

**NJIT BOARD OF TRUSTEES**  
**Thursday, June 4<sup>th</sup>, 2009**

**PUBLIC SESSION MEETING**

**NJIT**

New Jersey's Science &  
Technology University

**PLEASE BRING TO MEETING**

**NEW JERSEY INSTITUTE OF TECHNOLOGY**  
**BOARD OF TRUSTEES PUBLIC SESSION**  
**June 4, 2009, 11:00 AM**

**Call to Order**

1. **Notice of Meeting to Public** (Statement to be read by the Chair, a requirement of the NJ Open Public Meeting Act)
2. **Public Comments**
3. **Action Items**
  - A. Approve minutes of the April 9, 2009 meeting of the Board of Trustees
  - B. Approve Promotion and Tenure Recommendations for 2008-2009
  - C. Approve Resolution to Establish MS in Mathematical and Computational Finance
  - D. Approve Resolution to Authorize Exclusive Intellectual Property License with Intellectual Ventures (IV)
  - E. Approve Resolution to Authorize Expenditure for Electricity and Natural Gas for FY 2010
  - F. Approve Resolution to Renew Student Health Insurance
  - G. Approve Resolution to Update Bank and Financial Institutions Account Authorizations
  - H. Approve Resolution to Engage Auditors for FY 2009 Audit
  - I. Approve Resolution to Amend Investment Policy
4. **Reports**
  - A. Ethics Training
  - B. Status of Budget, Tuition and Fee Schedule for FY 2010
  - C. Discussion of Development Growth Strategy
  - D. Report of Gifts and Fund Raising Activities
  - E. Operating Statement Year to Date
  - F. Schedule of Short Term Investments

**Announcement of Next Meeting**

Chair to read resolution regarding Closed Session to discuss Personnel, Real Estate and Contract Matters to be held on Thursday, July 16, 2009, 9:30 AM, Eberhardt Hall NJIT Alumni Center Board Room.

Announce next public meeting: Thursday, July 16, 2009, 11:00 AM, Eberhardt Hall NJIT Alumni Center Board Room.

**Adjourn Public Meeting**

**New Jersey Institute of Technology**  
**--innovative, entrepreneurial, engaged**

**Mission**

NJIT is the *state's technological research university*, committed to the *pursuit of excellence* ---

- in undergraduate, graduate, and continuing professional *education*, preparing students for productive careers and amplifying their potential for lifelong personal and professional growth;
- in the conduct of *research* with emphasis on applied, interdisciplinary efforts encompassing architecture, the sciences, including the health sciences, engineering, mathematics, transportation and infrastructure systems, information and communications technologies;
- in contributing to *economic development* through the state's largest business incubator system, workforce development, joint ventures with government and the business community, and through the development of intellectual property;
- in *service* to both its urban environment and the broader society of the state and nation by conducting public policy studies, making educational opportunities widely available, and initiating community-building projects.

NJIT *prepares its graduates* for positions of leadership as professionals and as citizens; *provides educational opportunities* for a broadly diverse student body; *responds to needs* of large and small businesses, state and local governmental agencies, and civic organizations; *partners with educational institutions* at all levels to accomplish its mission; and *advances the uses of technology* as a means of improving the quality of life.

**Vision**

A preeminent technological research university known for innovation, entrepreneurship, and engagement.

# **1. Notice of Meeting to Public**

**BOARD OF TRUSTEES**

**STATEMENT TO BE READ AT THE OPENING OF EACH  
MEETING OF THE BOARD OF TRUSTEES**

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**“NOTICE OF THIS MEETING WAS PROVIDED TO THE PUBLIC AS REQUIRED BY THE NEW JERSEY PUBLIC MEETING ACT, IN THE SCHEDULE OF MEETING DATES OF THE BOARD OF TRUSTEES OF THE NEW JERSEY INSTITUTE OF TECHNOLOGY WHICH WAS MAILED TO THE STAR LEDGER, THE HERALD NEWS, AND THE VECTOR ON MARCH 16, 2007. THIS SCHEDULE WAS ALSO MAILED TO THE COUNTY CLERK ON MARCH 16, 2007 FOR FILING WITH THAT OFFICE AND POSTING IN SUCH PUBLIC PLACE AS DESIGNATED BY SAID CLERK.”**

## **2. Public Comments**

**3A. Approve Minutes of the  
April 9, 2009 Meeting  
of the Board of Trustees**

**NEW JERSEY INSTITUTE OF TECHNOLOGY  
BOARD OF TRUSTEES  
MINUTES - PUBLIC SESSION (DRAFT)  
(April 9, 2009)**

1. The meeting was called to order by Acting Chairperson DeCaprio, at 11:20 a.m. Other Trustees in attendance were Vice Chair DePalma (telephonically), and Board Members Bone, Beachem, Cistaro, Garcia, and Knapp. Also in attendance were President Altenkirch, Mr. Mauermeyer, Board Treasurer, and Ms. Holly Stern, Board Secretary.

In accordance with the New Jersey Open Public Meeting Act, the Chairperson read the following statement:

“Notice of this meeting was provided to the public as required by the New Jersey Meeting Act, in the schedule of meeting dates of the Board of Trustees of New Jersey Institute of Technology which was mailed to the Star Ledger, The Herald News and Vector on March 16, 2007. The Schedule was also mailed to the City Clerk of Newark on March 16, 2007, for filing with that office and posting in such public place as designated by said Clerk.”

2. The Board meeting was opened to public comments. Dr. Eugene Golub, President of the NJIT PSA/AAUP made a presentation to the Board. He introduced two guests present at the open session, Ernie Benjamin, Chief Executive of the National AAUP, and Lucye Millerand, President of the Union of Rutgers Administrators and former NJIT employee. Dr. Golub discussed his objection to transitioning the across-the-board increases for faculty to zero percent over the life of the contract, and the removal of salary caps. He stated that currently an average of 10.43 faculty members per year receive the maximum amount of merit steps. He further stated that the administration’s proposal was not required to rewarding outstanding faculty, asserting that there were other means with which to reward outstanding faculty, such as summer pay, and maximizing the award of merit steps. He presented slides comparing faculty member salaries with and without the addition of the maximum amount of steps, and the full amount of allowable summer pay. He concluded that outstanding faculty can be adequately rewarded under the current system. He expressed that there were other means to deal with problem faculty, which he felt to be few in number, but cutting off salary increases to them was not the answer and would make them more bitter. He added that the PSA would work with the administration if there were issues of problem faculty. Faculty perform in a variety of areas, and excellence in all areas should be rewarded, not just research.



He asked why the PSA was the only public union facing the elimination of "COLA."

Dr. Golub further stated that in the past the union agreed to convert increments into merit, and claimed that during the same time period senior public administrators' salaries increased 13% per year. He further stated that moving to a merit system adds increasing amounts to outstanding faculty, and that COLA must be there or you run into serious problems. Teaching loads are increasing. With respect to the professional administrators, he stated the PSA feels that professional staff deserve just cause protection. He also indicated that the university budget for Division I athletics cost \$6 million per year. Finally, he handed out a petition that contained no signatures, but he indicated that 500 members of the PSA had signed it, and their signatures were available in the PSA office. He also handed out a copy of his remarks to the Board.

