

## ***Building Bridges:***

*The 3<sup>rd</sup> Annual High School/College Conference*

***Quantitative Literacy: The New Challenge***

***Tuesday May 8, 2001***

*Brooklyn College Student Union Building*

*Campus Road & East 27<sup>th</sup> Street*

The Building Bridges Conference is sponsored by the City University of New York College Now Program; The National Science Foundation, Quantitative Reasoning Project; & The Freshman Year College, Brooklyn College.

Freshman Year College has been nationally recognized through the Theodore M. Hesburgh Award, USA Group Noel-Levitz Retention Excellence Award and The Templeton Guide: Colleges that Encourage Character.

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## Program

8:45 to 9:30 a.m. Breakfast & Registration                      Maroon Room                      6<sup>th</sup> Floor

### Opening Session

9:30 a.m.                      Greetings                      Gold Room                      6<sup>th</sup> Floor

**Louise Mirrer**, Executive Vice Chancellor for Academic Affairs, *City University of New York*

**Christopher M. Kimmich**, President, Brooklyn College

**Ellen Belton**, Dean of Undergraduate Studies, Brooklyn College

**Charles Majors**, Brooklyn High School Superintendent

10:00 to 11:00 a.m.                      Keynote Address

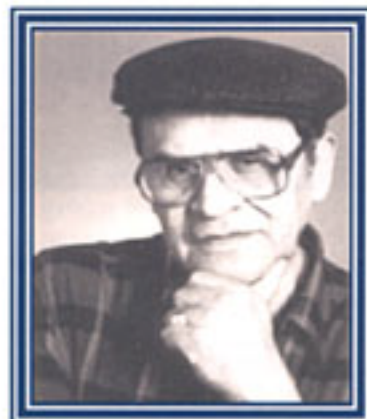
#### **Ganas: Creating the Desire to Learn**

##### **Jaime Escalante**

Jaime Escalante is a high school teacher who has helped underprivileged students set standards in mathematics that are all but unequalled in United States education. His teaching methods have made his school, which was plagued by poor funding, constant violence and atrocious working conditions, the seventh ranked school in the nation in calculus.

Mr. Escalante taught math and physics in Bolivia for 11 years. In 1964 he immigrated to the US. After receiving an AA degree in electronics, he worked with Burroughs Corporation. In 1974 he became a math teacher at Garfield high school.

Jaime Escalante is the subject of Jay Mathews' book Escalante: The Best Teacher in America and of the 1988 film Stand and Deliver. In 1999 he was officially inducted into the Teachers Hall of Fame.



11:00 to 11:30 a.m.                      Questions & Answers with Jaime Escalante

11:30 to 12:30 p.m.                      Panel Discussion                      **Teaching Quantitative Reasoning: What Counts**

##### **Moderator:**

**George Brinton**, Ph.D., teaches English and Computer Science at Brooklyn College. He has been a systems consultant, is Director of the Master of Arts in Liberal Studies Program and is a co-director of the Quantitative Reasoning Project, sponsored by a grant from the National Science Foundation. Dr. Brinton has published in such diverse fields as eighteenth-century English literature, contemporary poetry, psychometrics, and education

##### **Panelists:**

**Louise Hainline** is an experimental developmental psychologist with research interests in visual perception and the development of vision in infants. Her Ph.D. from Harvard University is in Developmental Psychology. Dr. Hainline's interest in human psychology extends to how people learn (and don't learn) in academic settings and how we can fit our pedagogy to student needs more effectively. She is one of the Directors of the NSF-funded "Quantitative Reasoning across the Curriculum" project.

**Jacqueline McDonald** is a new member of the Brooklyn College Faculty, having worked at the University of Toledo, Virginia Tech and Adelphi University. Her Ph. D. is from the University of Washington, where she studied performance differences between traditional paper/pencil assessments and computer administered assessments. Her specializations are in mathematics education and the use of computer technology in the education of children from early childhood through the middle grades. She has published work in a variety of mathematics education journals as well as *Taboo* and *The Reading Teacher*. Her interests focus on the development of mathematical reasoning through interdisciplinary instruction.

