

Heating Pad for MicroPET/CT Scanner

Week: February 22 - February March 1

Client: Dr. Robert Jeraj
Dept. of Medical Physics
UW Medical School
Phone: 608-263-8619
Cell: 608-345-5378
Email: rjeraj@wisc.edu

Advisor: Dr. Brenda Ogle
2144 Engineering Centers Building
Phone: 608-265-8267
Email: ogle@wisc.edu

Team: Eric Printz – Team Leader
Justin Schmidt – Communications
Ryan Carroll – BWIG
Ben Engel – BSAC

Problem Statement

During anesthesia metabolism slows down, which can lead to hypothermia and eventual death. For prolonged microPET or microCT scans, where animals are kept for an extended period of time under anesthesia, it is important to keep the animals at steady temperature. Currently heating lights are used to provide that; however they lead to non-uniform and poorly controlled temperature regulation. Therefore, we proposed to design a heating pad that could be used to provide controllable and steady temperature during prolonged scans. Because of the imaging requirements, the heating pad should not contain metal parts.

Last Week's Goals

- Finish up research and shift focus to creating our design matrix

Accomplishments

- We thought about all the designs that we have come up with so far.
 - It was clear to us which was the best choice.
 - We are going to pursue a design involving an air pump, a box for the mouse to sit in inside the machine, and a heater that we will make using PVC tubing and a heating element.
- Contacted client to get a meeting setup to discuss our design to make sure there are no concerns with the design

This Week's Goals

- Create mid-semester presentation
- Get a good start on our mid-semester paper

Difficulties

- No difficulties to report at this time

Team Effort

Team Member	Accomplishments	Time (Hrs)	Running Total (Hrs)
Ryan Carroll	Class Time, Design discussion	3.5	17.5
Ben Engel	Class Time, Design discussion	3.5	17.5
Eric Printz	Class Time, Design discussion, Progress Report	3.5	17.5
Justin Schmidt	Class Time, Design discussion, contact client	3.5	17.5

Project Schedule

TASK	JAN	FEB					MAR					APR				MAY	
DATES	25	01	08	15	22	01	08	15	22	29	05	12	19	26	03	10	
WORK																	
Brainstorming	█	█	█														
Research	█	█	█	█	█												
Designing Prototype					█	█	█	█									
Selecting Prototype					█												
Obtaining Materials								█	█	█							
Building Prototype									█	█	█	█	█				
Testing Prototype														█			
Modifications																	
DELIVERABLES																	
PDS	█	█			█						█						
Mid-Sem. Report						█	█										
Mid-Sem. Presentation						█	█										
Final Report													█	█			
Final Presentation															█		
Weekly Reports	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	
Notebooks	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	
MEETINGS																	
Team Meetings	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	
Client Meetings	█	█			█	█							█				
Advisor Meetings		█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	
BSAC Meetings																	
OTHER																	
Web Page		█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	
Special Lectures																	

Expenses to Date:

- No expenses to report at this time