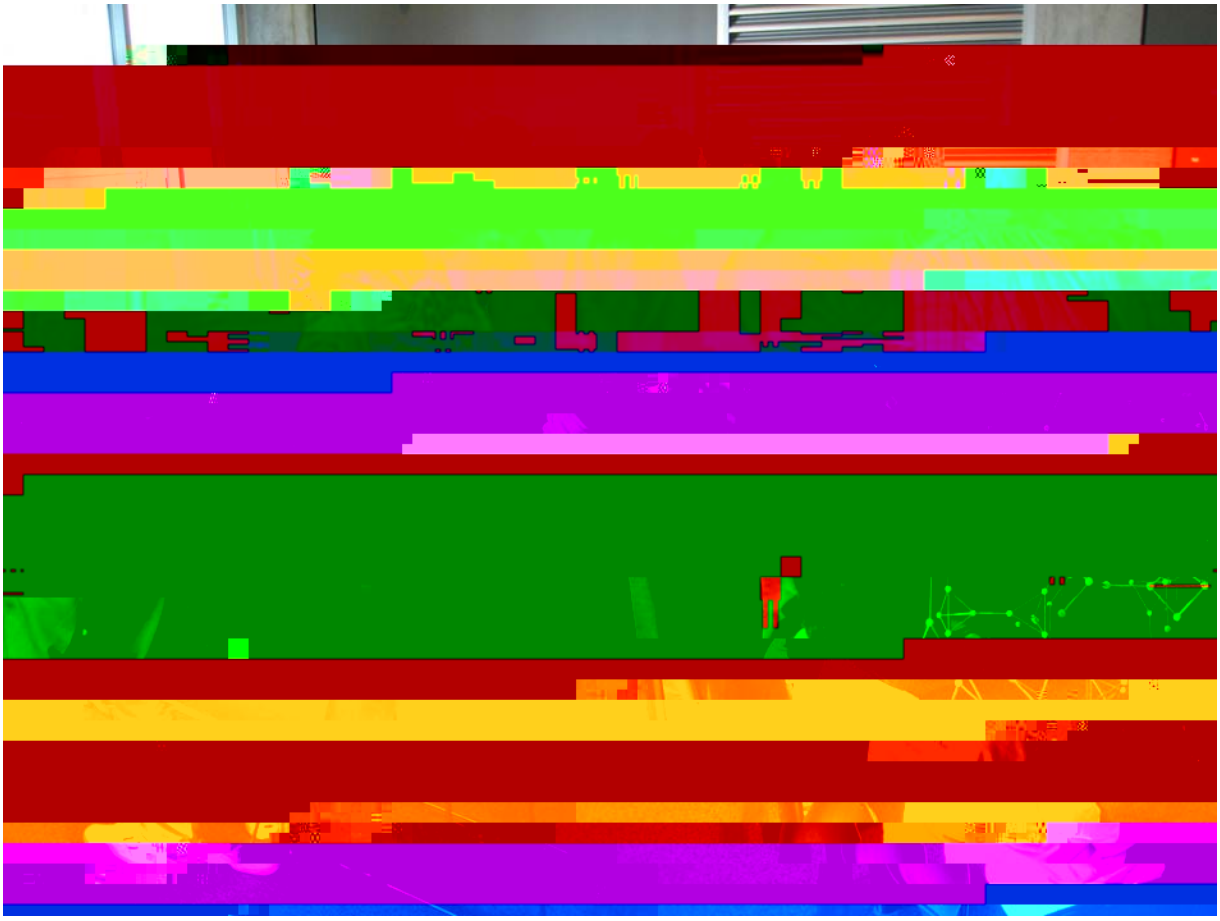
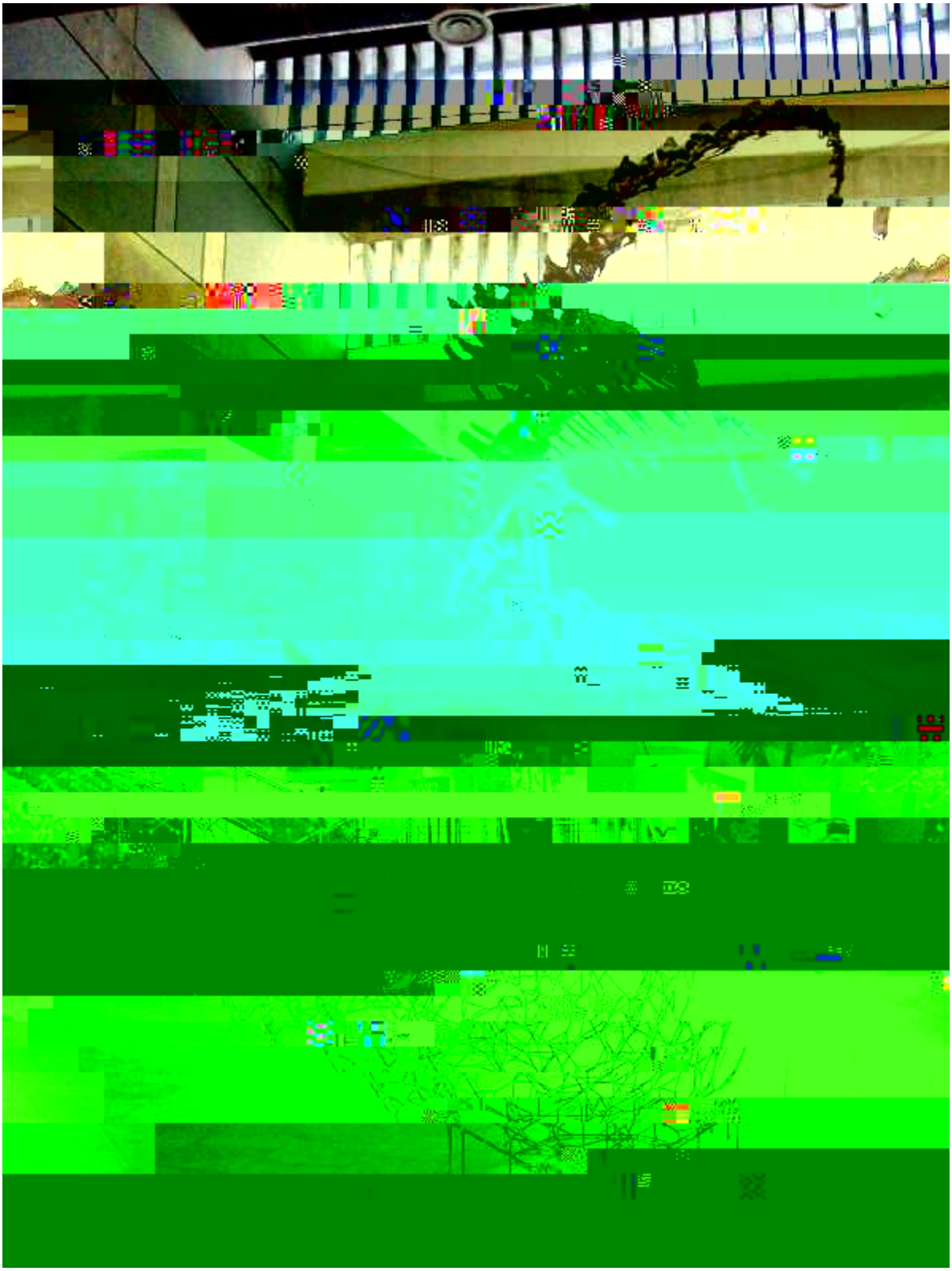
One would think that the story was finished, and to many it is. But some are not convinced that the Earth is slowing down by that much. Geophysicists have measured the deceleration of the Earth's rotation due to tidal friction and get a value that is about

