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# Genomic research gains ad-"vantage" with new resources

by Bill Sny der (http://news.vanderbilt.edu/author/billsnyder/) | Posted on Thursday, Nov. 1, 2012 - 10:33 AM

Vanderbilt University Medical Center has stepped up its support of research aimed at cracking the mysteries of the genome, the master DNA code.

The DNA Resources Core and Genome Sciences Resource have merged under VANTAGE (<a href="http://vantage.vanderbilt.edu/">http://vantage.vanderbilt.edu/</a>) (VANderbilt Technologies for Advanced Genomics), a collaborative shared resource that opened in May on the ground floor of Medical Center North.

Also this month, a new bioinformatics resource called VANGARD (VANderbilt Technologies for Advanced Genomics Analysis and Research Design) launched to help researchers design experiments and evaluate and interpret their results.

"The shared resources at Vanderbilt are one of our 'crown jewels' — the engines that enable our faculty, trainees, and staff to conduct cutting-edge research," said Susan Wente, Ph.D., associate vice chancellor for Research.

"The launch of VANTAGE and VANGARD reflect continual investment needed for innovation." VANGARD helps investigators sift through "mountains of data" generated by next-generation sequencing and other technologies provided through VANTAGE.

By working together, the resources facilitate innovative, multidisciplinary investigations of the genome. "That is the foundation of genomic-based personalized medicine," said VANGARD director Yu Shyr, Ph.D. (https://medschool.vanderbilt.edu/cqs/people/Yu/Shyr/cqs-faculty-members)

Building on the success of the Vanderbilt Institute for Clinical and Translational Research (http://www.mc.vanderbilt.edu/victr/pub/) (VICTR) Studio Program, VANGARD will offer its own "Genomic Design Studios" — expert panel review of research proposals by faculty, core managers and other staff.

The studios will be held each Tuesday beginning Nov. 13 in the VANTAGE resource. Researchers can register to attend studios through the VANGARD website <a href="https://medschool.vanderbilt.edu/cqs/vangard">https://medschool.vanderbilt.edu/cqs/vangard</a>) at http://cqs.mc.vander-bilt.edu/vangard.

"We fully anticipate these studios will be as successful at improving and supporting research projects as the standing line-up of the award-winning studio program initiated and managed out of VICTR for the past five years have been," said Gordon Bernard, M.D. (http://www.mc.vanderbilt.edu/victr/pub/index.html?sid=116), associate vice chancellor for Research and VICTR director.

VANTAGE and VANGARD are administratively based in the Office of Research (OOR).

The Vanderbilt Center for Quantitative Sciences (https://medschool.vanderbilt.edu/cqs/) (CQS), also directed by Shyr, provides technical and scientific direction and organization to VANGARD in collaboration with OOR.

VANTAGE is led by James Crowe Jr., M.D. (http://www.crowelab.com/users/pipage), the resource's scientific director, and by Jeffrey Smith, M.D., Ph.D. (http://dna.mc.vanderbilt.edu/genetics/home.aspx), associate director for genomics.

Crowe also directs the Vanderbilt Vaccine Center (http://pediatrics.mc.vanderbilt.edu/interior.php?mid=5351), and Smith is associate professor of Medicine and Cancer Biology.

Located in the recently completed and National Institutes of Health-funded renovation in Medical Center North, VANTAGE consolidates genomics-related core facilities under a unified framework, with new and existing services in genotyping and expression analysis, DNA extraction and banking, Sanger sequencing and next generation sequencing all available.

"VANGARD will provide at least 16 different bioinformatics pipelines for VANTAGE-generated data, from basic fold-change analysis to comprehensive pathway/systems biology analysis for each pipeline," added Shyr, Ingram Professor of Cancer Research.

"We look forward to meeting the needs of Vanderbilt investigators across the spectrum of genomics studies."

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