

University of Michigan Medical School
Department Websites:
Health and Information Technology Services
Comparative Evaluation Report

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0. Executive Summary

Our client is Health Information Technology & Services (HITS) under Michigan Medicine. Our project goal is to create website guidelines for them to distribute across departments at the University of Michigan Medical School (UMMS) so different programs have consistent and user friendly information structure.

In this study, we compared competitors from other institutions against a representative website from our client and pinpointed:

- 1) Standard Content Across All Competitors**
- 2) Contents That Could Help Website Stand Out**
- 3) Additional Content Insights**
- 4) Two Displaying Approaches for Research Labs**
- 5) Three Faculty Listing Methods.**

Based on these , we recommend adding the following to the guideline:

- 1) Standard Content and Contents that Could Help Website Stand Out**
- 2) Flexible Display Methods for the Faculty and Research Lab Directories.**

1. Introduction

Our client is Health Information Technology & Services (HITS) under Michigan Medicine. Their objective is to provide support for public-facing web presences for various departments including clinical and basic science branches within the University of Michigan Medical School (UMMS). This web presence is primarily intended for prospective students, faculty, researchers, collaborators, and patients ("About HITS," n.d., para. 1).

Our client's problem is each department is responsible for their own content and have freedom in regards to how information is presented, and which information they choose to include or exclude on their websites. This resulted in structural inconsistencies across department websites. Thus, our project is to contribute towards creating a guideline for what content should be present on their web pages and how they should organize their webpages.

Since program details and career outlooks for basic science and clinical fields are disparate, we could only focus on one for this project's scope, and we chose basic science departments after discussing with our client. After learning more about our target population from our previous interviews, we wish to know how different institutions with competitor programs approach their information architecture for prospective PhD students. Specifically, we focused on Content and Information Architecture as our primary evaluative dimensions with subcategories underneath. From this analysis we know what features are present across the board, what UM PhD Program websites are doing that other institutions are not, and vice versa.

This comparative analysis helps us reveal pros and cons of current UM PhD Program websites and grant us knowledge to build a skeleton for the guideline. This is important and unique to our project because with a website building guideline we strive to be detail oriented, as it will guide future website updates. We believe this study is essential as we cannot establish what 'best practices' are without knowing what competitors are doing.

2. Methods

We selected nine competitor information sources ranging from websites to physically printed materials. Afterwards, we compared each source with criteria based on user interviews and common functionality across platforms. Lastly, we compiled a list of competitors and sorted them into categories based the information provided and their target audience.

As our project includes many program websites under the UMMS domain, we chose one program website as a representative. After discussing with our client and our own evaluation, we chose **University of Michigan Molecular and Integrative Physiology (UM-MIP) PhD program website** because it is detailed and organized. The target audience of the site are current and prospective PhD students.

Competitor websites were chosen by online searches with insights from interviewees and insight from our client. The competitor categories are listed below:

Direct Competitors

Offer the same categories of information as UM-MIP and target the same demographics.

Indirect Competitors

Offer the same information but through a different means or medium.

Parallel Competitors

Offer similar types of information, but targeting a different user group.

Partial Competitors

Offer information related to an educational program, but not as inclusive.

Analogous Competitors

Not focused on recruiting PhD students, but provides insights on how to recruit people in general.

(Pal, 2018)

2.1 Competitors

Direct :

- 1) **Harvard University** Molecular & Integrative Physiological Sciences program website.
- 2) **Duke University** Cell & Molecular Biology PhD program website.

- 3) **University of Iowa** Department of Molecular Physiology and Biophysics program website.
- 4) **Stanford University** Molecular and Cellular Physiology Program website.
- 5) **University of Washington** Physiology and Biophysics PhD program website.

Indirect:

UM-MIP Program Brochure

An alternative route to provide all material available on Molecular and Integrative Physiology website in one convenient document.

Parallel

University of Michigan Ross PhD program

Offers information for prospective and current PhD students with different career paths from our client's. Their content is aimed at business and economic students. Yet, there are many overlaps of general subjects students look for (e.g., Program Overview, Faculty Catalog, etc.).

Partial

University of Michigan Undergraduate Biology Program

Offers information relating to the undergraduate biology program offered at Umich. They serve a different target audience, undergraduate students, so their content is adjusted accordingly.

Analogous

United States Air Force website

Aimed at getting students, young adults, or anyone to join the airforce. Their websites provides a variety of information regarding benefits of joining, salaries, and global impact. Additionally, the overall website has a non-academic feel but still provides similar types of information.

