PhD Dissertatio...	26 • PhD Dissertatio...
27 • PhD Dissertatio...	28 • PhD Dissertatio...	29 • PhD Dissertatio...	30 • PhD Dissertatio...			

0.23 Task Details for June 2027

- **PhD Dissertation & Defense** (12/01 - 08/15)
  Complete dissertation write-up; final defense; and all graduation requirements by Summer 2027.

July 2027

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1 • PhD Dissertation...	2 • PhD Dissertation...	3 • PhD Dissertation...
4 • PhD Dissertation...	5 • PhD Dissertation...	6 • PhD Dissertation...	7 • PhD Dissertation...	8 • PhD Dissertation...	9 • PhD Dissertation...	10 • PhD Dissertation...
11 • PhD Dissertation...	12 • PhD Dissertation...	13 • PhD Dissertation...	14 • PhD Dissertation...	15 • PhD Dissertation...	16 • PhD Dissertation...	17 • PhD Dissertation...
18 • PhD Dissertation...	19 • PhD Dissertation...	20 • PhD Dissertation...	21 • PhD Dissertation...	22 • PhD Dissertation... • PhD Defense	23 • PhD Dissertation... • Revise disserta...	24 • PhD Dissertation... • Revise disserta...
25 • PhD Dissertation... • Revise disserta...	26 • PhD Dissertation... • Revise disserta...	27 • PhD Dissertation... • Revise disserta...	28 • PhD Dissertation... • Revise disserta...	29 • PhD Dissertation... • Revise disserta...	30 • PhD Dissertation... • Revise disserta...	31 • PhD Dissertation... • Revise disserta...

0.24 Task Details for July 2027

- **PhD Dissertation & Defense** (12/01 - 08/15)
  Complete dissertation write-up; final defense; and all graduation requirements by Summer 2027.

- **PhD Defense** (07/15 - 07/15)
  Defend PhD dissertation in oral exam with committee (must occur $\$\geq \$2 weeks before final submission deadline$).

- **Revise dissertation** (07/16 - 07/31)
  Incorporate committee feedback and revisions after defense. Obtain final approval signatures.

August 2027

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1 • PhD Dissertation...	2 • PhD Dissertation...	3 • PhD Dissertation...	4 • PhD Dissertation...	5 • PhD Dissertation...	6 • PhD Dissertation...	7 • PhD Dissertation...
8 ◇ Submit dissertation • PhD Dissertation...	9 • PhD Dissertation...	10 • PhD Dissertation...	11 • PhD Dissertation...	12 • PhD Dissertation...	13 • PhD Dissertation...	14 • PhD Dissertation...
15 • PhD Dissertation...	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

0.25 Task Details for August 2027

- **PhD Dissertation & Defense** (12/01 - 08/15)
  Complete dissertation write-up; final defense; and all graduation requirements by Summer 2027.

◇ **Submit dissertation** (08/01 - 08/01)

Upload approved dissertation PDF and submit all required forms to Graduate School by deadline.

1 Legend

1.1 Task Categories

- PROPOSAL - Research proposals and dissertation work
- LASER - Laser alignment and experimental work
- EXPERIMENTAL - Imaging, surgery, and data collection
- PUBLICATION - Manuscripts and presentations
- ADMINISTRATIVE - Forms, applications, and reviews
- ACCOUNTABILITY - Meetings and responsibilities
- SERVICE - SPIE chapter and other service activities

1.2 Task Information

Dependencies Tasks that must be completed before this task

Description Additional details and context for each task

Milestones Tasks with same start and due date (marked with diamond shapes)