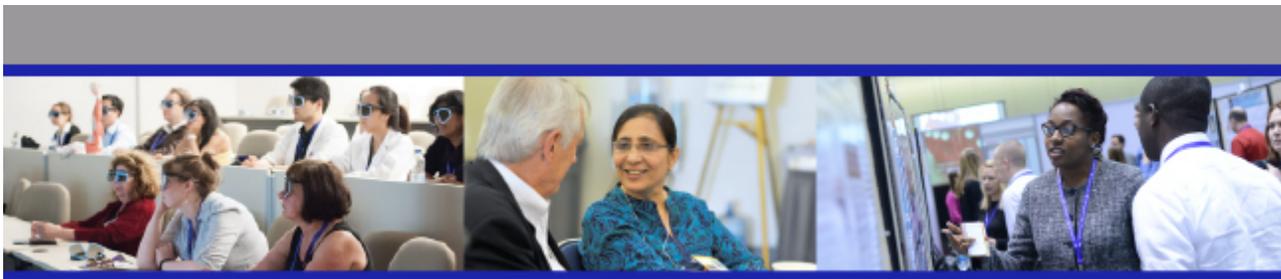


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# Anatomy *Now*

The official newsletter of the American Association of Anatomists (AAA)

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## **A Talk with Member Laurice Nemetz on her Work with Spatial Medicine and Anatomy**

Laurice Nemetz presented on her work at the November 5<sup>th</sup>, 2016, Regional Meeting in New York. A link to her poster is [available online](#). We caught up with her after the meeting to learn more about her unique work.

### **Can you give us your high level "elevator" pitch of your research?**

Laurice Nemetz (LN): I have been interested in how we as humans have been shaped by environmental space, and in turn, how where we live, be it the natural environment around us or the human-made buildings, impacts our anatomy. Historically, we can agree that bipedalism impacted the anatomical shape of the ilium or the bones of the foot, but today, whether we live in a hilly terrain or spend the majority of our time in an office space, these areas likewise are impacting our anatomy. The influence of electronics, from conveniences in transportation to the use of smart phones, likewise continues to impact our anatomy. Using my background as a movement therapist, I looked to the work of Rudolph Laban and specifically at his category of "effort" in which movement has qualities in the use of space, weight, time, and flow. I have been looking at architecture and natural space and relating how these can encourage or discourage different combinations of these efforts. Cultures both have geographic and stylistic preferences to spatial use and architecture which in turn can impact the way we move.

### **What are some of the implications of your work?**

LN: Our modern environment has become largely space efficient, but lacking in natural stressors. I am particularly interested in how walking and other common movement load the skeletal structure, as well as organizing the myofascial connections in the body. There is a huge difference in the natural gait of walking in nature, versus the slow gait of strolling through a building, or waiting in an airport, that does not offer

the same elastic recoil efficiency. From my abstract I had stated, "use of natural environment or creative spatial planning can continue to challenge the human form in a positive way" and I believe this fully. I am curious if we could design more interesting spaces to encourage uneven surfaces to challenge the foot, or brachiation stations to literally hang out. I find in a lot of my own new clients an increase in injuries such as sprained ankles to lateral epicondylitis. If one considers the ankle and wrist retinacula as key in proprioception and balance, we are missing the element of working the ankle or hand with varied directions and challenges to keep spatial control of the foot or arm movements.

Likewise, the increase of driving, holding cell phones, and time on computers has led modern humans to spend large portions of time without working the arm in extension. Rarely do I see a lateral epicondylitis caused by a tennis injury, but rather the lack of being able to extend the arm. I have recently come across the work of Lauren Friedrich, a 2016 graduate of Harvard's Graduate School of Design (GSD) who is likewise looking at how design can serve us anatomically to challenge the body, instead of always providing initial "comfort".

I will be expanding some of the work presented in my AAA poster in an oral presentation for the Movement and Cognition conference at Oxford University in July 2017 with my colleague James Earls, author of "Born to Walk".