2.2 Criteria

To decide our criteria for evaluating competitors, we utilized findings and recommendations from our previous interviews which uncovered what information prospective students need when applying for PhD programs. Additionally, we noted common information and functions our competitors had and added them to our criteria

Our criteria:

- Funding Section
- Faculty Information
 - Biography Page
 - Research Focus
 - Contact Information

- Research Lab Information
- Program Requirements
 - Course Info
 - Graduation Requirements
- International Students Section
- Frequently Asked Questions (FAQ)
- About us section
- Overall program research focus
- Alumni Placement
- Student Life Section
- List of research labs
- Program news
- How Lab List is Displayed
- How Faculty Members are Sorted
- How Program News are Presented

With these, we evaluated each competitor's website and indicated whether their websites had the corresponding content. We also noted inconsistencies and unique details throughout the website to provide a clear view of where our client's website does well, and where it could improve.

3. Findings and Recommendations

3.1 Summary

Our findings (Appendix 7.1) could be organized in two categories:

1. Content

“Standard” contents that are ubiquitous for nearly every direct competitor and our client’s website:

- a. Funding
- b. Faculty
- c. Curriculum
- d. Program News

Content not that common across all websites:

- a. Graduation Requirements
- b. Frequently Asked Questions (FAQ)
- c. Alumni Placements

Additional Insights:

- a. International Student Section
- b. Student Life

2. Content Displaying Approaches

Different approaches taken to display identical content:

- a. Overarching Research Labs
- b. Faculty List

3.2 Details

Finding 3.2.1 Standard Content Across All Competitors

Common Contents that should be part of “best practice” guidelines:

- a. **Funding:** Information about what fellowship, grants, or other funding opportunities are available and how to acquire them.
- b. **Faculty:** Information about individual faculty’s biography, research focus, contact information and research lab they are in charge of or work for.
- c. **Course:** Information relevant to curriculum schedule, topics, instructors, syllabus, etc.
- d. **Program News:** Information about publications, awards or any other accolades of faculty members and graduate students of the program.

Recommendation 3.2.1

The UM Molecular & Integrative Physiology (MIP) PhD Program does well in following the aforementioned best practice. We recommend adding these information to the guideline for other department websites to follow.

Finding 3.2.2 Contents That Could Help Website Stand Out

We found some contents do not show consistently across competitors, but could be valuable for our target audience.

Graduation Requirement

We found 3 in 5 direct competitors and 1 indirect competitor listed clear graduation requirements, including required courses, exams, lab rotations and thesis requirements, while 2 direct competitors and our product don't have any related information.

Frequently Asked Question (FAQ)

Among competitors, only UM Biology Undergraduate Program website and UM-MIP include this section. However, based on previous interviews, it is an essential source for them to get answers to questions without writing emails. This section can reduce the workload of program coordinators on answering student inquiries.

Alumni Placement

From the comparative evaluation, the majority of direct competitors, the parallel competitor, and the indirect competitor put their alumni placement and career outlook at a conspicuous place. Harvard's Program website, and UM Ross PhD program website only show notable alumni, while the rest show a list of names in chronological order. Based on our interviews, career outlook is one criteria students often look at before choosing a program.

Recommendation 3.2.2

Even though these page elements do not show up consistently across our competitors, we believe inclusion of Graduation Requirement, Frequently Asked Question (FAQ) and Alumni Placement (career outlook) will help users be more informed.

Finding 3.2.3 Additional Content Insights

International Student

Throughout our analysis, we found only the UM-MIP website has a section about international students in their FAQ section. No competitors included any international student information on their websites.

Recommendation 3.2.3.1

As we learned from our interviews, international students have unique challenges when gathering information and applying for PhD programs. Depending on how much weight each program wants to put on attracting international prospective students, program website managers have to be aware of potential disadvantages these students face in terms of acquiring program information compared to domestic applicants. They may consider creating a separate section targeting international students to help with their unique needs.

Student Life

For Student Life, The UM-MIP program website has a link to another page within the UMMS domain in the FAQ section, which means it's not a page under control of the department. Regardless, it includes Ann Arbor recreational activities, housing information, infographics, and guides. However, when pitched against our direct competitors, there is nothing that made the content stand out. Student Life information is a factor people consider, so thinking of new ways to present that information can be beneficial.

We looked at competitors for inspiration, and found the Air Force page does something different with how it showcases 'Military Life' content. Specifically, Air Force integrates the idea of 'personal growth' with military life, which is more purpose-oriented than universities 'Student Life' sections. We realize the situations are different, but including information such as "personal growth," in regards to PhD programs, could help our client's websites.

Recommendation 3.2.3.2

Even though it is more efficient to have a web page for 'Student Life' content and have all different departments link to it, it means the page's content is beyond our guidelines. However, the way departments approach the topic of Student Life could be more purpose oriented.