Mathematical Art

Three exhibitions, collectively entitled *Rhythm of Structure: Beyond the Mathematics*, displayed contemporary work in mathematical art. The work of Brent Collins, Helaman Ferguson, Mike Fields, Bathsheba Grossman, George Hart, Charles Perry, Tony Robbin, and John Sims was featured in the Centre Gallery while the work of George Hart, Thomas Banchoff. Carlo Séquin, Chaim Strauss-Goodman were featured in the Museum of Science and Industry. And the work of Sol Lewit, Paulus Gerdes, and John Sims was featured at the Oliver Gallery. Students in the mathematics clubs (the USF chapters of the Mathematical Association of America and Pi Mu Epsilon) constructed a model of the parallel projection of a truncated four-dimensional 120-cell, with some kibbitzing by Conway (in yellow t-shirt at left), George Hart (standing left of Conway, with glasses), and Alex Feingold (in blue plaid shirt with back towards the camera).



The resulting ball was displayed in the Museum of Science and Industry lobby



Art displayed ranged from paintings to sculptures like:

Dirichlet Laplace Snowflake, a bronze sculpture by Helaman Ferguson

For more information, the interested reader can consult the review article, ***Knotting Mathematics and Art****, by George Hart & Natasha Jonoska, in the* ***Journal of Mathematics and the Arts****, 2:1 (2008), pp. 47 - 51.*

Transitions

Carol Willliams retired last winter after forty years at USF. She received her B.A. from Connecticut College in 1962, during which time she worked with Heinz Eichhorn at Wesleyan College as a computer programmer for NASA (back when computers read their programs from punched computer tape). "I made DO-loops by pasting the tape into loops before feeding them through the reader."

She went to Yale in the post-Sputnik era, receiving her doctorate in astronomy at Yale in 1967. In that Apollo era, she began working on one of NASA's great fixations, the precise location of the Moon. When Eichhorn came to USF, she followed, and stayed after the rest of the USF astronomers departed in 1979. She works in celestial mechanics and astrometry, and has received an Outstanding Research Award from Sigma Xi and an Outstanding Teacher Award from USF.

She is now a professor emeritus, and as can be seen from the feature article, still very much interested in the precise location of the Moon.

Sherwin Kouchekian came to USF from the University of South Alabama, Mobile, where he was an Assistant Professor. He received a M.S. in mathematics from the Royal Institute of Technology, Stockholm (Sweden) in 1993 and a Ph.D. in mathematics from the University of Tennessee, Knoxville, in 2000. He spent two years as a postdoc at Virginia Tech and another year at the University of Kentucky, Louisville. He received an NSF grant in 2005, and works in operator theory, function theory, and mathematical physics.

Wonkuk Kim came to USF from SUNY Stony Brook, where he was a graduate student and received a Ph.D. in applied mathematics and statistics in 2007. He had received a B.S. in nuclear engineering (1989) and a M.S. in mathematics (1993) from Seoul National University (Korea). He works in statistical genetics, mixture models, survival analysis, and data mining.

Gangaram Ladde came to USF from the University of Texas at Arlington, where he was a Professor of Mathematics. He received his B.Sc. (First Class) in chemistry, mathematics and physics, from People's College, Nanded (India) in 1963, M.Sc. (First Class First) in mathematics from Marathwada University, Aurangabad (India) in 1965, and Ph.D. in mathematics from the University of Rhode Island in 1972. Dr. Ladde's research interests are in dynamic reliability analysis and control; stochastic modeling of dynamical processes in biological, chemical, engineering, medical, physical and social sciences; time series analysis and applications; deterministic and stochastic qualitative and quantitative properties of dyna

Faculty News

Dimitry Khavinson and University of Northern Iowa Professor Genevra Neumann have answered an open question in astrophysics using complex analysis. Imagine that between the Earth and some very bright light source (like a quasar) there are *n* massive objects, small in size and relatively close to each other so that we could treat them as point masses lying on a common plane. Since the gravity of these massive objects bend the light from the light source, Earthlings perceive several images of the light source. If we can count the number of images of that light source, can we estimate the number of massive objects there are?