**Frederick P. Greenleaf** is Professor of Mathematics at New York University. In addition to his research interests in geometry and analysis, he has been one of the leaders of the effort to develop the three-semester math/science core curriculum "Foundations of Scientific Inquiry" taken by all non-science majors at NYU. As part of this effort he created many of the lecture and lab materials used in the first course of this program, Quantitative Reasoning.

12:30 to 2:30 p.m.

Conference Luncheon

Penthouse

Top floor

1:15 to 2:15 p.m.

Plenary Speaker



### **A Mathematician Reads the Newspaper**

#### **John Allen Paulos**

John Allen Paulos is Professor of Mathematics at Temple University, with a Ph.D. in Mathematics from the University of Wisconsin. Prof. Paulos has single-handedly created the role of "media mathematician," with numerous best selling books, articles, and web-based writings on the importance of mathematical literacy in modern society.

Among his six popular books are *Innumeracy* (on the NY Times best seller list for 18 weeks), *A Mathematician Reads the Newspaper* (on the reader's list of Random House Modern Library's 100 best non-fiction books of the century), and *Once upon a Number* (chosen by the LA Times as one of the best books of 1998). He has also authored many scholarly works on probability, logic and the philosophy of science and numerous articles on mathematical concerns for newspapers and popular journals. Prof. Paulos writes a monthly on-line column called "Who's Counting?" for ABCNews.com and appears frequently as a guest on television and radio programs.

2:30 p.m.

Workshops (Concurrent Sessions)

#### **Workshop I Internet Resources for Mathematics & Science**

Gold Room ~ 6<sup>th</sup> Floor ~ SUBO

**John Blamire** is a Professor of Biology at Brooklyn College. He has a Ph.D. in Biological Chemistry from Manchester University in England, and has worked at the Albert Einstein College of Medicine and Hunter College before coming to Brooklyn in 1973. Currently he is involved in developing a web-based system for teaching biology, but his research specialties in the past have included DNA, molecular genetics, cell biology and development.

**Chaya Gurwitz** received the B.S. degree with honors in computer and information science from Brooklyn College, Brooklyn, NY, in 1981, and the Ph.D. degree in computer science from New York University, New York, in 1986. She is currently a Professor in the Department of Computer and Information Science of Brooklyn College. Her research interests include numerical analysis, mathematical programming, Web technology and object-oriented programming. Her papers have appeared in scientific and education journals. She has developed extensive websites for several courses and has been active in the Brooklyn College Web Core and Virtual Core projects.

#### **Workshop II Building a Ninth Grade Science Learning Community**

Occidental Lounge ~ 5<sup>th</sup> Floor ~ SUBO

**George Moriber** is a Professor of Chemistry at Brooklyn College. He is the Deputy Chairman for the Graduate General Science Masters Program, and the Science Coordinator for the Science and Environmental MS Program in Elementary Education.

**Anthony G. Bottalico** is a member of the Brooklyn College staff teaching in the Virtual Core Laboratory, and Evolutionary Biology Laboratory. He is also a participant in The City University of New York's College Now Program. Mr. Bottalico holds a Masters in Philosophy and is also a Doctoral Candidate in Molecular, Cellular, and Developmental Biology at the Graduate Center of The City University of New York.

**Christian Soucier** is a doctoral student currently enrolled in C.U.N.Y.'s Ph.D. Program in Biology and will be receiving his M.A. in Biology from Brooklyn College in June 2001. He has recently been awarded an Informational Technology Fellowship through the Graduate School and University Center of C.U.N.Y. and has been using web-based technologies in the classroom for two years. Christian is completing his first year as a College Now mentor and is also responsible for the design and maintenance of the College Now Website.