Finding 3.3.1 Two Displaying Approaches for Research Labs

While conducting interviews, we noticed confusion amongst our participants in regards to locating information about research labs. After looking through our competitor's websites, we learned there are typically two ways research lab information is displayed to current and prospective students.

Research Labs Paired with Faculty Information

Several websites we evaluated, including the UM-MIP website, associate research information with specific faculty. To find information about the research labs, you need to look at the faculty pages on the websites, rather than having a dedicated section which displays all research labs.

Pros: By associating faculty with a specific research focus, students know which faculty members have labs, and can access those faculty's information.

Cons: Student unaware of faculty association with research labs may find it difficult to locate research labs, especially since most UMMS websites don't contain separate research labs sections.

Example: UM-MIP Website (Figure 1)

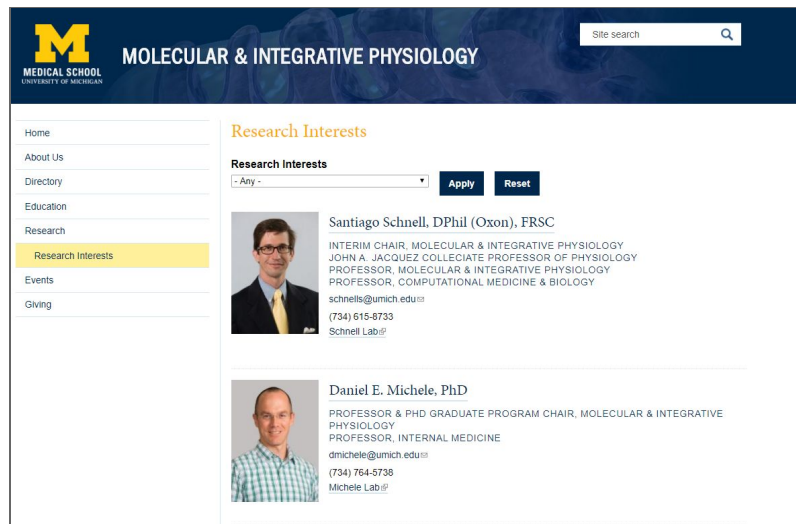


Figure 1

Dedicated Research Lab Section

Several websites we looked at approached differently to displaying research lab information; instead of associating it with specific faculty members, research lab details were given their own section.

Pros: A dedicated section of the website devoted to listing research labs makes it easier for current and prospective students to locate desired information about labs because they would not have to access labs through faculty like on the UM-MIP website.

Cons: There is a disconnect between labs and faculty. Additionally, students may take unnecessary steps to get contact information for those faculty.

Examples: Stanford and Harvard Websites (Figures 2 & 3)

