

# Project Overview Document

Team Introduction: Our team comprises five members graduating in June 2025: [Brianna Pak](#), our Project Manager; [Kelly Wang](#), our UX Designer; [Claire Lai](#), our UX Researcher; [Devina Tavathia](#), our Web Developer; and [Linh Pham](#), also a Web Developer.

Problem Context: The MMC website has multiple pages/resources which users may not find given the current website design and lack of filters/search/general interactivity. Subpar designs on pages make information hard to read with large amounts of white space and lacking proper color contrast

Problem Statement: How might people interested in the UW Mitochondria and Metabolism Center (MMC) achieve optimal user experience while navigating their website so that they can gain an in-depth understanding of the MMC's mission and accomplishments?

## Key Research Insights:

The team did some initial research into the MMC's existing website to better understand the problem space. Initial user testing and user interviews were conducted to identify pain points and areas for improvement within the site. This was coupled with a Lighthouse analysis to find areas where the site lacked accessibility. At this phase, market research and literature reviews were also conducted in order to compare the MMC's site to those of similar organizations. Overall, the users interviewed thought the website design to be inconsistent and felt that the content on the site did not meet the informational needs they had. Three key insights emerged from this process:

1. **Navigation:** There were a lot of hidden menus and pages which meant that users had difficulty navigating the site and finding the information they needed. One user was even quoted as saying "Ctrl + F is supposed to be my friend, but even my most trustworthy keyboard command cannot save me from the rough navigation of this website." From our research it was clear that users were not able to find key information such as information on the researchers within the lab or the research they conduct.
2. **Accessibility:** The colors on the original site had more contrast making it difficult to read text and view the logo. In addition there was a bright purple background gradient which made the site "overwhelming" and "hard to read." Lighthouse accessibility tests were done and the site had an average accessibility score of 72, showing room for lots of improvement on this front.
3. **Content and structure:** In general pages on the site had missing and outdated information as well as an inconsistent layout between pages. This contributed to the user's information overload. The average performance score from the Lighthouse tests conducted was a 66. This poor performance was echoed by one user who said "this is the

worst About page I've ever seen. My brother is doing a project in Wordpress right now, he's in 5th grade. His About page looks better.”

### Personas:

**Alex Jones** | Undergraduate student at UW, intended microbiology major

- 19 Years old
- Unemployed looking for research positions
- In-state commuter student, lives with parents and 2 sisters

Alex wants to find a research assistant opportunity to help with the application to the Microbiology major and gain experience in research to help her figure out her interests and to add to her resume for med school.

She needs to be able to find contact information for faculty members currently seeking an RA and the information on the research they are doing. Currently on the MMC website she is not able to find that information. On top of having difficulties finding it in the first place, when Alex clicks on the contact information for faculty it does give her his email address but instead takes her to an external UW site that does not contain the information she is looking for. She also doesn't know which labs have open positions and are actively recruiting.

Her goal is to find the contact information of PIs accepting RAs and send her resume to them to see if she can get research opportunities.

## Personas



### **Alex Jones | The Student**

Undergraduate student at UW, intended microbiology major

- Looking for research positions to help with her application into the microbio program and to gain experience to add to her resume for medical school
- Wants to find contact information of researchers to send her resume to and see if she can get research opportunities

**Jordan Hayashi** | Current professor at UCSD doing research in metabolism and nutritional development

- 36 years old
- Has a PhD in cell biology
- Married to her husband of 8 years, currently living in San Diego

Jordan is a current researcher who heard of the MMC through word of mouth and wants to look at the work they are doing and their recent publications so she can gain more knowledge on the current field and possibly her research topics.

She needs to find the most recent papers published by the MMC. She goes to the MMC's website to find publications on metabolism and nutrition development topics but can't find publications anywhere. The news feed is not updated, the faculty pages are not very helpful because there can be a lot of niches within the mitochondria and metabolism field and the research papers are not organized by topic or by recency. The website appears very old and she finds it very unreliable as it seems very out of date and has unprofessional grammar errors.

Jordan's goal is to find related publications to her research interests and see if there are opportunities for cross-lab collaboration.

## Personas



### **Jordan Hayashi** | **The Researcher**

PhD in cell biology, current professor at UCSD doing research in metabolism and nutritional development

- Wants to find related publications to her research interests and see if there are opportunities for cross lab collaborations

## Solution Approach / Key Features

- 1. Navigation Hierarchy:** One significant change we made to the new site was redesigning the navigation bar. After discussing with our sponsor and conducting interviews/surveys with MMC faculty members, we identified a need for more emphasis on the center's events and a more clear call to action for donations. Originally, the donation tab blended in with other pages in the navigation bar, making it difficult to spot at first glance. Additionally, the inclusion of the MMIG and Breakfast Club Seminar tabs on the main bar was confusing, leading many users to overlook them. Our redesigned navigation bar resolves these issues by reducing uncertainty and emphasizing the important pages that we want users to access. We grouped the two MMC events under a clear Events label that is framed in a bold, eye-catching yellow. The donation tab is placed beside it, highlighted in a deep purple color to ensure that it also stands out.
- 2. Information Organization:** Overall, we wanted to improve the organization of the website's content. Our team noticed that many pages had inconsistent structure, even between similar pages such as faculty and laboratory pages. For example, the Crowder Laboratory had a list of faculty members at the bottom of the page while Van Gilst Laboratory was missing that section entirely. In our redesign, we stuck to a consistent layout between all of the pages, utilizing cards and clear headings to separate information. Now, information is more easily accessible to users, creating a better browsing experience. Important information can be accessed in multiple ways, such as the MMC address and email in the Contact page, lab pages, and the footer. News articles and lab opportunities can be found on their respective pages as well as on the home page and individual lab pages.

