

Justin Lamb

271 Hurley Street #1
Cambridge MA 02141

e-mail: justin@broadinstitute.org
telephone: +1 617 620 0498

Education

PhD in Medicine **1998**
University of Aberdeen (UK)
molecular pathology and therapeutics | Carnegie Scholar

BSc in Pharmacy **1989**
Heriot-Watt University (Edinburgh, UK)
first class honours | Watt Club Medal

Experience

Senior Scientist **2002-present**
Broad Institute of MIT and Harvard University

- leader of flagship chemogenomics project (Connectivity Map): using gene-expression profiling and pattern-matching algorithms to characterize small molecules for drug discovery and development applications; inspiration for new NIH Common Fund Program (LINCS); www.broadinstitute.org/cmap
- supervised multidisciplinary team of ten PhD/MS-level staff and contractors
- directed technology evaluation/development, production, proof-of-concepts, rollout/promotion, adoption/integration, application diversification
- managed interactions with academic scientists, industrial collaborators (pharma, technology), vendors, funding agencies, business/licensing office
- responsible for multi-million dollar budget
- permanent member of Cancer Program Steering Committee
- conceived, created business plans/financials/investor materials, conducted IP diligence, and negotiated licenses for two platform-technology spin-outs: Ligon Discovery, Inc (launched) and Genometry, Inc (pending)

Postdoctoral Research Fellow **1998-2002**
Dana-Farber Cancer Institute and Harvard Medical School
Suzanne Sheats Breast Cancer Research Fellow | Mark Ewen (supervisor)

- expertise in cellular, molecular, genomic techniques and technologies, and bioinformatics software development
- developed novel method for integrating/mining human tumor and cell culture gene-expression data
- discovered new mechanism of human oncogene (cyclin D1) action

Scientist **1989-1990**
Pfizer Central Research (Sandwich, UK)

- exposed to all aspects of industrial drug discovery and development
- trained in formulation science and advanced dosage-form design

Selected Publications

The Connectivity Map: A new tool for biomedical research | [Lamb J](#) | **Nature Reviews Cancer** 7: 54-60 (2007) | *review of Connectivity Map concept, design principles, applications, and discussion of future directions*

Gene expression-based chemical genomics identifies rapamycin as a modulator of MCL-1 and glucocorticoid resistance | Wei G, Twomey D, [Lamb J](#), Schlis K, Agarwal J, Stam R, Opferman J, Sallan S, den Boer M, Pieters R, Golub T and Armstrong S | **Cancer Cell** 10: 331-342 (2006) (cover story) | *Connectivity Map use case: repurposing of sirolimus for cancer therapy*

Gene expression signature-based chemical genomic prediction identifies novel class of HSP90 pathway modulators | Hieronymus H, [Lamb J](#), Ross K, Peng X, Clement C, Rodina A, Nieto M, Du J, Stegmaier K, Raj S, Maloney K, Clardy J, Hahn W, Chiosis G and Golub T | **Cancer Cell** 10: 321-330 (2006) | *Connectivity Map use case: elucidation of mechanism-of-action of bioactive natural product, and discovery of novel HSP90 inhibitors*

The Connectivity Map: Using gene-expression signatures to connect small molecules, genes, and disease | [Lamb J](#), Crawford E, Peck D, Modell J, Blat I, Wrobel M, Lerner J, Brunet J-P, Subramanian A, Ross R, Reich M, Hieronymus H, Wei G, Armstrong S, Haggarty S, Clemons P, Wei R, Carr S, Lander E and Golub T | **Science** 313: 1929-1935 (2006) | *proof-of-concept of systematic approach for biomedical and pharmaceutical discovery*

A method for high-throughput gene expression signature analysis | Peck D, Crawford E, Ross K, Golub T and [Lamb J](#) | **Genome Biology** 7: R61 (2006) | *development of new mRNA-profiling technology for screening applications*

Chromosome Conformation Capture Carbon Copy (5C): A massively parallel solution for mapping interactions between genomic elements | Dostie J, Richmond T, Arnout R, Selzer R, Lee W, Honan T, Rubio E, Krumm A, [Lamb J](#), Nusbaum C, Green R and Dekker J | **Genome Research** 16: 1299-1309 (2006) | *development of next-generation sequencing assay for mapping three-dimensional chromosome structure*

MicroRNA expression profiles classify human cancers | Lu J, Getz G, Miska E, Alvarez-Saavedra E, [Lamb J](#), Peck D, Sweet-Cordero A, Ebert B, Mak R, Ferrando A, Downing J, Jacks T, Horvitz H and Golub T | **Nature** 435: 834-838 (2005) | *development of novel microRNA-profiling technology*

A mechanism of cyclin D1 action encoded in the patterns of gene expression in human cancer | [Lamb J](#), Ramaswamy S, Ford H, Contreras B, Martinez R, Kittrell F, Zahnow C, Patterson N, Golub T and Ewen M | **Cell** 114: 323-334 (2003) (feature article) | *demonstration of a new data-mining methodology for the discovery of human gene function in situ*

Professional Activities

reviewer: Nature Reviews Drug Discovery, Nature Biotechnology, Nature Chemical Biology, Nature Cell Biology, Nature Reviews Cancer, EMBO Journal, Molecular and Cellular Biology, Trends in Pharmacological Sciences, Pharmacogenomics, Bioinformatics, National Science Foundation, Canada Foundation for Innovation, Netherlands Genomics Initiative, British Lung Foundation, Scottish Hospitals Endowment Research Trust (selected)

speaker: Biomedicum Helsinki (Finland); Royal Society of Medicine (UK); Ludwig Institute for Cancer Research; Mitsubishi Pharma (Japan); Hitachi Central Research Laboratory (Japan); Merck Research Laboratories; Johnson & Johnson; GlaxoSmithKline; Novartis Institutes for Biomedical Research; Pfizer Research Technology Center; Mathematical Bioscience Institute; US Food and Drug Administration (selected)

advisor: GnuBIO, Inc (scientific advisory board); Firefly BioWorks, Inc; Sismic Ltd (UK); Luminex Corporation; Procter & Gamble; DelphiBio; MEDAcorp; Scientia Advisors; Gleacher & Company (selected)

Recognition

reviews: “Transcript profiling to identify small molecule mechanisms and therapeutic potential”, Rahul Palchaudhuri and Paul Hergenrother, ACS Chemical Biology 6: 21 (2011) | “The Connectivity Map”, Stephen Michnick, Nature Chemical Biology 2: 661 (2006) | “Connecting the dots using gene-expression profiles”, Steven Gullans, New England Journal of Medicine 355: 2042 (2006) | “Accelerating drug discovery: Open source cancer cell biology”, Stephen Friend and Hongyue Dai, Cancer Cell 10: 349 (2006) | “Striking it rich by data mining”, Jeffrey Rosen, Cell 114: 271 (2003) (selected)

quoted: “Genomics: when the chemistry is good”, Nature Methods 5: 843 (2008) | “CureFinder” (video), ABC News / ScienCentral Productions, October 2006 | “Six degrees of separation”, Nature Methods 3: 964 (2006) | “Genetic search engine will let doctors match drugs to diseases”, The Independent (London), 29 September 2006 | “Bioinformatics—from genes to pathways”, Nature Methods 1: 169 (2004) | “Gene Genie”, Chemist & Druggist, 18/25 December 2004 | “The Pathways Promise”, Bio IT World, July 2004 (selected)