3. BY A MOTION DULY MADE BY MR. BONE, SECONDED BY MR. CISTARO, AND UNANIMOUSLY PASSED, the Board moved to go into closed session to discuss matters related to Personnel.
4. BY A MOTION DULY MADE BY MR. CISTARO, SECOND BY MR. BEACHEM AND UNANIMOUSLY PASSED, the Board moved to continue with the public session.
5. BY A MOTION DULY MADE BY MR. BONE, SECONDED BY MS. GARCIA AND UNANIMOUSLY PASSED, the minutes of the February 12, 2009 meeting were approved.
6. BY A MOTION DULY MADE BY MR. CISTARO, SECONDED BY MR. BEACHEM AND UNANIMOUSLY PASSED, the Board voted to approve the RESOLUTION TO CHANGE THE NAME OF THE BS IN INFORMATION SYSTEMS TO BS IN WEB AND INFORMATION SYSTEMS.
7. BY A MOTION DULY MADE BY MR. KNAPP, SECONDED BY MS. GARCIA, AND UNANIMOUSLY PASSED, the Board voted to approve the RESOLUTION TO ESTABLISH THE MS IN PHARMACEUTICAL BIOPROCESSING and the RESOLUTION TO ESTABLISH THE BFA (Bachelor of Fine Arts).
8. BY A MOTION DULY MADE BY MS. GARCIA, SECONDED BY MR. KNAPP AND UNANIMOUSLY PASSED, the Board voted to approve the RESOLUTION TO ADOPT IDENTIFY THEFT PROGRAM.
9. BY A MOTION DULY MADE BY MR. BEACHEM, SECONDED BY MR. BONE AND UNANIMOUSLY PASSED, the Board voted to approve the RESOLUTION TO ESTABLISH AN ONLINE TUITION RATE.

10. BY A MOTION DULY MADE BY MR. BONE, SECONDED BY MR. BEACHEM AND UNANIMOUSLY PASSED, the Board voted to approve the RESOLUTION TO AUTHORIZE EXCLUSIONS OF CERTAIN NJIT PERSONNEL FROM REQUIRED FILING.
11. Dr. Sebastian discussed research growth strategies, and presented a midyear review with respect to research growth. He reviewed the highlights of the past year, which include the completion of construction of the world's largest ground based solar telescope at Big Bear Solar Observatory; renewed support by the FHA of TELUS (Transportation and Economic Land Use System) project; being part of the team that was awarded a Center of Excellence for Border and Immigration Security; ACE (Nano Advanced Cluster Energetics) technology that was transitioned to production, NSF-funded Industry University Cooperative Research Center in its third year review, and our Mathematical Sciences Research and Development rated 37<sup>th</sup> in the United States. With respect to the research expenditure summary, we will probably be in excess of \$90 million by the end of the fiscal year. Our FY 10 priorities include securing new Department of Defense appropriations, building upon the NSF-ERC relations, expanding funding through DHS, the Center for NJ Business Force Partnership at Picatinny Arsenal, the Center for Building and Architecture Science program in sustainable design, and the BBSO suite of projects. With respect to federal stimulus funds, there is little available for higher education, though there are some prospects under the American Recovery and Reinvestment Act. Specifically we are looking at the NSF for new funding proposals, new research related to infrastructure grants, NIH supplements to existing grantees, and Newark infrastructure initiatives including water infrastructure, sustainable building, academic infrastructure and healthcare information systems.
12. Vice President Bloom summarized the previous discussion and board materials on FY 09 enrollment and FY 10 enrollment projections, noting that we expect a 6% growth in enrollment.
13. Dr. Altenkirch discussed issues relative to the FY 10 Budget. The Governor's full proposed budget document is now available, and currently it shows that no funds are allocated for FY'10 salary program money. We need to see how that plays out.
14. Dr. Altenkirch also reported that we successfully completed the NCAA Certification process for Division I Athletics. The certification process is analogous to an accreditation process, in that there is a self-study step, and receipt of certification. We met all the NCAA requirements. Next fall we will be fully vested. With respect to Dr. Golub's remarks to the Board, we do not in any way spend \$6 million per year on athletics. Of the funds that go to Division I athletics, the biggest amount is in athletics scholarships (\$1.6 million). These are dedicated funds, and they bring in Federal and state aid. As well, the athletics program has helped our enrollment growth, diversity and visibility for the university. Dr.

Altenkirch acknowledged Dr. Johnson as leading the effort with respect to successful completion of the NCAA self-study team.

15. Dr. Altenkirch updated the Board on the status of the university's purchase of Central High School. Currently the plans of the NPS to build a new West Side High School may have an impact on the timing of the closing, and there needs to be a conversation with NPS. The School Development Authority needs to resolve this within 60 days, so we will have an update for the June meeting.
16. Dr. Altenkirch also updated the Board on the status of the NJIT campus Gateway plan. Currently, there is a draft redevelopment agreement prepared that is under consideration by the City legal department.
17. Dr. Altenkirch further discussed the Facilities Plan, which he described as well thought out, and available on the university website.
18. Senior Vice President Mauermeyer reported on the Operating Statement for the Eight months ended February 28, 2009, and the Schedule of Short Term Investments. At this time we are two-thirds of the way through the fiscal year and the results are generally on track with the budget. A few points should be noted. The variance in the State Appropriations income reflects the mid-year cuts by the State. Our financial aid awards are essentially completed. On the Expense Report he noted that at this time we watch the encumbrances shown in the far right column to see that commitments do not exceed the budget. We are holding a number of positions vacant to cover this year's state cut and are reviewing personnel, and other budgets, for FY 10. With respect to the Schedule of Investments, the \$44 million reflects the tuition receipts for the spring semester. There will no further significant cash receipts beyond the appropriations until June. Cash flow will be monitored and there are no anticipated difficulties in meeting payroll and accounts payable through the end of the fiscal year.
19. Dr. Dees reported on gifts and fundraising activities. While we are running behind last year in the number of alumni donors, by the end of the year, we will be about where we were last year. Dr. Dees also noted that last year was a record breaking year in terms of donations. The Athletics Hall of Fame dinner is set for May 9<sup>th</sup>, and the invitations are out. This year's Celebration dinner will be on November 11<sup>th</sup> at the Pleasantdale Chateau.
20. The Chairperson announced that the next scheduled closed session would be convened on Thursday, June 4, 2009, at 9:30 AM, at Eberhardt Hall Alumni Center Board Room, to discuss personnel, real estate and contract matters. The following resolution was read and approved by all Trustees present.

WHEREAS, there are matters that require consideration by the Board of Trustees that qualify under the Open Public Meetings Act for discussion at a Closed Session;

NOW, THEREFORE, BE IT RESOLVED, that the Board of Trustees shall have a Closed Session to discuss such matters as personnel, real estate and contract matters on Thursday, June 4, 2009 at 9:30 AM, Eberhardt Hall Board Room.

The next Public Session of the Board will take place on Thursday, June 4, 2009 at 11:00 AM, Eberhardt Hall Board Room, following the Closed Session of the Board.

