

CMiST

Inspire Discovery

Strategic Plan
2021-2026

www.cmistuw.org



**Learn how to see.
Realize that everything
connects to everything else.**
-Leonardo da Vinci

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An aerial photograph of a coastline. The top half of the image shows a dense forest of trees in shades of green and brown. Below the forest, a large body of water, likely a bay or a wide river, is visible. The water has a textured, rippled appearance. The bottom right corner of the image shows a sandy beach or a shallow, light-colored area of the water's edge. The overall color palette is dominated by greens, browns, and blues.

Executive Summary

- ▶ The Need
- ▶ Key Learning

Executive Summary

The Need. While microbiome studies were being conducted at the University of Washington, these groups existed in silos not knowing who else was conducting these studies, where they were being conducted, or what tools and innovations were being used. We saw that the needs of the microbiome community at the UW as being twofold. First, CMiST would offer services to facilitate microbiome research for those investigators who may not have access to equipment or tools in their own laboratories or departments. Second, and perhaps more importantly, it was clear that a new center would also need to provide an intellectual home for microbiome investigators and the next generation of scientific and clinical researchers. To that end, CMiST would act as a conduit for communication, connectivity, and collaboration by hosting symposia, work in progress meetings, and other events that are important to forming and maintaining collaborations in scientific research.

Key Learning. During the summer and fall of 2016, the center was still physically coming together. We were reviewing blueprints, making design decisions, sourcing lab equipment, and moving our entire lab and personnel up from Los Angeles. Soon after arriving in 2017, we were in full blown learning mode, trying to understand the research needs of the campus so that we could both physically and programmatically build a center that would meet those needs.

Year One – The Lay of the Land

Our introduction to the UW was more challenging than we had anticipated. As we were moving into the Health Sciences Buildings, our neighbors and potential collaborators in Departments of Allergy and Infectious Disease and of Microbiology began relocating to the South Lake Union (SLU) campus. In addition, any clinical faculty who may be investigating the microbiome were scattered throughout the hospital nowhere nearby to possibly connect during those spontaneous “water cooler” chats that help to build relationships. Soon after we officially opened our doors another microbiome group followed at Fred Hutch and we suddenly had to address how CMiST would set itself apart.

Year Two – Getting Connected

Year two was an exciting year as our work-in-progress series, Microbiome Club, debuted. The format, only unpublished work and everyone who attends presents, as well as the inclusivity attracted a large turnout from across the UW campus and Fred Hutch. We held our first symposium, a two-day event entitled “Community & Connectivity,” in the fall of 2018. This event attracted people from industry and academia from up and down the West Coast and even across the country. Most importantly, CMiST applied for and received designation as an Organized Research Unit, becoming UW’s first and only official microbiome research center. On the clinical front, there was much work to be done. Despite continued efforts to engage clinical faculty as well as researchers at SLU, their lack of participation in our programs made it clear that this was an area where we must make more of an effort.

Year Three – Bioinformatics are Necessary

Today, three and half years after opening our doors, we are now beginning to see the fruits of our labor. CMiST services and staff have been included in a number of research proposals submitted to both intra- and extramural funding agencies. While a few have received funding we are continuing to support UW faculty through the use of our cores and consultation on their projects. We have also formed an allyship with four faculty who have become our Steering Committee. These scientific researchers have been incredibly committed and supportive of CMiST and with their help we have begun to further identify and refine our areas of research focus. Most immediate, these conversations have prompted us to map out a plan to implement sequencing and bioinformatics services. We cannot expand and expect to be prolific in scientific or clinical partnerships, publications, and grants without offering these services. We are looking forward to adding this component to CMiST and continuing on our upward trajectory at the UW and beyond.



Brand Positioning

- ▶ Elevator Pitch
- ▶ Vision
- ▶ Mission Statement
- ▶ Values

Brand Messaging

ELEVATOR PITCH

CMiST will serve as a comprehensive microbiome resource for the University of Washington, surrounding institutions, and the public by facilitating research, education, and engagement, with the goal of building lasting cross-functional collaborations and partnerships that inspire discovery.

VISION

To be the foremost leader in microbiome research throughout the Pacific Northwest region known for our ground-breaking scientific discoveries, thoughtful collaborations, commitment to trainee education, and our dedication to the dissemination of research-based information and engagement with the general community.