**Sean Kelly** is an assistant professor of Physics at Brooklyn College. Professor Kelly has devoted the last year to developing course material for calculus-based physics for majors and engineers, algebra-based physics for other science majors and pre-med students, and an overview course (Core) for non-science majors. By utilizing the web, Professor Kelly has been able to supplement class material as well as foster better communication with students. Professor Kelly has also worked extensively with high school students in the College Now program and their teachers to enhance their understanding of scientific material through hands-on activities and quantitative projects.

**Ronald A. Eckhardt** is a Professor of Biology and has taught at Brooklyn College for over 30 years. He has taught a variety of courses for non-science majors, undergraduate science majors and both M.A./M.S. and Ph.D. level courses. Professor Eckhardt has been involved in a number of special projects in the NYC public school system including the current College Now 9<sup>th</sup> Grade Initiative. He has a strong interest in the use of computer technology in the delivery of course material and has developed virtual modules for use in one of Brooklyn College's Core courses. Most recently, he has been developing computer based science experiments for use in high school classrooms as a way of enriching the curriculum and to help stimulate students' interest in the sciences.

**Workshop III Quantitative Reasoning for Non-science Majors: the NYU Model**  
**Maroon Room ~ 6<sup>th</sup> Floor ~ SUBO**

**Andre Adler** is Coordinator of the Foundations of Scientific Inquiry program in the Morse Academic Plan, the core curriculum for the College of Arts and Science at NYU. He holds a Ph.D. in Physics from New York University and has taught in the Physics Department, as well as in NYU's core curriculum.

**Frederick P. Greenleaf** is Professor of Mathematics at New York University. In addition to his research interests in geometry and analysis, he has been one of the leaders of the effort to develop the three-semester math/science core curriculum "Foundations of Scientific Inquiry" taken by all non-science majors at NYU. As part of this effort he created many of the lecture and lab materials used in the first course of this program, Quantitative Reasoning.

**Workshop IV Using Current Events to Teach Quantitative Literacy**  
**Oriental Lounge ~ 5<sup>th</sup> Floor ~ SUBO**

**Timothy Shortell** is trained as a research methodologist and statistician. He received a Ph.D. from Boston College in 1993. He has published work on discourse analysis and quantitative methods. Professor Shortell teaches courses on research methods, data analysis, and social stratification. He has created innovative Web-based materials for teaching about social research and data analysis. His online statistics course was one of the first college courses fully available online. He is currently working on a study of Black Abolitionists in Antebellum New York State.

**Jerrold Mirotznik** received his B.A. from Brooklyn College in 1970, and his M.A. and Ph.D. from Rutgers University in 1973 and 1978, respectively. In 1988 he received an M.P.H. from Columbia University's School of Public Health. He has received two National Institute of Mental Health Post-Doctoral Fellowships as well as grants from the AARP Andrus Foundation, the Alzheimer's Association, the Arthritis Foundation, and the Professional Staff Congress of The City University of New York. He has previously taught at the Graduate School and University Center of The City University of New York, Kingsborough Community College, Mount Sinai School of Medicine and Rutgers University. His research has focused on the social etiology of disease as well as on the determinants of health behavior. His articles have appeared in such scholarly journals as *The Gerontologist*, *The Journal of Community Health*, and *The Journal of Health and Social Behaviors*.

**Workshop V Urban Issues/Global Issues: Brooklyn College at the Forefront**  
**123 New Ingersoll Hall**

**Martin Paul Schreiber**'s career of teaching and research has spanned almost forty years. He is credited with over 170 scientific citations and seven books. He is Distinguished Professor Emeritus of Biology and Director of Brooklyn College's new Aquatic Research and Environmental Assessment Center (AREAC) which is a teaching and research institute that studies issues and concerns from space biology and biomedical issues to the impact of urban communities on surrounding estuaries. Dr. Schreiber's research efforts have answered basic scientific questions in such diverse areas as osmoregulation, the genetic control of cancer, development and function of the reproductive system, aging, and the effect of environmental pollutants on physiology. This information has also had broad applied utility in diverse areas that include aquaculture, space and gravitational biology, regenerating life support systems, ecology, and conservation.