The meeting was adjourned at 12:50 pm.

**3B. Approve Promotion and  
Tenure Recommendations  
for 2008-2009 Systems**

To: Robert A. Altenkirch, President

From: Donald H. Sebastian, Provost (Interim) and Senior  
Vice President for Research and Development

Re: Promotion and Tenure Recommendations

Date: May 27, 2009

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After a year-long sequence of deliberations following the policies and procedures for promotion and tenure defined in the *Faculty Handbook*, those named below are recommended for promotion and/or tenure.

**Promotion to Distinguished Professor**

Dale Gary	Physics
Demetrios Papageorgiou	Mathematical Sciences

**Promotion to Professor**

John Bechtold	Mathematical Sciences
Woo Young Choi <sup>1</sup>	Mathematical Sciences
Lou Kondic	Mathematical Sciences

**Promotion to Associate Professor with Tenure**

Sergei Adamovich	Biomedical Engineering
Cristian Borcea	Computer Science
Carol Siri Johnson	Humanities
Victor Matveev	Mathematical Sciences
Richard Moore	Mathematical Sciences
Mesut Sahin	Biomedical Engineering

**Recommendation for Tenure Only**

Robert Friedman	Humanities
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<sup>1</sup> Choi – Promotion to professor with tenure

**RECOMMENDATION FOR PROMOTION TO DISTINGUISHED PROFESSOR**  
**2008 - 2009**

NAME	DEPT.	CURRENT RANK	DATE OF APPT. TO CURRENT RANK	DATE OF NJIT APPT.	DATE OF TENURE TRACK	DATE OF TERMINAL DEGREE	TERMINAL DEGREE
Dale Gary	Physics	Professor	2002	1997	1997	1982	Ph.D.
Demetrios Papageorgiou	Math	Professor	2001	1990	1990	1986	Ph.D.

**RECOMMENDATION FOR PROMOTION TO PROFESSOR**  
**2008 - 2009**

NAME	DEPT.	CURRENT RANK	DATE OF APPT. TO CURRENT RANK	DATE OF NJIT APPT.	DATE OF TENURE TRACK	DATE OF TERMINAL DEGREE	TERMINAL DEGREE
John Bechtold	Math	Associate	1996	1994	1994	1987	Ph.D.
Wooyoung Choi*	Math	Associate	2006	2005	2006	1993	Ph.D.
Lou Kondic	Math	Associate	2002	1999	1999	1995	Ph.D.

\* tenure also

**RECOMMENDATION FOR PROMOTION TO ASSOCIATE PROFESSOR WITH TENURE**  
**2008 - 2009**

NAME	DEPT.	CURRENT RANK	DATE OF APPT. TO CURRENT RANK	DATE OF NJIT APPT.	DATE OF TENURE TRACK	DATE OF TERMINAL DEGREE	TERMINAL DEGREE
Sergei Adamovich	BME	Assistant	2004	2003	2004	1988	Ph.D.
Mesut Sahin	BME	Assistant	2005	2005	2005	1998	Ph.D.
Cristian Borcea	CS	Assistant	2004	2004	2004	2004	Ph.D.
Carol S. Johnson	HUM	Assistant	2003	2002	2004	1995	Ph.D.
Victor Matveev	Math	Assistant	2003	2003	2003	1996	Ph.D.
Richard Moore	Math	Assistant	2004	2004	2004	2001	Ph.D.

**RECOMMENDATION FOR TENURE ONLY**  
**2008 - 2009**

NAME	DEPT.	CURRENT RANK	DATE OF APPT. TO CURRENT RANK	DATE OF NJIT APPT.	DATE OF TENURE TRACK	DATE OF TERMINAL DEGREE	TERMINAL DEGREE
Robert Friedman	HUM	Associate	2004	1994	2004	1993	Ph.D.

**SUMMARY INFORMATION ON  
PROMOTION AND TENURE CONSIDERATIONS  
AY 2008 – 2009**

**Submitted to the  
COMMITTEE ON ACADEMIC AFFAIRS AND RESEARCH  
BOARD OF TRUSTEES  
June 4, 2009**

**Vincent DeCaprio, Chair  
Anthony Knapp**

**Promotion to Distinguished Professor**

Five faculty members were under consideration for promotion to distinguished professor, two are being recommended to you:

*Dale Gary*, Department of Physics, joined NJIT as an associate professor in 1997; he was promoted to full professor in 2002. Since 1989, Dr. Gary has been the director of the Owens Valley Solar Array (OVSA), the only world-class solar radio array in the United States. He was instrumental in the transfer of ownership of the array from Caltech to NJIT. He has also played a lead role in the design and development of a new, much larger solar radio array, the Frequency Agile Solar Radiotelescope (FASR). Through Dr. Gary's efforts and those of the FASR team, the FASR project was ranked the number one priority in "small" projects by the National Academies decadal survey on Solar and Space Physics. He has pioneered the study of the effects of solar radio burst on Earth-based wireless communication and navigation systems. His work on a world-wide GPS outage due to a record radio burst in 2006 made national news including an appearance on CBS evening news. He holds numerous patents and is the recipient of the Thomas Edison Inventor of the Year Award. The recommendation letters received from outside experts on behalf of Dr. Gary were unanimous in their praise for his exceptional research accomplishments and his dedication to community service.

*Demetrios Papageorgiou*, Department of Mathematical Sciences, joined NJIT as an Assistant Professor in 1990; he was promoted to Professor in 2001. Dr. Papageorgiou is an internationally recognized leader in research in mathematical fluid mechanics and has amassed an impressive record of scholarly accomplishments. His research efforts have been continuously supported by external funding agencies such as NSF, NASA, and NATO. These funds have enabled him to not only vigorously pursue his own research, but have provided him with the resources to excel in another aspect of research for which he is noted – attracting and encouraging talented collaborators, especially junior colleagues at NJIT as well as world-class experts in his fields of specialization.



He has published sixty-nine papers most of which have appeared in the leading archival journals in applied mathematics and fluid mechanics. Professor Papageorgiou's efforts have served to direct attention to the excellence of not only his own research work but also that of the Department of Mathematical Sciences. In addition, the reference letters received from outside experts were unanimously and strongly supportive of his promotion to the rank of Distinguished Professor. It should be noted that Dr. Papageorgiou is currently on leave at Imperial College in London; his promotion is contingent upon his return to NJIT.

### **Promotion to Professor and Promotion to Professor with Tenure**

Of the four faculty members recommended by their departments for promotion to professor, three are being recommended to you.

*John Bechtold*, Department of Mathematical Sciences, joined NJIT as an assistant professor in 1994 and was promoted to associate professor in 1996. In his research, Dr. Bechtold aims to develop fundamental understandings of key physical processes arising in combustion phenomena through application of his considerable skills in asymptotic and perturbation techniques and appropriate use of numerics. He has tackled challenging problems and made significant contributions to the understanding of premixed and diffusion flames, liquid propellants, and material synthesis. External letters from distinguished experts note the high quality and relevance of Dr. Bechtold's contributions at the forefront of combustion research. He has an excellent teaching record having been awarded an NJIT Excellence in Teaching Award; he has also been named a master teacher. Dr. Bechtold has made significant contributions to the field of mathematical analysis of reactive flows. These contributions are widely recognized and used by experimentalists and have applications to important real-world problems. In addition he has provided sustained and significant leadership and service to his department and to the University.