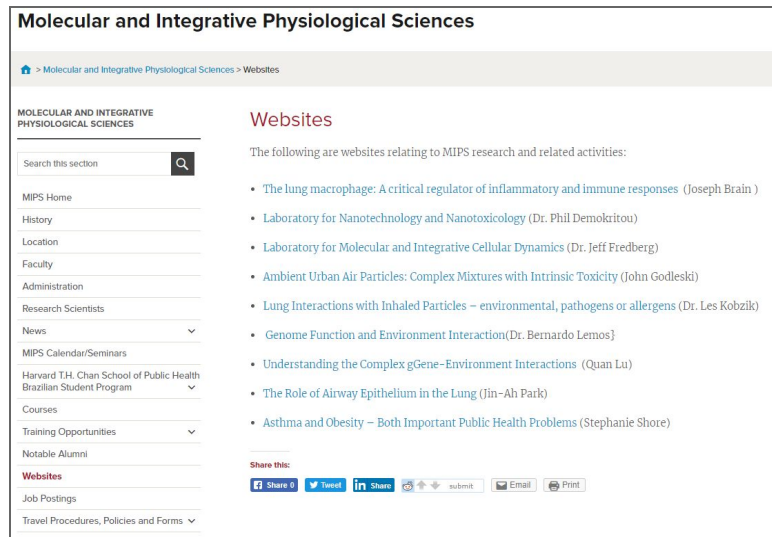


Figure 2

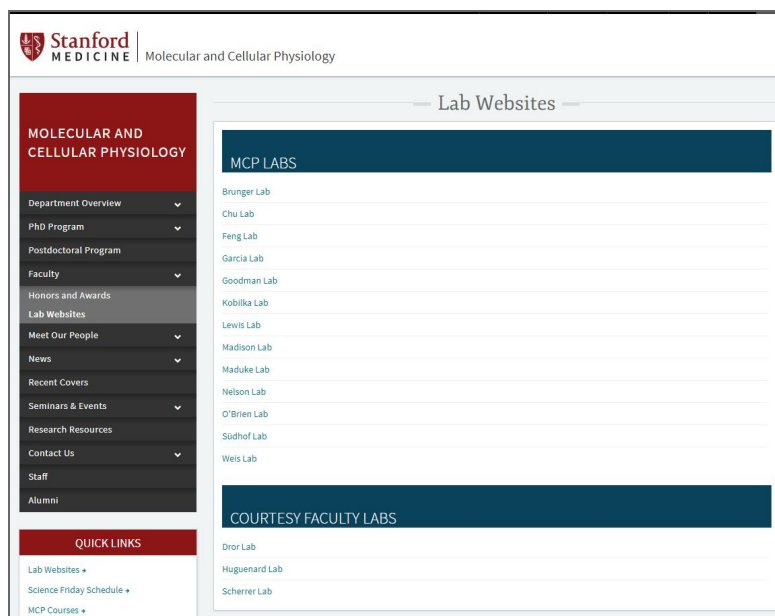


Figure 3

Recommendation 3.3.1:

The UM-MIP website excels at displaying the information because it provides faculty-lab association, unlike other ways which can make finding lab or faculty more convoluted. We recommend changing the navigation label to indicate inclusion of research lab information.

Finding 3.3.2 Three Faculty-Listing Methods

In our previous interviews, 'being able to locate faculty members' was a frequent theme; Thus we looked at how UM-MIP website and its competitor displays this information. We found three typical ways to sort faculty.

Alphabetical Sorting

Pros: Can narrow down to a person's name if the first-letter of faculty name is known which prevents encountering irrelevant information.

Cons: Unfamiliar prospective student may have to go through irrelevant information to locate faculty of interest.

Example: UM-MIP website (Figure 4).

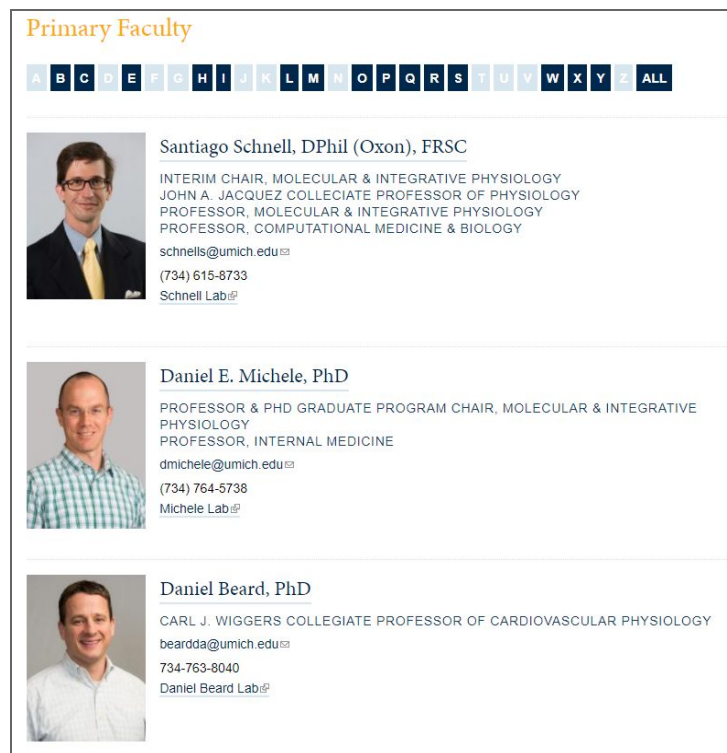


Figure 4

Research Interest Sorting

Pros: Sorting by research interest means faculty could be filtered quickly and allows seeing what faculty fall under relevant research areas.

Cons: May Encounter Irrelevant Information.

Examples: UM-MIP and UW (Figures 5,6).

