

Group for New Computational Technologies at the CMSA, Harvard University

The Center of Mathematical Sciences and Applications is soliciting applications for full or half-year postdoctoral residencies in its Group for New Technologies in Mathematics, under supervision of Professor Michael R. Douglas.

The rapid development of computational technology is opening many new opportunities, and enables new methods and tools for research in the mathematical sciences. Technologies such as machine learning and artificial intelligence, interactive theorem verification, SAT and SMT solvers, formal repositories and semantic search, and collaboration tools will transform the way we do research over the coming decade. We foresee advances such as theorem verification systems which are as easy to use as today's computer algebra systems, methods for turning scientific computations into rigorous verified theorems, and semantic search engines based on repositories of formal mathematics. The foundations for these advances are being developed now.

At the GNTM, scholars will pursue an interdisciplinary program combining research in mathematics and physics with the development and application of these new technologies. Candidates will have a doctorate in mathematics or physics and a strong background in research areas pursued at CMSA including algebraic and differential geometry, string theory and mathematical physics, and data analysis and mathematical statistics. Candidates will also have experience in one or more computer science research areas such as formal methods and theorem verification, machine learning, symbolic and numerical methods, or computational linguistics, and at least one contribution (a preprint or submission to an open source repository). Computer science PhD's with a strong background in mathematics or physics are also encouraged to apply.

Scholars will be expected to bring their own financial support, while Harvard will assist with visas, (other) ?

Applications from all well qualified individuals are highly encouraged. Harvard is an equal opportunity employer and all qualified applicants will receive consideration without regard to race, color, religion, sex, national origin, disability status, protected veteran status, or any other characteristic protected by law.

The application should include a letter of application, a CV, research statement, and publication list. In addition, three letters of recommendation should be submitted. [[deadlines for Sep 1 start, for Jan 1 start.]]