*Woo Young Choi*, Department of Mathematical Sciences, joined NJIT as an associate research professor in 2005 and was named as an associate professor in 2006. He is being recommended to you for promotion to professor with tenure. Dr. Choi has a sustained record of excellence in research with major contributions to the field of nonlinear waves in fluid dynamics. He has already had an impact in terms of teaching, mentoring, and service during his short time at NJIT. He has made seminal contributions to the understanding of nonlinear waves in the atmosphere and in the ocean, both at the surface and internally. His work combines analytical modeling with numerical techniques. His research is interdisciplinary and he collaborates with oceanography, mechanical engineering, and naval architecture experts. Dr. Choi is a nationally and internationally recognized scholar for his contributions to non linear waves in fluid dynamics application who has demonstrated solid teaching, mentoring, and

grantsmanship skills. His efforts are important to the future of the Department of Mathematical Sciences and to the University.

*Lou Kondic*, Department of Mathematical Sciences, joined NJIT as an assistant professor in 1999 and was promoted to associate professor in 2002. He received tenure in 2004. Dr. Kondic is a well-respected researcher, working in areas of applied mathematics (thin film flow, granular dynamics) that generate continued activity and cross-over into areas of engineering and physics. Using his expertise in scientific computation along with his analytical skills and insights, Dr. Kondic has made important contributions to the understanding of thin film dynamics and to dense granular flows. He publishes in a variety of journals including top journals such as the *Journal of Fluid Mechanics* and the *Journal of Computational Physics*; his papers are of very high quality. He is a researcher of national and international prominence; he also excels in teaching and service, particularly with respect to the graduate programs in the Department of Mathematical Sciences. His accomplishments and efforts are critical to the future of NJIT.

#### **Promotion to Associate Professor**

The six faculty members recommended by their departments for promotion to associate professor with tenure are recommended to you.

*Sergei Adamovich*, Department of Biomedical Engineering, joined NJIT as an assistant professor in 2003. Dr. Adamovich continues to contribute to the long term strategic plans of the University as well as the department. Neural engineering has been identified by NJIT as one of three niche areas with great potential for NJIT and for the State of New Jersey. His work in neuromuscular control of human movement and sensorimotor learning has and will continue to make significant impact in this area as demonstrated by his record of accomplishments. He will continue to teach courses in biomechanics and neuromuscular rehabilitation which contributes to the undergraduate and graduate programs. Dr. Adamovich has and continues to earn substantial research funding from nationally reviewed sources (NIH – health and NIDRR – disability and rehabilitation research); he is the co-director of the Rehabilitation Engineering Research Center (RERC) for Children with Orthopedic Disabilities (National Institute on Disability and Rehabilitation Research). He regularly presents his work at national and international meetings.

*Cristian Borcea*, Department of Computer Science, joined NJIT as an assistant professor in 2004. Dr. Borcea's research interests are on the leading edge of computer science and are of interest to both academia and industry. The high quality, as well as the quantity, of his publications was clearly recognized by the outside reviewers selected by the promotion and tenure committee to evaluate his credentials. Dr. Borcea is a PI on two large NSF grants and a co-PI on four others. This is very impressive considering the highly competitive funding

environment. He deserves the credit for proposing to bridge two important fields in his research; namely, mobile communications and social networking. In addition, the scope of his research is broad enough to show promise for new possible synergies in the future. Dr. Borcea's teaching is excellent and meshes well with his research, leading to publications based on his teaching. Both his research and teaching are interdisciplinary by nature and his name is well established in the research community.

*Carol S. Johnson*, Department of Humanities, joined NJIT in 2002 as a visiting assistant professor and was appointed as an assistant professor in 2004. Dr. Johnson's research involves the history of technical communication and education assessment. She has been a leader at NJIT in incorporating innovative technologies and methodologies into her teaching. Her work is innovative and she skillfully combines her educational background in art, her industrial background as a technical writer, and her expertise as a historian in support of her teaching and research. Her work is known for its careful analysis, rigorous thinking, and new insights. Dr. Johnson's strong contributions to NJIT include introducing important innovations including web-based writing, document design, podcasting, and web-based portfolio assessment. In addition, Dr. Johnson has been the associate director of the Masters in Professional and Technical Communication program, has served on Faculty Council, and founded the NJIT Chapter of the Society for Technical Communication.

*Victor Matveev*, Department of Mathematical Sciences, joined NJIT in 2003 as an assistant professor. His research involves mathematical biology, in particular the role of calcium dynamics in computational neuroscience and cell biophysics. In these fields he is recognized as an innovative and independent scientist who has made a significant number of important contributions. Dr. Matveev has published twenty journal papers, six since coming to NJIT; he has six published abstracts and has delivered fourteen research presentations including some at prestigious conferences. He has received two NSF grants (for \$400K) as PI and is an investigator on two other major grants both of which contain educational training components. Dr. Matveev is an excellent researcher whose papers contain significant and relevant results. He has a strong record of obtaining funding, his teaching is excellent and his service to the department and university has been significant. Dr. Matveev has already made significant contributions to the Department's mathematical biology group and is expected to play a leadership role in the future.

*Richard Moore*, Department of Mathematical Sciences, joined NJIT in 2004 as an assistant professor. Dr. Moore is a very accomplished researcher in the areas of wave propagation and nonlinear optics. He has published 11 peer reviewed papers and has a major paper under review for a leading journal. Seven of his published papers were written since joining NJIT. Dr. Moore has earned funding as a principal investigator on two NSF grants; one on "Patterns, Stability, and Thermal Effects in Parametric Gain Devices" and the other on "Simulation of

Rare Events in Lightwave Systems". His reference letters come from experts in nonlinear waves and optics and are overwhelmingly supportive. His teaching evaluations have been outstanding over a broad span of both undergraduate and graduate courses. Dr. Moore has a solid research record, publishes papers in leading journals, and had made significant contributions to the computation and analysis of problems in non linear optics. His teaching excellence and dedicated service contribute strongly to the mission of the department and the university.

*Mesut Sahin*, Department of Biomedical Engineering, joined NJIT in 2005 as an assistant professor. Dr. Sahin's area of expertise is in the field of neural engineering which has been identified by this university as a niche area with high potential for NJIT and the State. Dr. Sahin's work in neural prostheses for disorders of the central nervous system such as spinal cord injury, stroke, and ALS has and will continue to have a significant impact in this area as demonstrated by his record of accomplishment. In terms of scholarly production, Dr. Sahin has published regularly in important journals in the field and has presented his work at appropriate and highly visible conferences in neural prosthetics and neural engineering. His involvement in professional societies includes chairing tracks and sessions. Dr. Sahin's proposal to the NIH entitled "Floating Light Activated Micro-Electrical Stimulators for Neural Prosthetics" has been favorably reviewed and therefore has a very good chance of being funded. He has created a new laboratory-based course in biomedical instrumentation and had previously revamped a graduate course in this area. He serves on departmental committees and represents the Department on the Faculty Council.