The "lens equation" that relates the images to the original source and to the massive objects involves a rational harmonic function of the form $r(z) = p(z)/q(z) - z^*$, where p and q are (complex) polynomials and "*" denotes complex conjugacy. The zeros of the function correspond to images of the light source. Khavinson and Neumann demonstrated that if $n > 1$ is the maximum of the degrees ... demonstrated that if)]TJto images -. TDn1 -1.32 can comial0 Tc

The Club participated in the conference **Knotting Mathematics and Art**, organized by the Department in November, helping mathematician George Hart build a model of the mathematical structure called “The Truncated 120 Cell” in the lobby of the Museum of Science and Industry (MOSI); see pictures at http://knotart.cas.usf.edu/graphicSite/. Math club members also attended the Suncoast Regional Meeting of the MAA in December at Eckerd College, and the Annual Meeting of the MAA Florida Section at Florida Southern College.

The USF Math Club has a new refurbished look thanks to Dane Harmon. Check them out at http://shell.cas.usf.edu/~mathclub/.

Last year, the officers of the Florida Epsilon Chapter of **Pi Mu Epsilon** were President Zach Jett, at ESF Midusced 1sixteenm1(u)-5.8(rbers)n DApril:

summa cum laude, Dionesia Kalos, *summa cum laude*, Jonathan Kessack, Brent Lewis, Cody Ligon, Cheryl Little, Adrienne Lobascio, Carissa Lyons, Joan Marius, Keith McLaughlin, *summa cum laude*, Karen Michalski, Michael Nachtigal, *summa cum laude*, Layna Nolan, Maya Ozek, Lai Price, Damione Puopolo, Nicholas Reithmaier, Jason Rosendale, *summa cum laude*, Toby Skaria, Laurie Sosa, Elizabeth Sweet, Maya Tarleva, Jacqueline Taxdal, *summa cum laude*, Christopher Valdez, Brian Vohaska, Howard Vorder-Bruegge, *magna cum laude*, Misty Vorder-Bruegge, *cum laude*, Matthew Wanson, Mathew Williamson, *cum laude*, Trystal Woods, and Gabriel Zayas-Caban, *magna cum laude*.

We also graduated fourteen masters' students this year: Julie Cholet, Egor Dolzhenko (*Transducer Dynamics* under N. Jonoska), Gary Dowd, Christine Fitch, Diego Grilli, Vindya Kumari, Xi Liu, Jinghan Meng, Tilahun Muche, Ricardo Restrepo, Toby Tiller, Vien Truong, Misty Vorder-Bruegge, and Mathew Williamson (*Kauffman-Harary Conjecture for Virtual Knots* under M. Saito).

And we awarded twelve doctorates of philosophy to: Dhruba Adhikari (*Applications of Degree Theories to Non-linear Operator Equations in Banach Spaces* under A. Kartsatos), Irena Andreevska (*Mathematical Modeling and Analysis of Options with Jump-Diffusion Volatility* under Y. You), Ibrahimou Boubakari (*The Leray-Schauder Approach for the Topological Degree of Perturbed Maximal Monotone Operators* under A. Kartsatos), Ibtisam Daqqa (*Subconstituent Algebras of Latin Squares* under B. Curtin), John Davis III (*Identification of Parameters When the Density of the Minimum is Given* under A. Mukherjea), Daniela Genova (*Forbidding and Enforcing of Formal Languages, Graphs, and Partially Ordered Sets* under N. Jonoska), Florence George (*Johnson's System of Distributions and Microarray Data Analysis* under K. Ramachandran), Armando Hoare (*Parametric, Non-Parametric and Statistical Modeling of Stony Coral Reef Data* under C. Tsokos), Alfred Mbah (*On the Theory of Records and Applications* under C. Tsokos), Shou Hsing Shih (*Forecasting Models for Economic and*
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