

Delivering novel and targeted medicines from human genetics to patients

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Vice President and Global Head – Genetics & Human Biology

Director – Integrated Human Genomics (IHGx) Unit

Rapid and ongoing advances in human biology research have enabled a new paradigm for discovery and development of important, novel and targeted therapeutics with greater likelihood of success. The success of this paradigm has hitherto primarily been realized in cancer therapeutics, but three critical tipping points have now been reached for key principals of this paradigm to be systematically extended to additional therapeutic areas:

1. Unprecedented ability to characterize genotypic and phenotypic causes & consequences of human variability;
2. Dense genotype–phenotype data being generated by large–scale public and private sector investments;
3. Translational systems to derive novel insights into disease biology and pharmacology from genetic signals

Premising drug discovery upon a foundation of robust human data should produce focused drug discovery portfolios of higher confidence targets, and human evidence–based matching of target mechanisms to patient sub–populations should help guide clinical development in patients most likely to benefit. Ultimately, this should catalyze delivery of novel and targeted therapeutics to patients.

To fully realize such opportunities provided by human biology research, multi–sector and multi–disciplinary entrepreneurial and collaborative business models will be necessary.



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Current role: Nadeem’s research focuses on applying several integrated sciences to deliver novel and targeted medicines from human genetics to patients. He has established and directs the

“Integrated Human Genomics” (IHGx) Unit, which combines dedicated quantitative, wet-lab biology and chemistry expertise and resource within an autonomous and highly collaborative R&D innovation unit. IHGx focuses predominantly on neuroscience and autoimmune related therapeutic areas, employing entrepreneurial collaborative and business models. In addition, Nadeem sits on several leadership teams across the organization spanning discovery, pre-clinical and clinical research.

External responsibilities: Nadeem serves as the Industry Lead for the Alzheimer’s Disease Neuroimaging Initiative (ADNI) Genetics Core; sits on the Institute of Medicine (IOM) Genomics Roundtable; coordinates the Industry Partnership for Human Genetics (IPHG); and has been invited to help advise the World Dementia Envoy, Genomics Enterprise, and several Stratified Medicines initiatives (in the UK and US).

Previous roles: Nadeem joined Eisai from Pfizer, where he served as the Head of Population Research & Head of Cardiometabolic Genetics, helped lead development and initiation of a new Cardiovascular Therapeutic Area Strategy, and helped establish the Cambridge/Pfizer Center for CV Genomics. Prior to working in industry Nadeem was tenured faculty at the University of Cambridge, where his research involved coordination of large-scale research consortia and establishment of new genetic and molecular epidemiology bioresources.

He has served as: Principal Investigator of the IL6R Genetics Consortium, The Triglycerides & Coronary Disease Genetics Consortium, and The Botswana Pelo Initiative; Steering Committee and Leadership Team member of the Emerging Risk Factors Collaboration (ERFC), the Pakistan Risk of Myocardial Infarction Study (PROMIS), Generation Scotland, The Aberdeen Renal Research Collaboration, and the Reykjavik Prospective Study Predictive Biomarkers Project; And a Research Investigator in the Aberdeen Maternal and Neonatal Databank (AMND), Aberdeen Children of the 1950s Cohort Study (AC50CS), and the Scottish Health Surveys.

Personal: Nadeem was born and raised in Aberdeen, Scotland, and enjoys reminiscing about when he used to play rugby, cricket and athletics. He lives in Wellesley, MA (USA) with his wife and two young daughters.