#### Tenure Only

*Robert Friedman*, Department of Humanities, joined NJIT as a special lecturer in 1994 and was appointed as an associate professor in 2004. Dr. Friedman's unusual background, including graduate degrees in Fiction, English, and Information Systems, has brought him to a multi-disciplinary perspective leading to contributions in literature and information technology as well as contributions at the intersection of these traditionally disparate disciplines. He is currently the director of the BS Program in Science, Technology, and Society whose enrollment and offerings have grown enormously under his guidance. Dr. Friedman has demonstrated excellence as a researcher who publishes, in leading journals, significant and highly relevant papers melding literature and information technology as well as papers concerning education. He has found a way to bring together the sciences and humanities in the best spirit of what NJIT strives for, yielding a perfect fit for his placement among tenured faculty. Through his research as well as through his excellence in teaching and his superior performance in areas of service with substantial responsibilities, Dr. Friedman has become an indispensable member of his department.

**3C. Approve Resolution to Establish  
the MS in Mathematical and  
Computational Finance**

## STATEMENT

### RESOLUTION TO APPROVE THE MS IN MATHEMATICAL AND COMPUTATIONAL FINANCE

The MS in Mathematical and Computational Finance delivers the theoretical knowledge, the practical methods and the essential skills needed for students to begin or enhance careers as quantitative analysts in the financial industry. Due to the evolving nature of financial markets and institutions, practitioners in this field must be ready to learn new ideas and methods across a broad range of disciplines including mathematics, statistics, computational science, finance, and economics. This program will provide the multidisciplinary foundations to prepare quantitative analysts for this life-long development of skills and understanding and for responsible participation in the financial systems. As the financial industry is highly concentrated around the New York City area, there is a high demand for practitioners of mathematical and computational finance in this region.

The proposed program is within the mission of the university, has received favorable independent external review, has received the approval of all appropriate standing committees and the faculty as a whole, is not unduly duplicative of other programs offered in the State of New Jersey, and has been the subject of a Program Announcement issued to institutions of higher education in the State of New Jersey. The incremental costs of the new program will be covered from the tuition and fees of the new students

RESOLUTION TO APPROVE THE MS IN MATHEMATICAL AND  
COMPUTATIONAL FINANCE

WHEREAS, the Board of Trustees has examined materials provided by the President of the university relative to a proposed program leading to the MS in Mathematical and Computational Finance; and

WHEREAS, the Board is satisfied that the proposed program is within the mission of the university, has received favorable independent external review, is not unduly duplicative of other programs offered in the State of New Jersey and that the proposed program has been the subject of a Program Announcement issued to institutions of higher education in the State of New Jersey. The incremental costs of the new program will be covered from the tuition and fees of the new students; and

WHEREAS, the Board of Trustees attests to the foregoing;

NOW THEREFORE BE IT RESOLVED, that the Board of Trustees approves the MS in Mathematical and Computational Finance

June 4, 2009

## PROGRAM ANNOUNCEMENT

Institution:	New Jersey Institute of Technology
New Program Title:	M.S. in Mathematical and Computational Finance
Degree Designation:	M.S. in Mathematical and Computational Finance
Degree Abbreviation:	
CIP Code and Nomenclature ( <i>if possible</i> ):	27.0399
Campus(es) where the program will be offered:	New Jersey Institute of Technology, Newark campus
Date when program will begin (month and year):	September 2009
List the institutions with which articulation agreements will be arranged:	None

Is licensure required of program graduates to gain employment?      No

Will the institution seek accreditation for this program?      No  
 If yes, list the accrediting organization:

### Program Announcement Narrative

Objectives	page(s) 2
Need	page(s) 2-4
Student Enrollments	page(s) 4-5
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## I. Objectives

The M.S. in Mathematical and Computational Finance delivers the theoretical knowledge, the practical methods and the essential skills needed for students to begin or enhance careers as quantitative analysts in the financial industry. Students graduating from this program will possess a broad knowledge of financial and capital markets including understanding of systemic risks, the ability to develop quantitative models of financial markets and instruments and the analytical, statistical and computational capabilities to analyze those models to obtain practical information of value in the financial industry. Due to the evolving nature of financial markets and institutions, practitioners in this field must be ready to learn new ideas and methods across a broad range of disciplines including mathematics, statistics, computational science, finance, and economics. The program aims to provide the multidisciplinary foundations preparing quantitative analysts for this life-long development of skills and understanding and for responsible participation in the financial system.

## II. Need

### A. Need for the Program

In the past several decades the field of Mathematical and Computational Finance, also known as Financial Engineering, has developed into a well established discipline that is in very high demand within the financial, investment and banking industries and increasingly in regulatory agencies. Practitioners of this field combine high-level analytical, computational and modeling skills with a thorough understanding of financial markets and instruments to assess value and risk. These assessments are needed to structure solutions to financial problems, to manage risk and to identify and exploit financial opportunities. As the financial industry is highly concentrated around the New York City area, there is a high demand for practitioners of Mathematical and Computational Finance in the region.

Current events, sometimes known as the Financial Crisis of 2007-2008, are having far-reaching impacts on the financial industry. With many firms restructuring and downsizing, employment in the financial industry including that for quantitative analysts is presently seeing significant contraction. One of the many lessons of these events, however, is that many financial institutions, particularly on the buy side, held or insured financial instruments which they did not adequately understand. As institutions seek to enhance their capacity to analyze these instruments the demand for quantitative analysts can be expected to grow dramatically. In the past, regulatory agencies have, at times, failed to develop sufficient technical capabilities to regulate financial innovations in a timely and adequate manner. As these agencies move to update their capabilities, further demand for quantitative analysts is expected. Although the financial and investment industries as well as the economy as a whole are in a period of great uncertainty, we

believe that these conditions also provide a great opportunity to educate practitioners who will contribute to the solution to the problems that now beset us.

#### B. Relationship to the University and State Master Plans

Research, teaching, economic development and public service combine to yield NJIT's mission. The proposed program brings the high technical proficiency enshrined in the NJIT name to the vital area of finance. By combining the analytical and computational strengths of the Department of Mathematical Sciences and the growing strength in finance of the School of Management and the significant technical capabilities of the College of Computing Sciences and the Newark College of Engineering, NJIT will be leveraging its existing resources to serve the needs of the state and region.

#### C. Relationship to Similar Programs in the State and Region

Mathematical and Computational Finance, and the closely related fields of Financial Engineering and Quantitative Finance, are rapidly growing disciplines that are in high demand in the region due to the concentration of the financial industry in New York City and the surrounding area. There are a number of graduate programs in the region that address this demand including:

- M.S. in Financial Engineering, Baruch College,
- M.S. in Financial Engineering, Columbia University,
- M.A. in Mathematics of Finance, Columbia University,
- M.S. in Quantitative Finance, Fordham University,
- M.S. in Quantitative Finance, Hofstra University,
- M.S. in Mathematics in Finance, The New School,
- M.S. in Mathematics of Finance, New York University,
- Master in Finance, Princeton University,
- M.S. in Financial Engineering, Polytechnic Institute of NYU,
- Master's in Quantitative Finance, Rutgers Business School,
- M.S. in Mathematical Finance, Rutgers University,
- M.S. in Financial Engineering, Stevens Institute of Technology,
- M.S. in Mathematics of Finance, SUNY Stony Brook.