MISSION STATEMENT

Our mission is to serve as a conduit for connectivity, communication, and cross-functional collaboration between scientists and clinicians at the University of Washington and neighboring institutions in order to advance microbiome research and discover new treatments and cures for human disease with a particular focus on GI-related disorders, as well as, to serve as a trustworthy source for microbiome information for the general public.

VALUES

Embrace Creativity

To create cutting-edge technologies, pioneer scientific breakthroughs, and develop new lines of bio-therapeutics, creativity is key. CMiST will build an environment where creativity and innovation thrive in order to inspire its members and educate the community.

Think Deeply

Too often the road with the least resistance is taken, but true innovation means looking past the obvious and not accepting answers at face value. Being able to think deeply means being open to all possibilities, thinking outside-the-box, and understanding that defining the relationship between our cells and our microbes has far reaching consequences that impact global health.

Cultivate Relationships

Cures begin with passion, but not one person can do it alone. Creating a dialogue between clinicians and scientists may seem like a no-brainer, but for two professions working towards the same goal, sometimes it is as if they are speaking different languages. From our location on the UW Medical Center campus and under the Department of Medicine, CMiST will provide a resource and a forum by which clinicians and scientists can share their work, their experiences, and develop scientific relationships that will not only benefit one another, but also our patients.

Facilitate Discovery

To understand a complicated organ like the intestine and its microbial inhabitants a multidisciplinary team of investigators and cutting-edge technologies is needed. CMiST will act as a conduit to allow the exchange of ideas.



SWOT Analysis

- ▶ Strengths
- ▶ Weaknesses
- ▶ Opportunities
- ▶ Threats

SWOT Analysis • Strengths

Location

Our location within UW Medicine at the University of Washington Medical School is a key factor in our being able to leverage resources available and garner support to grow and evolve.

The Seattle area has much to offer:

- UW location: Urban environment, forward thinking part of the country with dozens of innovative research organizations and venture capital firms interested in backing biotech startup companies in the area, as well as large philanthropic-minded corporations (Amazon, Microsoft, Gates Foundation, etc.)
- Diversity: Diverse faculty and student body, commitment to diversity
- Academics: Very strong academics in many areas of study
- UW Medicine: One of the top teaching and research hospitals in the country
- Research: UW is committed to increasing research productivity

Diversity

- Unique Leadership – Our leadership structure is based on design-thinking and is a cross-functional collaboration blending the diverse backgrounds of a scientist and a designer to offer a customer-centric model of service that delivers a boutique experience to collaborators, industry partners, private donors, and offered symposia. (*Leadership, Appendix A*)
- Steering Committee – Our principles have expertise that is relevant to microbiome research however, they differ in their overarching fields of study. These differences complement one another and the diversity of the group offers new perspectives that help to challenge one another while also helping the center move forward. CMiST leadership will include a dual operating style network with the implementation of this group as the CMiST Steering Committee. This network will complement the traditional hierarchy leadership of DOM. (*Steering Committee, Appendix B*)
- Microbiome Club – CMiST initiated a work-in-progress group, Microbiome Club, upon opening its doors. This group is comprised of scientist and clinician trainees, faculty, and staff across a broad range of schools and departments at the UW and neighboring institutions. These bi-monthly meetings serve as the backbone of communication and connectivity for CMiST and are paramount to its success. (*Microbiome Club, Appendix C*)
- Project Portfolio – The center's project portfolio is as diverse as its people and the microbiome itself. (*Projects Overview, Appendix D*)

Uncommon Leadership Communication

- Verbal and Written – Researchers often struggle to effectively communicate with different audiences. CMiST sets itself apart in this regard as Dr. DePaolo is incredibly versatile, possessing the ability to communicate scientific information to scientists, clinicians, and the public on all levels.



Five Year Goals

Five Year Goals

CMiST's overarching goal in the next five years is to continue to build on our first three foundational years. Following are our big-picture goals in research, finance, trainee education, scientific outreach and in-reach efforts, community outreach, and personnel.

Research Goals

Over the next five years, CMiST will further define our research strengths and set the stage for submitting larger grants and co-PI publications. It will also be a time for the center to grow within itself and within UW Medicine and the UW as a whole.