## Home Page



Before

Mission statement call out at the very top

Cards that link to the pages for the 3 main use cases of the website

Latest publications from the MMC or news from their research

Donate call out and short description how the funding impacts research



After

# Lab Pages

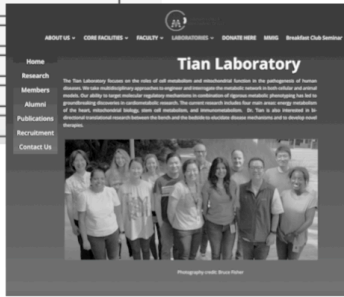


Contact information for that specific lab

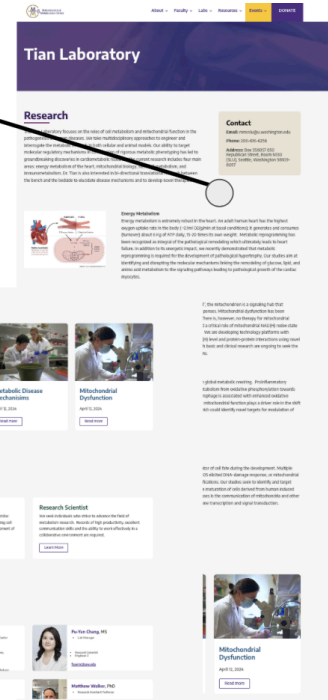
Recent news or papers from the lab

Opportunities to get involved with the research for that specific lab (lab assistant jobs, postdoc, etc)

Before



After



# Staff Pages

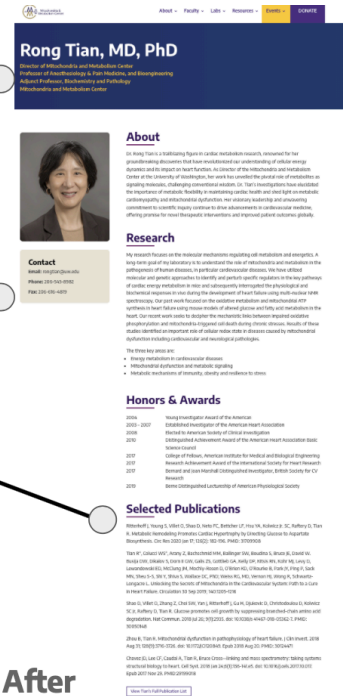


Clearer association between titles

Easy to find contact information

Most relevant publications, no more list of 20+ publications

Before



After

## User Testing and Validation:

### **User Validation Results**

To ensure our initial redesign was on the right track and met the needs of users we conducted user validation with five users. Guided questions were asked to help validate the assumption that the redesigned site had a better navigation hierarchy, provided all the information the user was looking for, and was an overall improvement from the previous site. The feedback we got on the redesign was as follows:

1. **Navigation Hierarchy:** Our sponsor told us that the MMC would like for the events they host to be more heavily advertised on the site. This led to us changing the navigation bar layout to create a separate “Events” navigation tab. In general, our users felt that the new navigation bar was clearer and an upgrade from the old navigation.
2. **Provides Needed Information:** The feedback we got from users was that recruitment for open positions within the lab should be more visible as many users are looking for opportunities to work with or at the MMC. To remedy this we decided to add recruitment opportunities to multiple pages, such as the labs that are recruiting, alongside having a dedicated recruitment page.
3. **Overall Improvement:** The team wanted to make sure that the aesthetics of the site were an improvement from the original. Our users told us that the site was a huge step up and overall cohesive with only a few minor design changes needed to ensure consistency.

### **User Testing Results**

While the redesigned site was being developed, we conducted user testing on the V3 prototype that the developers were using to ensure that the final redesigned site met all the user’s needs. Each user interviewed had to complete four tasks based on scenarios a user of the MMC website might experience in addition to answering some questions about their thoughts on the website. Based on the results of this testing phase small changes were made to the design, and ensured that the final site was launch-ready. The feedback is as follows:

1. **Navigation:** Overall, our users felt that the site was easy to navigate and that there were many ways to reach the information they needed to find. Some of our user testers felt that while it made sense to have the faculty page under the About section it would be more beneficial to have it as its own individual tab. We reorganized the navbar to address this critique.
2. **Content Flow:** One of the biggest problems of the original site was the organization and flow of content. Feedback from our users showed that the information on the redesigned site was easy to access, understand, and was organized in a way that made sense to the user. They liked how there was a logical flow of information, with more important information being at the top.

- 3. Overall Appearance:** Our user testers felt that overall our site was clean, professional, and well-designed. They also thought that it matched the UW branding aesthetic and liked how the design highlighted important pieces of information, such as the donate tab.

#### Ethical Considerations:

When designing and implementing the revamp of the MMC website, the values that our development team and the sponsor team share are the accessibility, inclusivity, and simplicity, aesthetics of the website design, the accuracy of the presenting content, and the efficiency of the website in fulfilling the MMC missions and goals.

One of the ethical concerns we encountered is that accessibility may clash with simplicity/aesthetics as our design may introduce more visual cues, but the need to account for screen readers will increase as well. Another concern is simplicity versus accuracy as we may want to reduce information clutter but still have to make sure to uphold the accuracy of the content.

We plan to address these concerns by using Lighthouse to monitor the accessibility scores of the before and after website designs. We will also conduct user testing with both original and new designs to understand if users are still able to navigate and find content on the new designs.

#### Next Steps Beyond Capstone:

- *Project Documentation:* Gather all relevant documentation related to the project such as code, divi and WordPress templates, guided videos, and other information.
- *Handoff Meeting:* Present the website to the sponsor and run through project documentation to address any questions or comments the sponsor may have.
- *Transition of Ownership:* Ensure that the sponsor has access to all data, websites, and other materials to continue implementing the website.