The large number of programs in the area is a response to the very significant need for practitioners capable of analyzing complex financial problems. As the financial industry develops, this need can be expected to grow. It is widely recognized that many buy-side firms have overly relied on analysis from sell-side firms or third parties and thus failed to adequately protect the interests of their clients. The need of firms to address this shortcoming is expected to increase demand for quantitative analysts as the financial industry evolves in coming years.

The NJIT M.S. program in Mathematical and Computational Finance will have many distinguishing features which will help ensure the success of the program and its graduates. NJIT is well suited to offer such a program given the technological focus of the university and the increasingly mathematical and computational nature of finance. This program places a great deal of emphasis on simulation and leverages existing faculty strengths in computation and mathematics with the knowledge and practical Wall Street experience of the finance faculty. The final project will help prepare the students for productive careers by allowing them to bring together knowledge gained in prior courses to study a practical problem and to allow them to practice important professional skills such as working in teams and giving presentations.

#### D. Distinguished Programs Nationally

There are a number of distinguished programs including

- M.S. in Financial Engineering, U. C. Berkeley,
- M.S. in Computational Finance, Carnegie Mellon University,
- M.S. in Financial Mathematics, Stanford University,
- Master in Finance, Princeton University,
- M.S. in Financial Mathematics, University of Chicago,
- M.S. of Mathematics in Finance, New York University.

### III. Students

To enter the proposed program, students must have a mathematical background equivalent to that of a typical undergraduate major in the engineering, physical or mathematical sciences. Hence a typical candidate will have an undergraduate degree in science or engineering and will be seeking to apply the quantitative skills from this background to the financial industry. In some cases, such as NJIT students in the Mathematical Sciences selecting the option in Mathematics of Finance and Actuarial Science, students will have prepared as undergraduates to apply sophisticated mathematical skills to finance. In any case students in the proposed program will require a strong interest in finance in addition to strong quantitative skills.

Because of the high need for quantitative financial analysts and the interest already expressed by prospective students, we expect the first cohort to have around ten students. Combined with another fifteen new students in the second cohort the program is expected to have twenty-five students in its second year. Steady growth is expected to a steady state of fifty students in the program in about five years.

The project required of each student in the program will typically be organized with an industrial partner who will generally suggest the problem forming the basis for the project. Students will obtain both practical real-world experience and exposure to a potential employer.

#### IV. Resources to Support the Program

##### A. Course Development

There are ten required courses in the proposed program. As indicated in the table below, six of the courses currently exist, three have been developed and proposed to the Graduate Council and one, the project course, is under development. In addition to the ten required courses, an elective course is also required (see V. Curriculum for details).

<b>Course Number</b>	<b>Course Title</b>	<b>Status</b>
FIN 641	Derivative Markets	Existing
Math 611	Numerical Methods for Computation	Existing
Math 605	Stochastic Calculus	Existing
Math 646	Time Series Analysis	Existing
FIN 642	Derivatives and Structured Finance	Existing
FIN 643	Term Structure Models	Proposed
CS/Math 6XX	Simulation for Financial Engineering	Proposed
Math 608	Partial Differential Equations for Finance	Existing
FIN 644	Credit Risk Modeling	Proposed
FIN/Math	Financial Engineering Project	Under development

##### B. Faculty

Existing faculty in the Department of Mathematical Sciences and the School of Management will initially deliver the proposed curriculum. Members of the School of Computing and Newark College of Engineering will also contribute their expertise. Industry professionals with appropriate qualifications will be invited to teach courses frequently to enhance the practical education delivered by the program. While the existing faculty is able to deliver the curriculum in the early stages of the program, this faculty is shared among many programs and additional faculty will be needed as enrollment grows.

##### C. Libraries and Computing Facilities

The major finance journals to which NJIT already subscribes fulfill the primary need for scholarly journals for this program. A subscription to Risk Magazine would provide students with news on issues of current interest in the profession. A subscription to the SIAM Journal on Financial Mathematics is also needed.

Access to financial data is important to the practice of financial engineering. Publicly available data will suffice for the lecture classes in the program. For the project course, however, access to standard financial databases will be vital to giving students experiences that prepare them for work as quantitative analysts. Developing access to standard financial databases is therefore necessary for the program to effectively achieve its objectives.

While the computational needs of the students in the program are substantial, NJIT computing laboratories are already adequate to meet those needs. Through the student laboratories and the NJIT network (wired and wireless), students have access to a large number of computing platforms, including Windows PC's, UNIX workstations and high performance computing platforms (with appropriate research justification and approval). Through site licenses and other means, the University provides access to a wide range of software resources, including crucial mathematical and statistical software packages such as MATLAB, Mathematica, SAS, and SPSS.

#### D. Classrooms and Laboratories

The courses in the program are standard lecture style courses; facilities beyond those already available in the typical NJIT classroom are not needed.

Many courses in the program require substantial numerical computation. Capabilities beyond those of standard personal computers are not necessary, however. Hence, students will not ordinarily require access to computer resources beyond those provided in NJIT's student computing labs.

## V. Curriculum

Program Prerequisites Admission to the program requires students to have fulfilled the following prerequisites:

- Undergraduate finance (FIN 315 or equivalent)
- Practical computer programming skills in C/C++
- Two semesters of calculus-based undergraduate courses in probability or statistics
- Undergraduate calculus and multivariate calculus (Math 111, Math 112 and Math 213 or equivalent)
- Undergraduate differential equations (Math 222 or equivalent)
- Undergraduate linear algebra (Math 337 or equivalent)
- Exposure to partial differential equations as models such as is typical in undergraduate courses in electromagnetism, heat transfer, fluid dynamics, elasticity and quantum mechanics.

Students may be admitted conditionally and take missing prerequisites during the summer prior to commencing study.

Program Curriculum (33 credit hours)

<b>Semester 1 (Fall)</b>	
FIN 641	Derivative Markets
Math 611	Numerical Methods for Computation
Math 605	Stochastic Calculus
Math 646	Time Series Analysis

<b>Semester 2 (Spring)</b>	
FIN 642	Derivatives and Structured Finance
FIN 643	Term Structure Models
CS/Math 6XX	Simulation for Financial Engineering
Math 608	Partial Differential Equations for Finance

<b>Semester 3 (Fall)</b>	
FIN 644	Credit Risk Modeling
	Elective
FIN/Math	Financial Engineering Project

Program Electives (sample)

EM 602	Management Science
FIN 624	Corporate Finance II
FIN 626	Financial Markets and Institutions
FIN 650	Investment Analysis and Portfolio Theory
Math 644	Regression Analysis Methods
Math 647	Time Series Analysis II

Math 662	Probability Distributions
Math 665	Statistical Inference
Math 668	Probability Theory
Math 691	Stochastic Processes with Applications
Math 699	Design and Analysis of Experiments
Math 712	Numerical Methods II

Course Substitutions for Well-Prepared Students For students having already successfully completed the equivalent of a course required for the program, more advanced courses can be substituted with departmental approval. For example, students with a strong background in numerical computing might substitute Math 712, Mathematical Methods II, for Math 611. Students must have fulfilled the prerequisites for the substituting course.