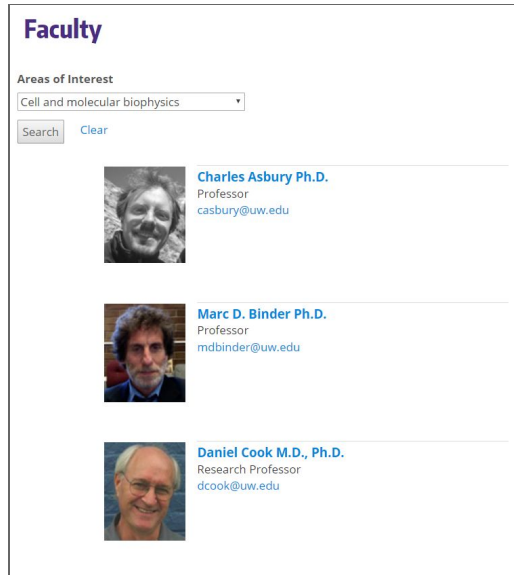


Figure 5

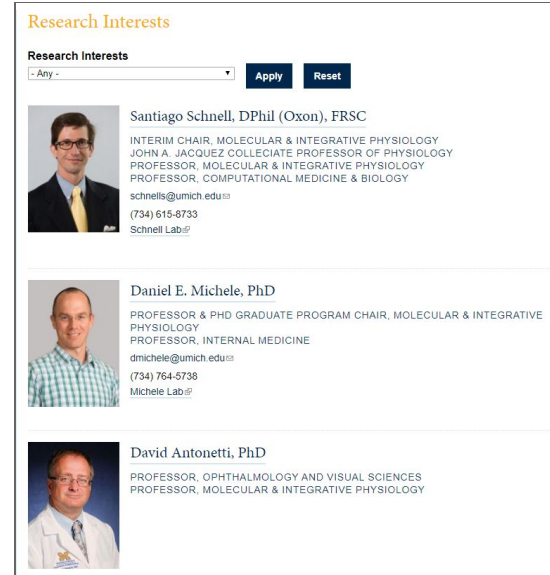


Figure 6

Alphabetical AND Research Interest Sorting

Pros: Sorting by alphabets and research interest makes finding specific faculty members precise. Additionally, this benefits from the two approaches' advantages.

Cons: Offering more options may mean more confusion and visual distraction.

Example: UM Ross PhD program website(Figure 7).

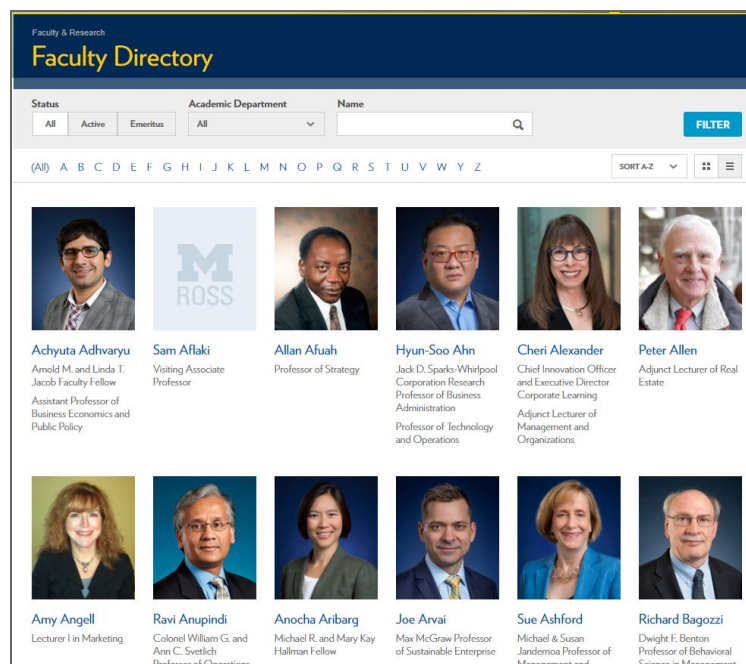


Figure 7

Recommendations 3.3.2:

We recommend including both alphabetic and research interest sorting when looking for faculty members because this offers the most flexibility and precision.

4. Discussion

There are three limitations to this study. First, since we only selected program websites pertinent to Molecular Integrative Biology, we excluded potential elements from other department websites that could be of interest to us. However, to keep comparisons fair, we believe this is a reasonable drawback. Second, the nature of our project made competitors in other categories (e.g., indirect, partial) slightly less relevant; but they still offered useful insights in our recommendations as they helped us think outside the box. Third, our criteria was highly influenced by our previous interviews, which means we are basing a portion of our criteria off a minuscule selection of individuals. Regardless, we believe the points raised in those interviews empowered us to evaluate other sites effectively. Ultimately, we believe some shortcomings could be addressed by future studies, including survey analyses, heuristic evaluations, and usability testing.

5. Conclusion

In this study, we compared competitors from other institutions against a representative website from our client and pinpointed: 1) Standard Content Across All Competitors, 2) Contents That Could Help Website Stand Out, 3) Additional Content Insights, 4) Two Displaying Approaches for Research Labs, 5) Three Faculty Listing Methods. Based on these, we recommend adding 1) Standard Content and Contents that Could Help Website Stand Out, and 2) Flexible Display Methods for the Faculty and Research Lab Directories to the guideline. For upcoming studies, we will analyze our survey results which was also designed based on our previous interview report. We will integrate that study with this one and refine our recommendations.

