Avera Institute for Human Genetics

The Avera Institute for Human Genetics (AIHG) has a history of excellence and an exciting future in innovative genetics research. As a state-of-the-art human molecular genetics laboratory fully equipped with advanced technology, they undertake a wide range of research projects, including personalized medicine, biobanking, tumor registries, and behavioral and cancer genetic studies. By advancing science through numerous partnerships – both nationally and internationally – AIHG is poised to translate this knowledge to improve the care provided to Avera patients and communities.

Since 2009, the AIHG has partnered with the world's leading twin register, the Netherlands Twin Register (NTR) at Vrije Universiteit (VU). With the launch of the Avera Twin Register, they now collect and analyze DNA from twins throughout the Midwest and the Netherlands to provide insight about traits and diseases specific to each region. Together, they will perform world-leading genetic research led by a team of expert scientists.

Avera & VU Scientific Committee

A Scientific Committee directs initiatives through the expanded Avera and VU partnership. They are at the leading-edge in transforming medicine because large-scale genotype/phenotype infrastructures, like twin studies, are key to science-driven innovation in health care. Distinguished members of the committee include:

Gareth Davies, PhD

Gareth Davies, PhD, Chief Scientific Officer and Scientific Director at AIHG, is a Molecular Geneticist with an interest in the genetics of complex traits including behavioral, neuropsychiatric and developmental disorders. Since 2007, Davies has concentrated his research on the molecular genetic analysis of twins as part of a National Institutes of Health-funded collaboration with the NTR. He has extensive experience in coordinating this international partnership and creating a strong infrastructure to support this and future large-scale projects. In addition, Davies directs studies in cancer and pharmacogenomics. Under his leadership, the AIHG has grown from a staff of five to more than 30 and continues to gain recognition both nationally and internationally as a center capable of large-scale genetic analysis. Davies holds a doctorate in molecular genetics and has over 40 published manuscripts.

Dorret Boomsma, PhD

The AIHG is honored to collaborate with Dorret Boomsma, PhD, an internationally recognized scientist in twin and genetic studies of behavior, health and psychopathology at VU in Amsterdam. Under her leadership, a study of Dutch twins revealed that ADHD in children is a genetic disorder. She also built the world-famous Netherlands Twin Register, which now includes over 87,000 twins and continues to provide a wealth of information on how genes influence health and behavior.

Paul Scheet, PhD

Paul Scheet, PhD, is an Associate Professor in the Department of Epidemiology at the University of Texas MD Anderson Cancer Center in Houston, Texas. As a researcher, he is interested in learning how population genetics can inform us about complex disease genetics and cancer genomics. In addition to his work as a scientist and professor, Scheet developed and maintains the software package fastPHASE, which is used for the estimation of missing genotypes and haplotypes. He has published many peer-reviewed original research articles, including one that received the C.W. Cotterman Award from the American Society of Human Genetics for its outstanding scientific contribution to the field of human genetics.

Eco de Geus, PhD

Eco de Geus, PhD, is the Director of the EMGO Institute for Health and Care Research at the VU Medical Center in Amsterdam, home to over 640 researchers in the field of genetics, behavioral sciences, health sciences and medicine. De Geus also serves as a professor of Biological Psychology and Co-Director of the NTR where he is an active researcher in the field of genetic epidemiology of cardiovascular disease risk factors. He has published over 400 peer-reviewed papers and book chapters and developed an ambulatory monitoring system used by over 250 research facilities worldwide.

Erik Ehli, PhD

As a Genetics Research Scientist at AIHG, Erik Ehli, PhD, focuses on the molecular genetics of complex diseases and leads genotyping projects on samples collected through the Avera Twin Register and Netherlands Twin Register. He received a master's degree from the University of South Dakota and worked as a registered nurse in Surgical Trauma prior to becoming a published scientist.

Conor Dolan, PhD

Conor Dolan, PhD, is an Associate Professor, researcher and senior lecturer at University of Amsterdam with expertise in psychometrics, differential psychology and developmental psychology. He holds a doctorate degree from the University of Amsterdam, and completed post-doctoral work at the University of Amsterdam in developmental psychology, and at VU in biological psychology.

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