# Evaluation of the NJIT proposed Masters Program in Mathematical and Computational Finance

## Prepared by:

Marco Avellaneda, Professor of Mathematics, New York University

May 6, 2009

## Executive Summary and Recommendations

**Findings:** Launching a M.S. in Mathematical and Computational Finance is a very positive development for NJIT. It will provide an environment in which individuals with strong numeric and engineering skills can be trained towards careers in the financial services area, adding value to our national and regional economy. It is also a good program to attract students from Asia and other regions, for which education in Financial Engineering in the East Coast, near financial centers, is highly regarded.

The reviewer conducted a series of interviews with faculty of the program in New York and at NJIT. The conclusion of these interviews is that the faculty resources and the curriculum are adequate and will accomplish the desired objectives.

**Recommendation:** Strongly recommended for approval.



## **A. Objectives**

The main objective of the program is to provide students with the theoretical knowledge and practical skills to pursue a career in Financial Engineering, as well as to enhance the knowledge of individuals already working in this area. Students graduating from the program will be able to work in the financial services industry ("sell-side") as well as investment management firms and regulatory bodies. Aside from a very strong presence of financial services in New York and New Jersey, many important regulatory and central bank institutions have a presence in New York, which is a very short commute from NJIT.

## **B. Need for the program**

Despite the recent financial crisis affecting US and European money-center banks, the outlook for careers in quantitative finance remains positive. Recent application statistics from similar programs signal a strong demand for education in quantitative finance from students from Asia, who are traditionally well-trained mathematically and in engineering and who seek to apply these skills in the financial sector. Additional demand is provided by Europe and Latin America, albeit to a less extent. Programs such as New York University's Masters in Mathematical Finance have seen a number of applications exceeding available slots by a factor of 30 (600-700 applicants for a program that admits 20 students).

The reason for this strong demand is the globalization of financial services. In recent years, we have seen the emergence of new trends in financial employment which were not foreseeable a decade earlier. These include

- The emergence of electronic exchanges and trading platforms that use cutting edge information technology;

- The transformation of European and Asian national banks into pan-national investment services providers;
- The liberalization of financial markets in China and the development of markets in India and Latin America;
- The need for a stronger and technically savvy regulatory framework in the U.S. and G8 nations.

The last item is particularly relevant for U.S. students. We expect that there will continue to be strong demand for employees by banks and investment management companies. At the same time, there is a need for improvement in the regulatory environment that will create more jobs in risk-management, audit and control of financial institutions.

### **Educational Programs**

The curriculum proposed by NJIT offers 10 courses. Of these, there are five core courses, centered on Numerical Methods, Time-Series Analysis, Stochastic Calculus, Partial Differential Equations and Simulation in Financial Engineering. The other five courses are Derivatives Markets, Structured Finance, Credit Risk Modeling and Financial Engineering.

The split between mathematics and finance seems balanced and will introduce students to the basic knowledge needed to begin productive employment in the field. The program emphasizes skills over specific “product knowledge” or normative practices. This approach of training generalists in the area of financial engineering, which later specialize in the workplace, has been very successful in other programs.

### **C. Faculty**

The consultant met with personnel from several departments at NJIT. In particular, discussions were held with Daljit Ahluwalia (department chair),

Jonathan Luke (Program Director), Elisa Michalopolou, David Horntrop, Michael Siegel and Gregory Kriegsman. All of these individuals are affiliated with Mathematics. Meetings were also held with faculty from the School of Management, namely professors Larry Eisenberg and Ronald Sverdlove. The latter professors have advised the mathematics department on the curriculum from the point of view of Finance and will be invaluable to provide advice on the curriculum.

During my visit, I also met with Provost Donald Sebastian, School of Management Dean Robert English, College of Science and Liberal Arts Dean Fadi Deek and Newark College of Engineering Associate Dean Layek Abdel-Malek, and I am confident that this program will receive the necessary support from all sectors of the university.

My impression through interviews is that the faculty is very capable of teaching these courses and guide students in this field. The interaction with finance professors at NJIT is highly advised and recommended. The most important asset of the program, however, appears to be the strong mathematical skills, applied to the area of Finance.

#### **D. Support Personnel**

It is my understanding that this program will be run out of the Mathematics Department. I assume that the support staff will be provided by them when the program is initiated. As the program matures, however, it will become important to the long term health of the program to have a program director able to dedicate substantial time to maintaining ties to the industry as well as the other aspects of the program. Hence, the department's plan to hire a dedicated director as the program reaches steady-state enrollment is very well founded.

#### **E. Finances**

The proposal includes a financial plan, as part of the overall business plan. It seems adequate.

#### **F. Physical Facilities**

The program will be run out of the Mathematics department building. Given the large number of classrooms and the initial size of the program, I see no objection here.

#### **G. Library**

Being relatively new to quantitative finance, NJIT inevitably lacks deep library resources in the area. The present resources, supplemented with the modest list of texts and journals that have been requested, will provide a solid foundation for building the collection in quantitative finance. Access to financial data bases such as CRSP and Compustat will certainly enhance student projects; these should be provided by the second year of the program when students begin their projects.

#### **H. Computer Facilities**

Ordinarily computing for this program can be carried out on laptop or desktop personal computers. A possible exception may arise for the project course where in a few cases more substantial computing resources may be needed. For these cases, it is noteworthy that NJIT operates two high-performance computing clusters and that the Department of Mathematical Science has extensive experience in providing high performance computing environments.

#### **I. Administration**

Dr Daljit Ahlualia and Dr. Jonathan Luke will be the primary administrators and also the people intellectually responsible for the program. Dr Ahlualia has extensive experience in higher education and has been director of the

NJIT Mathematics department for several years. Dr. Luke is a highly qualified applied scientist who is capable of providing executive guidance to the program at the required level. He will provide academic oversight and ensure that appropriate academic standards are met.

#### **J. Evaluation**

I find that the launching of a M.S. in Mathematical and Computational Finance is a good development for NJIT and for the NY/NJ area. It will provide an environment in which individuals with strong numeric and engineering skills can be trained towards careers in the financial services area, adding value to our economy. It is also a good program to attract students from Asia and other regions, for which education in Financial Engineering in the East Coast, near financial centers, is an important goal.

I believe that the program has excellent conditions to succeed, both in terms of the faculty, the facilities and its location. I give the NJIT M.S. in Mathematical and Computational Finance program the strongest possible evaluation and recommend that it be approved by the NJIT Board of Trustees.

New York, May 6 2009

Marco Avellaneda

Professor of Mathematics, New York University

Director, Division of Quantitative Finance

## Departmental Response to

### “Evaluation of the NJIT proposed Masters Program in Mathematical and Computational Finance”

Serving as consultant for the proposed M.S. in Mathematical and Computation Finance, Marco Avellaneda, Professor of Mathematics at New York University has prepared a report entitled, “Evaluation of the NJIT proposed Masters Program in Mathematical and Computational Finance.” The following is the response of NJIT’s Department of Mathematical Sciences (DMS) to this report.