6. References

- About HITS. (n.d.). In *Health Information Technology & Services'* website. Retrieved March 11, 2018, from <https://hits.medicine.umich.edu/about-hits>
- Pal, J. (2018). Interviews & Comparative Analysis [Powerpoint slides]. Retrieved from https://umich.instructure.com/files/7153605/download?download_frd=1

7. Appendices

7.1 Comparative Evaluation Result

Competitors Comparison Dimensions			Our Product	Direct Competitors				Parallel Competitors	Partial Competitors	Indirect Competitors	Analogous Competitors	
			Umich Molecular & Integrative Physiology PhD Program website	Harvard Molecular and Integrative Physiological Sciences Program	Duke Cell and Molecular Biology PhD Program Website	Iowa Department of Molecular Physiology and Biophysics	Stanford Molecular and Cellular Physiology PhD Program Website	University of Washington Physiology and Biophysics PhD Program website	Umich Ross PhD Program	Umich Biology Undergraduate Program website	Umich MIP Program Brochure	Airforce Website
Content	Funding Section		Yes	Yes	Yes	Yes	Yes (Very hidden)	Yes	No	Yes	Yes	Salary
	Faculty Information	Bio	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	N/A
		Individual research focus	Yes	Inconsistent	Yes	Yes	Yes	Yes	Yes	No	No	N/A
		Contact	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	N/A
		Lab	Yes	Yes	No	Yes	Yes	Yes	N/A	No	No	N/A
	Program Requirements	Course Info	Yes	Yes (but a list of dead links)	Yes	Yes	Yes	Yes	No	Yes	Yes	Some Training
		Graduation Requirement	No	No	No	Yes	Yes	Yes	No	N/A	Yes	N/A
	Information for International Students		Yes (but only a question in the FAQ section)	No	No	No	No	No	No	No	No	N/A
	FAQ		Yes	No	No	No	No	No	No	Yes (only for Student Research)	No	No
	About Us		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Overall program research focus		Yes (filter provided)	No	No	Yes	Yes (but in a PDF form)	Yes	No	Yes	No	N/A
	Alumni Placement		No	Yes (but only notable ones)	No	No	Yes	Yes	Yes (but only notable ones)	No	Yes	N/A
	Student Life		Yes	Yes	Yes	No	Yes	Yes (Outdated)	No	No	No	Yes
Lab List		No	Yes	No	No	Yes	No	N/A	No	No	N/A	
Information Display	Program News		Yes	Yes	No	Yes (only Facebook feed)	Yes	Yes	Yes	No	No	N/A
	How Lab List is Displayed		N/A		N/A						N/A	N/A
	How Faculty Members are Sorted		One Alphabets and one Research Interest	Unsorted	Unsorted	One Unsorted and one Research Interest	Unsorted	By Research Interest	Alphabet/Research Interest on One page	N/A	N/A	N/A
	How Program News are Presented		Part of Homepage Main Section	Dedicated Page not structured	N/A	Yes (only Facebook feed)	Dedicated Page with subpages	Sidebar	Dedicated Blog Page	Dedicated Page with Upcoming Events	N/A	N/A

Click the link to have a close look:

https://docs.google.com/spreadsheets/d/1BIIdEDkalprJ7bhP6TeZ-QCW09i4EEH2_2ift7xcbSo/edit?usp=sharing

