Classified Advertisements

Positions available, items for sale, services available, and more

CONNECTICUT

YALE UNIVERSITY
Department of Mathematics

The Department of Mathematics of Yale University invites applications for a position as a tenured Associate or Full Professor in the area of Dynamical Systems and Ergodic Theory. We seek scholars with a record of outstanding achievement in research who are accomplished teachers at both the undergraduate and graduate levels. We are interested in candidates with a breadth of expertise in the above mentioned area.

Please send curriculum vitae, description of research interests, and at least three letters of recommendation by July 2, 2007.

Department of Mathematics
Yale University
P.O. Box 208283
New Haven, CT 06520-8283

Attn: Search Committee
Dynamical Systems and Ergodic Theory

Yale University is an Affirmative Action/Equal Opportunity Employer. Applications from women and underrepresented minority scholars are especially encouraged.

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YALE UNIVERSITY
Department of Mathematics

The Department of Mathematics of Yale University invites applications for a position as a tenured Associate or Full Professor in the area of Arithmetic Algebraic Geometry and L-functions. We seek scholars with a record of outstanding achievement in research who are accomplished teachers at both the undergraduate and graduate levels. We are interested in candidates with a breadth of expertise in the above mentioned area.

Please send curriculum vitae, description of research interests, and at least three letters of recommendation by July 2, 2007.

Department of Mathematics
Yale University
P.O. Box 208283
New Haven, CT 06520-8283

Attn: Search Committee
Arithmetic Algebraic Geometry and L-functions

Yale University is an Affirmative Action/Equal Opportunity Employer. Applications from women and underrepresented minority scholars are especially encouraged.

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INDIA

INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
Department of Mathematics

Applications are invited for visiting and permanent faculty positions at all levels. Applicants should have a Ph.D. and an excellent academic record. Outstanding candidates in all areas of Mathematical Sciences are encouraged to apply. Current departmental interests include Algebra, Algebraic Geometry, Algebraic Topology, Combinatorics, Differential Geometry, Functional Analysis, Harmonic Analysis, Number Theory, Numerical Analysis, Partial Differential Equations, Probability and Statistics. The Department of Mathematics and IIT Bombay offer an environment conducive to research. Teaching duties are about 5 hours a week and consist of at most two courses per semester at the undergraduate (B.Tech.), postgraduate (M.Sc.), or doctoral (Ph.D.) levels. A substantial "seed grant" of up to Rs. 5,00,000 is available for each new faculty member. In addition, the institute periodically funds participation in international conferences. It is also possible to raise grant money for research through various government and industry sources. Faculty enjoy several personal benefits including on-campus housing with free high-speed LAN connection, free or subsidized medical care, and easy access to schools on campus for children. Further information is available at: `http://www.math.iitb.ac.in/`. Applications including a curriculum vitae, a

Suggested uses for classified advertising are positions available, books or lecture notes for sale, books being sought, exchange or rental of houses, and typing services.

The 2007 rate is $110 per inch or fraction thereof on a single column (one-inch minimum), calculated from top of headline. Any fractional text of 1/2 inch or more will be charged at the next inch rate. No discounts for multiple ads or the same ad in consecutive issues. For an additional $10 charge, announcements can be placed anonymously. Correspondence will be forwarded.

Advertisements in the "Positions Available" classified section will be set with a minimum one-line headline, consisting of the institution name above body copy, unless additional headline copy is specified by the advertiser. Headlines will be centered in boldface at no extra charge. Ads will appear in the language in which they are submitted.

There are no member discounts for classified ads. Dictation over the telephone will not be accepted for classified ads.

Upcoming deadlines for classified advertising are as follows: August 2007 issue–May 29, 2007; September 2007 issue–June 28, 2007; October 2007 issue–July 26, 2007; November 2007 issue–August 28, 2007; December 2007 issue–October 1, 2007; January 2008 issue–October 26, 2007.

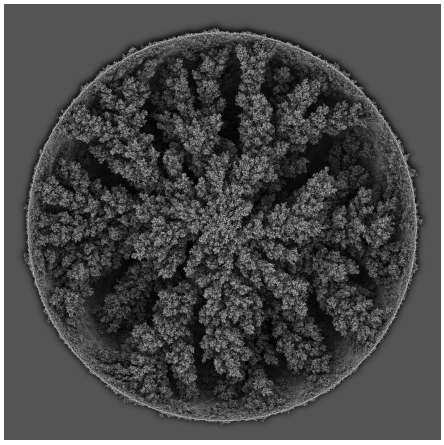
U.S. laws prohibit discrimination in employment on the basis of color, age, sex, race, religion, or national origin. "Positions Available" advertisements from institutions outside the U.S. cannot be published unless they are accompanied by a statement that the institution does not discriminate on these grounds whether or not it is subject to U.S. laws. Details and specific wording may be found on page 1373 (vol. 44).

Situations wanted advertisements from involuntarily unemployed mathematicians are accepted under certain conditions for free publication. Call toll-free 800-321-4AMS (321-4267) in the U.S. and Canada or 401-455-4084 worldwide for further information.

Submission: Promotions Department, AMS, P.O. Box 6248, Providence, Rhode Island 02940; or via fax: 401-331-3842; or send email to `classads@ams.org`. AMS location for express delivery packages is 201 Charles Street, Providence, Rhode Island 20904. Advertisers will be billed upon publication.

About the Cover

Aggregation 22



This month's cover is from the collection of images http://www.bridgesmathart.org/art-exhibits/bridges06/lomas.html by Andy Lomas, part of the "Bridges London 2006" conference covered by Mike Field elsewhere in this issue. Andy studied mathematics as an undergraduate at Trinity College Cambridge, but is currently head of computer graphics at the English company Framestore CFC, Europe's largest digital effects and animation studio. This company produced, among other things, the title sequence for *Casino Royale*.

Andy tells us, "Mathematics and visual imagery have played an important role throughout my life. From an early age I have also had deep interests in photography and filmmaking. Digital art, computer graphics, and animation have provided a very natural and fulfilling way of bringing these two paths together. Examples where I have used mathematics in my professional work include fluid effects for the 'pool of tears' sequence in a TV series *Alice in Wonderland* and an illumination model for rain that allowed us to emulate the effects of rain being illuminated from different angles, to integrate with live action in *The Matrix: Revolutions*."

As to how the image was constructed, he wrote:

> The structures in the *Aggregation* series are produced by variations on Diffusion Limited Aggregation (DLA), a stochastic model for fractal growth originally proposed by T. L. Witten and L. M. Sander (*Physical Review Letters* **47**).
>
> DLA starts with a seed particle, then deposits new particles onto the structure by creating new 'walker' particles and allowing them to move randomly by Brownian motion until they reach the aggregated cluster where they are deposited. Iterating this process over many particles, extremely complex fractal structures called 'Brownian Trees' are formed. Computer implementations of DLA commonly restrict the particles to a lattice grid, but my implementation is lattice-free and calculates the intersections of the walker particles with the clustered form analytically. I have used a piece-wise linear approximation to Brownian motion.
>
> One thing that I find particularly intriguing about *Aggregation 22* is that there appear to be distinctly different structures in the form: an interior shape and an outer shell…although there is no point in the simulation where the processes were altered to produce these two structures.
>
> The simulation stage to create the structure of *Aggregation 22* took 182 hours on a 3.2 GHz Pentium 4 processor. Rendering the image at a resolution of 8,192 by 8,192 pixels took 28 hours on the same machine.

Andy's home page is at www.andylomas.com.

—Bill Casselman, Graphics Editor
(notices-covers@ams.org)