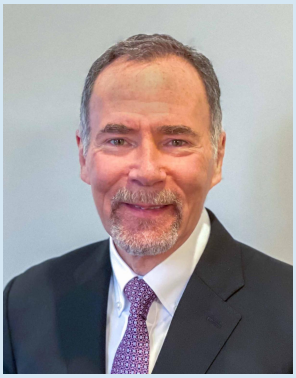
Museum of Medicine and Biomedical Discovery

News and Updates | Winter 2025 / Issue 2

President's Corner



Dear Friends:
In the two years of our existence, we have been fortunate to have the support and guidance of an outstanding board of directors. In this issue, we begin a series that will introduce you to them. Each one brings a unique array of professional achievements and perspective to the board. You will learn not only about their professional accomplishments but also what drew them to the museum. The first director profiled in this series is Larry Marnett, PhD, Dean Emeritus of the School of Medicine Basic Sciences at Vanderbilt University.

Understanding what visitors will be most interested in

Board Profile: *Larry Marnett*

Lawrence J. Marnett, Ph.D., is Dean *Emeritus* of the School of Medicine Basic Sciences at Vanderbilt University. He is also University Distinguished Professor; Mary Geddes Stahlman Professor of Cancer Research; and Professor of Biochemistry, Chemistry & Pharmacology.

Larry has had remarkable success in building new organizations that have flourished. He has held leadership positions at the Vanderbilt-Ingram Cancer Center; Vanderbilt Institute of Chemical Biology; and Vanderbilt University School of Medicine Basic Sciences. Each has emerged as a top institution in its field.

He was once a kid in the 1960s who earned an amateur radio license and tapped away in Morse code from his home in Kansas City to converse with other people in different cities, states and even foreign countries. This let him dream about what type of world was out there.

He's come a long way from thinking about what was beyond Kansas City on a radio to pursue another dream he wants for America as the result of his many learnings during his distinguished biomedical scientist career: to help the Museum of Medicine and Biomedical Discovery (MMBD)

seeing at the museum will be critical to our success. We spent a morning with 6th graders at Wright Elementary School in Nashville doing just that. Their engagement and candor helped us gain better understanding of ways we will be able to connect with a young audience.

We will be distributing this newsletter on a quarterly basis as a way of keeping you informed of our progress. Please reach out with your questions and suggestions. And please share this with your museum friends or tell them to go to our website to sign up.

Warm regards,
Mace Rothenberg, MD
President & Executive Director
MMBD

become a reality by the end of the decade.

We recently sat down with Larry to discuss why he, as a basic research scientist with five decades of experience would get involved in building a national museum of medicine.

What drew you to this project?

Marnett: The fusion of discovery science with medicine and medical education, which began in the early 20th century, resulted in an increase in life expectancy from 45 to 79 years in the United States. There can be no greater testament to the importance of research to human health. I am a biomedical scientist and have devoted my career to understanding how living systems work and how they go awry.

I appreciate the beauty of discoveries that open entire new fields of knowledge AND that offer the opportunity to treat, diagnose or prevent illness. The MMBD embodies this relationship and presents it in a way that is interesting and compelling. I am drawn to its vision.

(Interview continued on next page)

Interview with Larry Marnett (continued)

What do you think the major impact of the museum will be?

Marnett: There will not be a single major impact. People will learn about the importance of biomedical research in modern medicine, which will give them an appreciation for the challenges medical science faces in treating diseases. The way we present the information will give them more confidence in the rigor of the scientific method and its application to medicine. Young people will be exposed to careers that they don't even know exist but that could be fulfilling and exciting avenues for them to pursue.

Policymakers will understand that science is not the law – everything is not black and white but rather shades of gray that reflect an evolving level of understanding. There will be additional impacts that we can't even conceive of.

What do you see as the biggest challenges the museum faces and how do you think they can be overcome?

Marnett: The biggest immediate challenge is attracting the financial support to build the first phase of the physical space. We've provided a vision for what the museum might look like and the type of interactive exhibits and features it will contain. It's time to convert those ideas into reality even if only at the demonstration project level.

Once there is an actual space that visitors can experience, it will be easier to attract additional capital. Of course, there will be additional challenges such as presenting technical and medical information in an engaging fashion but launching the first phase of the museum is the big one.

Tell me about your experience in scientific discovery and translating that into medical advances.

Marnett: One of my major interests is understanding the molecular details of the action of non-steroidal anti-inflammatory drugs. We have determined the structures of each class of these drugs with the molecular target for their pharmacological action and determined the importance of individual atoms in their binding. We have used that information to create novel compounds that can detect cancer at its earliest stage. This is just one example, but it illustrates that we not only want to understand the molecular basis of biological phenomena but also translate that knowledge to improve human health.

Tell me about your experiences explaining biomedical discovery to a non-technical audience. What works and what doesn't?

Marnett: I've taught many courses in college and graduate school, lectured at national and international conferences, and spoken to lay audiences. There are a few key points to communicating science to any audience. You've got to want to connect with your audience – to teach them something.

Content is absolutely critical here. There needs to be a balance between telling a complete story and overwhelming the audience with too much detail. Striking that balance is a Goldilocks phenomenon. Language is important. Scientists often default to comfortable jargon that only a few people in the world understand. When you're talking to smart people who are hearing something for the first time, you absolutely cannot use jargon. They will be confused by the first indecipherable word they hear and while they are trying to figure out what it means they won't hear another thing you say.

Illustration is also key. You've got to break complex concepts into easily digestible units and make sure people are following.

That is what we plan to aspire to in creating every aspect and detail of the exhibits, signs and presentations at the MMBD.

The Museum Through the Eyes of 11-Year Olds

Our First Focus Group

As a group of scientists, physicians, entrepreneurs, and innovators, the Museum of Medicine & Biomedical Discovery board is passionate about inquiry and discovery. We recently put that curiosity to the test – with 6th graders. Would 11-year-olds want to visit the Museum of Medicine & Biomedical Discovery? What exhibits would they want to see? What diseases are top of mind and would they want to cure? Do they trust the medical system?

With lots of energy and discussion, we found out.

If you had walked into our focus group at Wright Middle School in Nashville, you would have seen students collaborating and strategizing how they would spend time at the museum. Students were given an overview of the potential exhibits. Each team was given cards representing the exhibits and dimes symbolizing time (10 minutes). Their challenge – with only two hours and a maximum of five exhibits to visit, how would they spend their time.

Their top three …

1. How Medical Discoveries Changed the World
2. How Do you Make That? Fix That? Do That?
3. Aha! Magical Moments of Discovery

We also wanted to get a pulse on the amount of trust the kids have, so asked them on a scale of 1 (not at all) – 10 (totally), how much they trusted specific elements of the healthcare system. Hospitals were the most trusted and vaccines least trusted. Their average responses:

Hospitals:..... 6.6
Your doctor:..... 6.2
Drug companies:. 5.7
Vaccines:..... 4.5

While these results might be somewhat unexpected, it came as no surprise that when asked to imagine having their own scientific laboratory and the ability to discover a cure, every student chose to cure cancer.

Would these 6th graders want to visit this museum? Using the same scale of 1 (not at all) – 10 (totally), the average was 7.4. And even though one kid (remember that one kid in your 6th grade class?) gave us a 1 and brought our average down, we're thrilled at the overall enthusiasm these students had for being some of our first visitors.

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