7.2 Figures

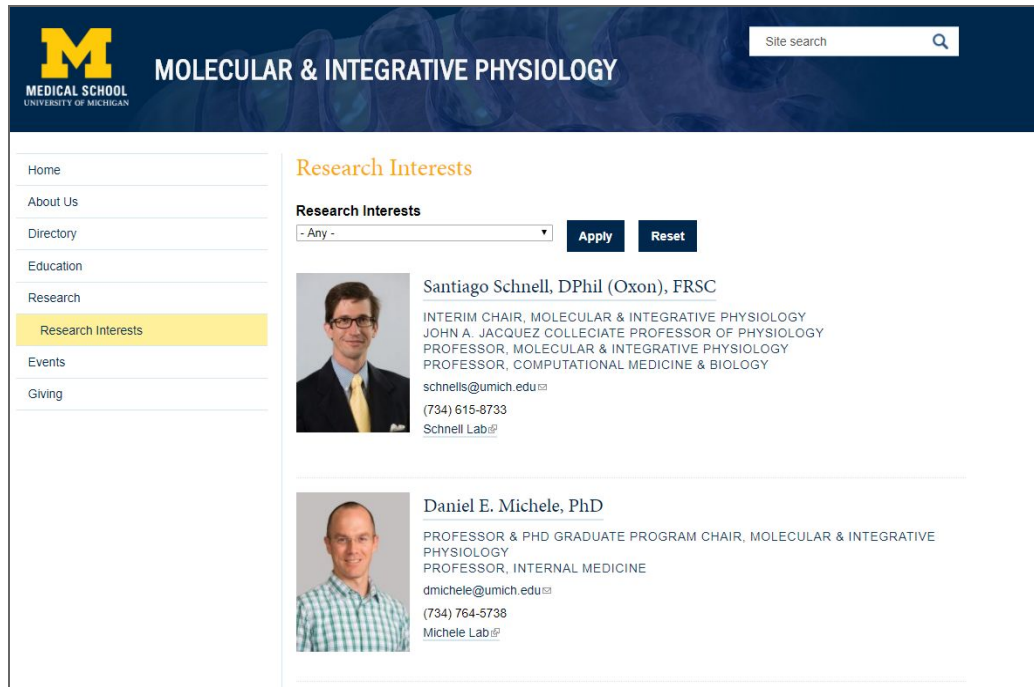


Figure 1

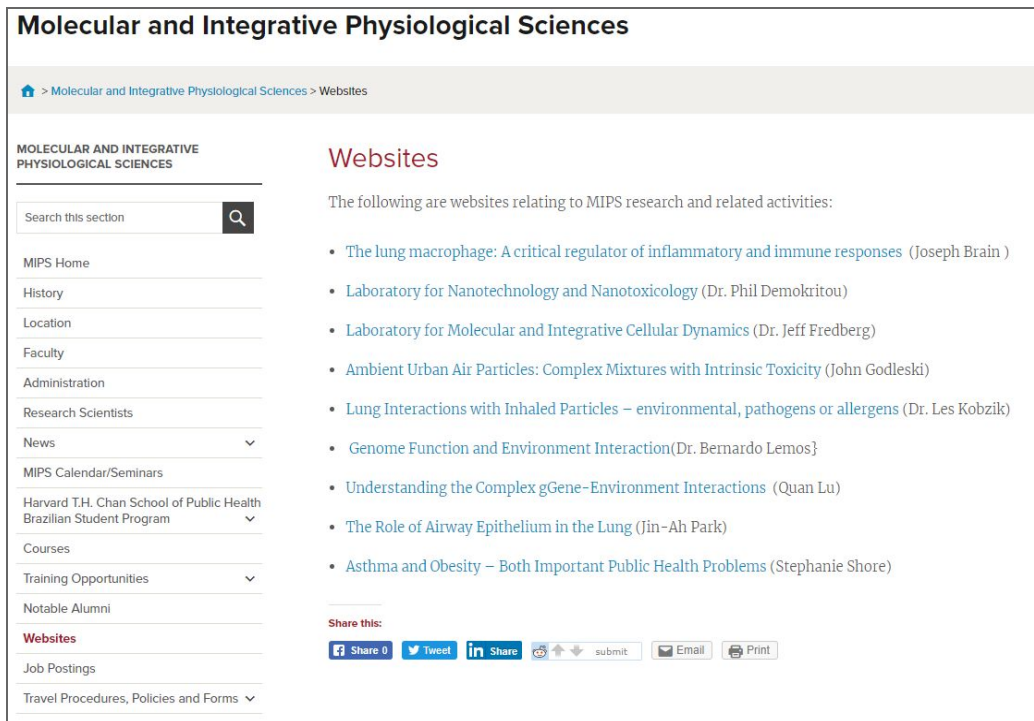


Figure 2

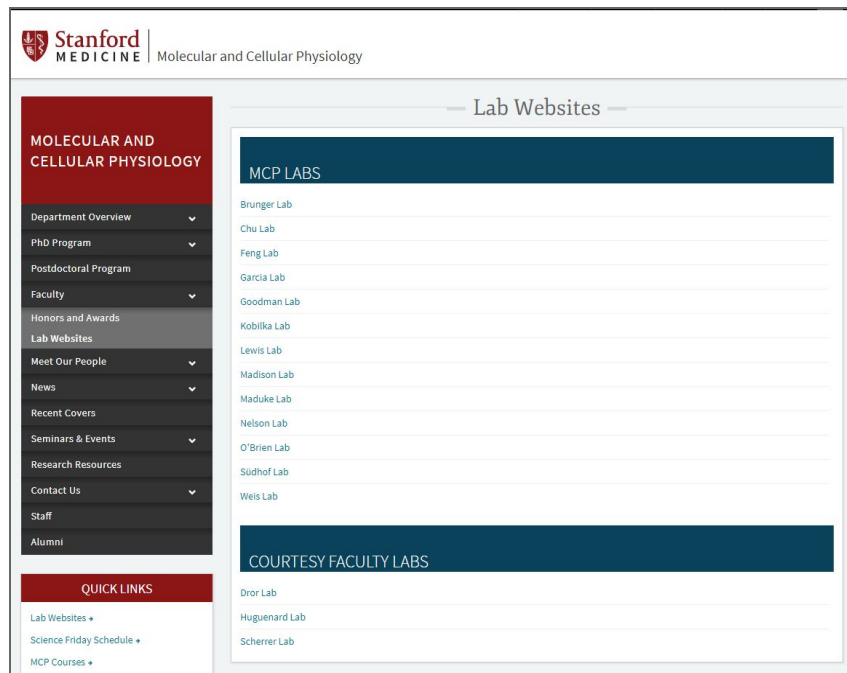


Figure 3

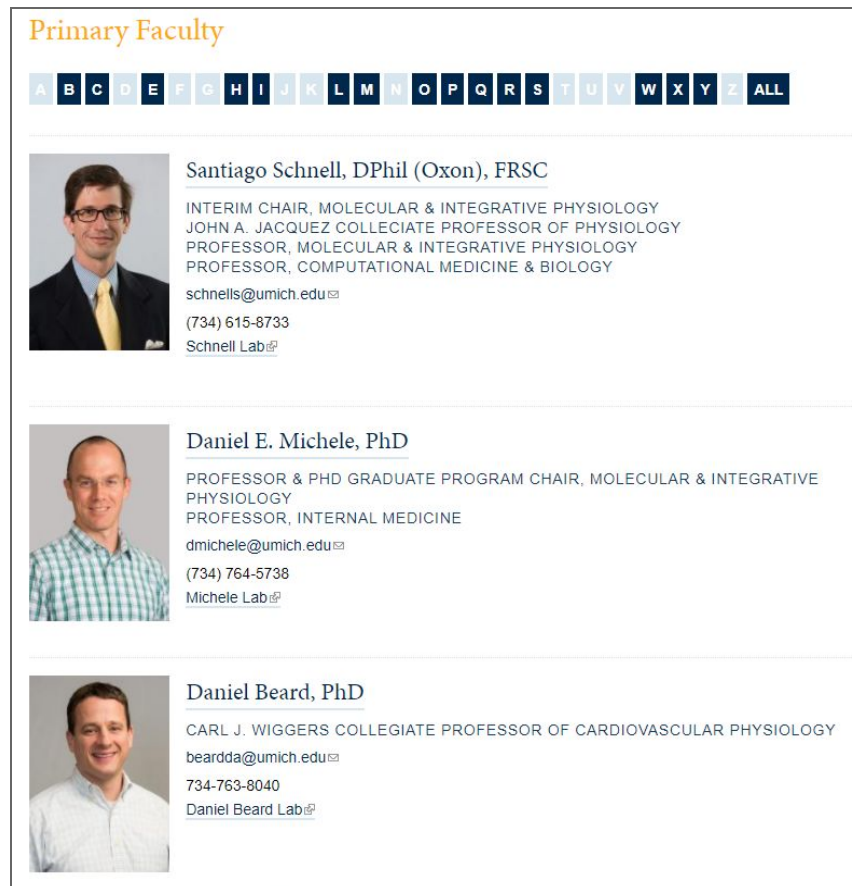



Figure 4

Faculty


Areas of Interest

Cell and molecular biophysics ▼


Search Clear



Charles Asbury Ph.D.
Professor
casbury@uw.edu



Marc D. Binder Ph.D.
Professor
mdbinder@uw.edu




Daniel Cook M.D., Ph.D.
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Figure 5


Research Interests

Research Interests


- Any - ▼ Apply Reset



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Figure 6

Faculty & Research

Faculty Directory

Status

All
Active
Emeritus

Academic Department


All

Name


FILTER

(All)
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z


SORT A-Z




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Arnold M. and Linda T. Jacob Faculty Fellow
Assistant Professor of Business Economics and Public Policy




Sam Aflaki
Visiting Associate Professor




Allan Afuah
Professor of Strategy




Hyun-Soo Ahn
Jack D. Sparks-Whirlpool Corporation Research Professor of Business Administration
Professor of Technology and Operations




Cheri Alexander
Chief Innovation Officer and Executive Director Corporate Learning
Adjunct Lecturer of Management and Organizations




Peter Allen
Adjunct Lecturer of Real Estate




Amy Angell
Lecturer I in Marketing




Ravi Anupindi
Colonel William G. and Ann C. Svetlich Professor of Operations




Anocha Aribarg
Michael R. and Mary Kay Hallman Fellow



Joe Arvai
Max McGraw Professor of Sustainable Enterprise



Sue Ashford
Michael & Susan Jandernoa Professor of Management and



Richard Bagozzi
Dwight F. Benton Professor of Behavioral Science in Management

Figure 7