What is the Center for Genomic Medicine?
A message from CGM Co-director, Willard Dere, MD, FACP

Dear Friend,

When we discuss translational medicine at the Center for Genomic Medicine (CGM), we often use imagery such as the “Pipeline of Discovery” to demonstrate the translation from basic scientific research to clinical application. It is an excellent tool but does not tell the whole story.

For a more complete image, a viable translation pipeline needs a pump – a vital resource that channels and focuses discovery on its path to application. This is what CGM seeks to achieve. With the collaborative power of CGM and the focus it brings to translational medicine, discovery and application speeds increase, allowing us to create a greater and more efficient impact on the advancement of medicine.

True cures for genetic diseases are now within our reach, and CGM will help make that future a reality. Improvements with genomic testing allow us to promptly identify disease and act with greater agility and ability. Gene therapy, a new and rapidly growing field, permits us to accomplish what we only imagined at the start of the genomic revolution. The medical community can now combat spinal muscular atrophy and many other debilitating diseases in novel, exciting ways.

Sequencing improvements also allow us to diagnose infectious disease, arming our clinicians with vital information to treat and prevent extensive spread of pathogens. Our collaborators use genetic screening and AI analysis to make medical diagnoses with unprecedented speed and reliability. Read below about how IDbyDNA is launching metagenomic testing to identify, treat, and prevent infection from SARS-CoV-2, the virus that causes COVID-19. The data and technology we gain from these efforts are deeply important in helping us avoid future pandemics.

CGM’s growth and success are possible due to the immense talent and fortitude of our clinicians, researchers, faculty, students, and collaborators. The AI and machine learning refinements developed by our computer scientists power our research and diagnostic tools, allowing us to unearth medical discoveries in our labs and offers the potential to...
save more lives in our clinics. Data they collect proceed to improve and create the medical tools of the future, perpetuating the cycle.

The Center for Genomic Medicine is not just an alliance of mutual interests; its impact is far more than the sum of its parts, making it a cornerstone for genomic research and medical intervention at University of Utah Health. On behalf of all of us at CGM, thank you for joining us. Together, we will revolutionize the practice of medicine, providing a brighter future for generations to come.

Sincerely,

Willard Dere, MD, FACP
Co-Director, Center for Genomic Medicine
B. Lue & Hope S. Bettilyon Presidential Endowed Chair
Associate Vice President of Research, U Utah Health Sciences
Co-Director, Center for Clinical and Translational Science
Professor of Internal Medicine, School of Medicine

In the News

Gene Therapy in Utah

“‘Yes, I would call it living the dream, yes ma’am,’ said Alex Wight, who lives with his family in Moroni.”

Babies born with spinal muscular atrophy often die before their second birthdays. Watch and read how gene replacement therapy is saving the lives of children here in Utah and learn about the benefits of newborn genetic screening.

Watch and read more

Fighting the Pandemic

With metagenomic testing, investigators at IDbyDNA can track the spread and mutations of SARS-CoV-2, which is vital in controlling this pandemic and quelling future threats. University of Utah Research Park hosts IDbyDNA operations here in Utah.

Watch and read more

Investigator Updates

Nels Elde, PhD – MacArthur Fellow, Class of 2020

“The curiosity that we have will lead to discoveries, maybe in ways we don’t understand today but will be really crucial for the cures for tomorrow; the cures for pandemics ahead.” – Dr. Elde
We are in an ongoing evolutionary arms race between pathogens and our immune systems. Learn more about MacArthur Fellow and Evolutionary Geneticist Nels Elde, PhD and his work on studying evolution in real time.

**Watch and read more**

---

**Hilary Coon, PhD – Benning Chair**

With a series of grants from the National Institutes of Health and international renown as a top psychiatric genetics researcher, University of Utah Health recently named Hilary Coon, PhD as holder of a H.A. and Edna Benning Presidential Endowed Chair. Dr. Coon’s research brings novel insight on the genetic influences on autism and suicide.

**Read more**

---

**CGM Spotlight**

**Kevin Hope, PhD – Postdoc, Chow Lab**

Human and fruit fly genomes share 70% of the same disease-connected genes. This is very helpful for postdocs like Kevin Hope, PhD, who use fly-based models to study human genetic disease and search for potential therapies. In the Chow Lab, Dr. Hope studies NGLY1 deficiency syndrome, a rare debilitating disease that disrupts developmental milestones.

Despite the disruptions of the pandemic, Dr. Hope ran a series of experiments on fruit flies to determine if any in an array of compounds had the potential to treat the syndrome. Saving vast amounts of time and money, Dr. Hope only used compounds that have current FDA approval. The result – the identification of an FDA-approved compound with potential therapeutic value for patients with NGLY1 deficiency, ready to prepare for human cell testing and a prime example of translational medicine in action.

Visit the [Chow Lab](#) for more info on genomic medicine research and NGLY1 deficiency syndrome.

---

**Get Involved**

To learn more about our work and how to get involved, reply to this eNewsletter or contact:

Steven M. Finkelstein  
Director of Advancement, Genomic Medicine  
steven.finkelstein@hsc.utah.edu  
801.587.0814