

Research Position
Laboratory of Quantitative Medicine
Massachusetts General Hospital

Five full time research positions will be available at the Massachusetts General Hospital, a Harvard affiliated teaching hospital, for graduating seniors interested in spending a year or two before continuing their education in medical or graduate school, as well as for individuals with somewhat more experience, including students with Masters Degrees. Previous holders of this type of position have had the opportunity to work on research projects and to publish scientific papers on their work, and many individuals have published first-authored papers on their work. For students with an interest in medicine, exposure to clinical medicine is encouraged. The work of our group has concerned: the assembly of data, and the development of improved mathematical methods, for predicting the outcome for cancer patients; the identification of screening schedules for reaching the maximal possible reduction in cancer death achievable by cancer screening; the application of modern computer speech and telephony for developing scheduling/reminder systems for increasing the use of preventative medical interventions such as mammography and influenza immunization; and the development of advanced methods for imaging cancer specimens. The program is a collaborative project between individuals at the Massachusetts General Hospital, Harvard, and MIT, and is located in an MGH facility next to MIT in Cambridge.

The first position concerns the assembly and analysis of data on cancer and its outcome, and development of improved mathematical methods for predicting cancer outcome. Related work concerns the development and implementation of novel mathematical methods for Web-based calculators that physicians can use for predicting the risk of cancer recurrence, as well as the development of computer simulation models of cancer progression.

The second position concerns the analysis of medical usage and cost among cancer patients. This position would be suitable for a student interested in health economics, as it is based on one of the largest and most fine-scaled patient cost datasets available.

The third position concerns the analysis of the systems that hospitals use to make medical appointments and the assembly and analysis of data on how patients are processed through the system, with the aim of improving utilization of preventive service such as cancer screening. This position also concerns managing preventive health interventions that use these systems, designing and testing the user interfaces of the systems we are building; creating and market testing the telephone messages our systems launch; analyzing how health

systems actually manage patient recruitment and scheduling for preventive health, and measuring the impact of our systems on preventive health use and health outcome. Individuals with interests in health, human factors engineering, systems engineering, operations research, cognitive psychology, persuasion psychology, and in advertising, are encouraged to apply to these positions.

The fourth position concerns the refinement, implementation, and testing of a system that sends computer generated telephone reminder messages for increasing the use of mammographic cancer screening. Knowledge of, or ability to learn, ASP, [ASP.net](#), AJAX, C#, HTML, MS SQL Server, Windows Server 2003 security, and general database and server administration is required. Skill with VXML and computer speech would also be desirable.

The fifth position concerns the development of improved cancer specimen imaging technologies, including micro x-ray tomography.

Please reply by email with CV or resume to:

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