Clinical Samples at UW

- Learn what clinical sample repositories exist within the UW campuses and develop programs to utilize these identified sample repositories and market and promote these resources.
- Create a database(s) so that researchers can search for samples that meet their study needs.

Sequencing & Bioinformatics

- Offer bioinformatics and biostatistics tools for microbiome analysis and integration with other datasets
- Offer single cell sequencing of microbiome

Pilot Funding – Develop programs to offer pilot and feasibility funding to microbiome researchers.

Clinical Faculty Engagement & Expansion – Presently, there is interest in microbiome research but, no dedicated engagement from faculty as they have little time. Further, no faculty have been recruited that have a background or expertise in such studies. CMiST can approach this audience in one of two ways and the goal will be to quickly determine the best approach and develop and communication plans accordingly. In order to build up these faculty and programs such that the UW has a strong microbiome center in CMiST we need to do the following:

- Inspire and partner with, as well as provide funds or pilot grants for, existing GI clinical faculty that are looking to start microbiome studies.
- Partner with UW Medicine divisions and departments that are recruiting faculty who would like to investigate the microbiome and serve on those recruitment committees.

Division of Gastroenterology – Cultivate current research happening within the division in GI and liver diseases.

- Grow the number of clinical faculty actively participating in microbiome research.
- Acquire more funding for projects investigating GI and liver diseases.
- Continue to develop the research projects and partnerships that have been awarded grants and accepted papers.
- Continue to increase and strengthen an open dialogue with GI clinical faculty.
- Recruit basic science faculty that have specific interests in microbiome studies.



Appendices

- ▶ A - Leadership
- ▶ B - Steering Committee
- ▶ C - Microbiome Club
- ▶ D - Current / Funded Research Projects
- ▶ E - 2018 Symposium
- ▶ F - Batch ID
- ▶ G - SMPL Strategic Plan
- ▶ H - Batch ID Business Model
- ▶ I - Bench to Bedside
- ▶ J - Vivo Art Initiative
- ▶ K - ACPWA Community Seminar Series

Appendix A • Leadership

William DePaolo, PhD • Director (*press online at www.depaololab.com/press-kit*)

Dr. William DePaolo, Will, Associate Professor of Medicine at the University of Washington Medical Center and recipient of the Lynn M. and Michael D. Garvey endowed chair in Gastroenterology, is Director of the CMiST, Center for Microbiome Sciences & Therapeutics.

With Will at its helm, CMiST will serve as a beacon for investigators, clinicians and patients interested in the human microbiome, and will offer a number of services, facilitate collaboration and exploration through workshops and seminar series, and work alongside clinicians to develop and test microbiome-derived therapeutics. In 2004, Will received his PhD in Immunology & Microbial Pathogenesis from the Feinberg School of Medicine of Northwestern University.

Will then completed his postdoctoral training at the University of Chicago where he investigated the molecular pathogenesis of *Yersinia pestis*, the bacterium that causes bubonic plague, while concurrently developing projects investigating immune modulation within the intestine. In 2011, Will joined the faculty at University of Southern California as an Assistant Professor in the Department of Molecular Microbiology and Immunology. Will combines his interdisciplinary training to investigate the contribution of our 100 trillion gut bacteria (or microbiome) to inflammatory diseases and to develop strategies aimed at manipulating this vast community.

Will's current research extends across scientific disciplines and clinical diseases such as obesity, colon cancer, inflammatory bowel disease and enteric pathogens.

Amy Parker • Communications Specialist (*portfolio online at www.amypattonparker.com*)

Design-thinking dictates everything Parker does from marketing and promotions, to creating visual identities, to small-scale business development, to programmatic strategy. She designs based on instinct, intuition, and diligent research.

To all positions Parker has held over the past 10 years, she brought design and marketing where neither ever existed. Having followed the 'science path' in school, (BS, Biology, Bates College, '99), Parker is mostly self-taught. Her lack of formal training allowed her to cultivate her innate creativity. Parker intuitively knows and understands good design and impactful marketing and is thoughtful and deliberate in her process. She is constantly learning and devotes time to researching both design and marketing in all forms and all industries with a particular interest and background in healthcare and science.



Serve, don't lead.

-Kobe Bryant