### **What is spatial medicine?**

LN: "Spatial Medicine" is a term coined by Thomas Myers, the author of "Anatomy Trains" and one of my most influential mentors in anatomy. It is a unified approach to human movement based on the idea that manual and movement specialists can work together with understanding of neural plasticity, epigenetics, and movement to help the next generations in how we approach healing through working the body in movement. This is particularly important given our growing electronic dependent culture. If we work in material medicine, we are looking at changing the chemistry of the body through medication. Traditional talk therapy is rooted in temporal medicine, or changing the relationship in terms of time. Spatial medicine though is concerned with changing the body in relationship to space and how it impacts our health. Dialogue between disciplines needs to expand, but could be a rich means of treating the body in a more holistic way.

### **Can you give us an overview of your background and current profession?**

LN: I am an adjunct assistant professor at Pace University, a faculty teacher for Anatomy Trains workshops, a licensed movement therapist (under psychotherapy) and a certified yoga therapist. I typically assist at least four weeks a year in dissection lab, specializing in myofascial anatomy. In the summers, I also work as a kayak guide on weekends! I have been focused on the world of movement and more recently anatomy since my Master's degree in the 1990s in dance/movement therapy. Prior to that, one of my undergraduate degrees was in art history, and I've retained a large interest in architectural design as well as utilizing those skills in how I approach my anatomy work as a largely visual thinker.

### **Why did you decide to join AAA and present at our regional**

## meeting?

LN: I joined AAA initially last year because I was interested in presenting my poster on a dissection lab project. I presented at Experimental Biology 2016 in San Diego, abstract ID 7769: "[The Heart of Fascia: Initial Steps Toward a Three Dimensional Model of the Human Extra-Cellular Matrix in Dissection Lab](#)". In short, that project was creating "ghost" organs as teaching tools. Currently, there is research being done to strip organs to the level of the extra-cellular matrix scaffold, and then re-seeding with healthy stem cells with the idea the organs would have less chance of rejection. I created a low-cost version of decellurization to create a fascial model of the organs in dissection lab.

When the regional meeting was announced as being in NYC, I knew I wanted to present some of my latest work and reconnect with AAA members. I had previously met both Dr. Jeffrey Laitman (who was my first connection into AAA) and Dr. Joy Reidenberg (co-chair of the NYC planning committee) through workshops at Mt. Sinai and thought the topic of "Locomotion from an Anatomical, Orthopedic & Physical Therapy Perspective" sounded great. I had also enjoyed talking with AAA President Kimberly Topp at the EB conference and found the entire community very supportive and welcoming. Given my topic, I was particularly interested in seeing the design of the new CUMC Vagelos Education Center.

## What is one thing we can do as humans to better align with our environments, or to have our environments better align with us?

LN: That is a great question. I think we need to think about how to incorporate more of the natural environment into our daily environments. According to the Mayo Clinic, the average American spends at least 90% of the average day indoors. They have been using this statistic in their work (Well Living Lab) as a call towards the importance of good design for health, which I am in agreement with, but I also see this as a wake up call that we are missing the natural environment that challenges our body system. Our anatomy will continue to change and be shaped by our constructed spaces, but I feel there is a great need in movement to be challenged by the unpredictable on a daily basis, which is more easily offered in an uneven trail. When we do live in urban environments, we could do more to create thoughtful spaces that challenge and inspire us mentally and physically.

## Anything else you'd like to add?

LN: I'll quote a favorite writer, Tony Hiss, who wrote, "we react, consciously or unconsciously to places we live and work, in ways we scarcely notice or that are only now becoming known to us...In short, the places where we spend our time affect the people we are and can become." (The Experience of Place).

You can learn more about me on my webpage, [www.wellnessbridge.com](http://www.wellnessbridge.com), and I frequently post on the Anatomy Trains Dissections Facebook page: [www.facebook.com/AnatomyTrainsDissections](https://www.facebook.com/AnatomyTrainsDissections)