Professor’s Avellaneda’s principle findings are that a strong demand for the proposed program can be expected, that job opportunities for graduates are expanding in the long run despite the current contraction in the financial industry and that NJIT has the capability to deliver a strong program in Mathematical and Computational Finance. The first two findings indicate that the proposed program, emphasizing high-level mathematical skills, can expect to produce graduates with excellent employment opportunities. The findings encourage us to maintain high mathematical standards and to recognize the importance of closely following changes in the financial and investment industries particularly during times of uncertainty and change. During his visit, Professor Avellaneda emphasized the increasing importance of risk management for our students; the assessment and management of risk will be an overarching principle in the delivery of the curriculum.

NJIT’s capacity to deliver the proposed program is rooted in several factors: high level quantitative capabilities at NJIT in general and within DMS in particular, the contributions of a strong group of faculty in Finance within the School of Management (SOM), proven academic leadership, NJIT’s experience with and commitment to providing essential resources. NJIT has a long history of delivering cutting edge technical programs; DMS is nationally recognized for its strength in the application of mathematics. This intellectual infrastructure provides the program with a solid foundation and deep resources on which it may draw. The finance faculty in SOM includes four members with extensive experience in mathematical and computational finance both in academia and in most cases in the industry as well. Indeed this group has collegially provided essential assistance to the development of this program. Professor Avellaneda finds that the proven leadership needed for such a program is found in DMS as well as in the senior administrators of the university. In many areas, such as computational infrastructure, Professor Avellaneda sees the resources as fully adequate for the program. In other areas such as the library and support personnel, a need for resources to grow with the program is indicated. We view his strong endorsement of the program as a vote of confidence in DMS and NJIT to obtain resources as needed.

We are heartened by Professor Avellaneda’s strong recommendation for approval, and we are hopeful that we will soon have the opportunity to educate students in the area of Mathematical and Computational Finance.

# Marco Avellaneda

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## Education

Licentiate in Mathematical Sciences (B.S. /M.S.), 1981, University of Buenos Aires

Ph.D. in Mathematics (Probability), 1985, University of Minnesota

## Academic

09/85 – Present Date: **New York University, Courant Institute of Mathematical Sciences**

Director, Division of Financial Mathematics	1998 -
Professor of Mathematics	1995 -
Associate Professor (tenure)	1990 - 1995
Assistant Professor	1988 - 1990
Research Scientist	1987 - 1988
Instructor	1985 - 1987

Research interests: Applied Mathematics, Applied Physics, Mathematical Finance, Econometrics of Financial Markets, Derivative Securities, Risk-management. Directed 15 doctoral dissertations since 1988

## Industry Research in Finance

1/2004-1/2005: **Capital Fund Management, S.A. (Paris)** (Leave of absence from NYU)  
Head of Volatility Arbitrage (Nimbus Hedge Fund)

Main activity: Directed team of 4 people that developed a new hedge fund specialized in trading options

- Developed relative-value trading strategies using equity options
- Back-tested RV strategies using US options database
- Directed team of programmers in implementation of full-scale trading platform
- Negotiated fees and market access with prime brokers
- Traded the strategies (90% electronic, 10% voice on CBOE)
- Participated actively in marketing of the fund to institutional investors
- Developed Eurozone strategy (not implemented)

12/96 - 02/98: **Morgan Stanley Dean Witter** (Leave of absence from NYU)  
Vice-President, Fixed-Income Research, Derivative Products Group

### **Consulting & Other Finance-related Activities**

1/2004-present: **Finance Concepts SARL**  
Founding Partner

Finance Concepts has 7 co-workers. Recipient of the 2004 ANVAR Prize for Young Innovating Company. Clients from 2004 to 2007 included Fortune 500 banks and corporations, such as Total, Cisco Systems, Mizuho Bank and Societe Generale

2/2002-1/2003 **Royal Bank of Canada Capital Markets**  
Consultant to the Head of Trading and Research of Structured Credit Derivatives

1/2001-5/2003: **Gargoyle Strategic Investments, LLC.**  
Partner, Proprietary Trading, Listed Equity Options

6/1999-9/1999: **BNP Paribas, Fixed-Income Research**  
Consultant to the Head of Research

1/1998-12/1998: **Morgan Stanley & Co**  
Consultant to the Model Review Committee, and to the Head of Fixed-Income Research

3/1996-8/1996: **Banque Indosuez, New York**  
Consultant to the Foreign-Exchange Derivatives Trading Desk

### **Academic Service**

9/1995-present: **Courant Institute Mathematical Finance Seminar**  
This venue brings together academics and practitioners in Mathematical Finance in a New York City event every week. It was one of the first seminars in Mathematical Finance in the country that promoted exchanges between the university and the finance community

1/2004-present: **University of Coimbra, Portugal, International Center for Mathematics**  
Member, Scientific Program Committee

1/2004-4/2004: **Institute for Mathematics and Its Applications, University of Minnesota**  
Lead Organizer, Period of Concentration of Mathematical Finance

1/2003 to 12/2003: **University of Nice**  
Visiting Professor, Institut J. Dieudonne

1/2002-12/2004: **American Mathematical Society, Committee of Science Policy**  
Appointed Member. Committee duties involved meeting with U.S. Representatives and staff on science policy matters

12/1996 -1/1997: **Ecole Polytechnique**  
Member, review panel for 5-year assessment of the Applied Mathematics Laboratory (CNRS)

9/1995-5/1996: **Institute for Advanced Studies**  
Visiting Member



1991- 1998:       **Short-term summer academic appointments**  
University of Paris VI, University of Paris VII, ETH-Zurich, Ecole Normale Supérieure de  
Cachan, Ecole Polytechnique, IMPA-Rio de Janeiro, University of Buenos Aires, Universidad  
Menéndez-Pelayo (Spain)

#### **Selected Invited Conferences**

**Institut Henri Poincaré**, *Conference in Honor of Nicole El Karoui*, 2004

**Stanford University**, *Conference in Honor of George Papanicolaou's 60<sup>th</sup> birthday*, 2003

**Scuola Normale Superiore di Pisa**, *Cattedra Galileiana*, 2001

**International Congress of Mathematicians, Berlin, 1998**, Invited 30 minute address

**International Congress of Mathematicians, Zurich, 1994**, Invited 30 minute address

#### **Books and Editorial**

*Quantitative Modeling of Derivative Securities* (with Peter Laurence), CRC Press, 1999

*Quantitative Analysis in Financial Markets, Vols. I, II, III*, World Scientific, 1999, 2000, 2001

*International Journal for Theoretical and Applied Finance*, Managing Editor, 1998- present

*Proceedings of IMA Workshop of Financial Modeling*, Springer, 2005 (with Rama Cont)

*Communications on Pure and Applied Mathematics*, Editorial Board Member

#### **List of Publications**

Attached separately

#### **Certifications**

NASD Series 7 and Series 63

#### **Languages**

English, Spanish, Portuguese, French, written and spoken fluently

Italian, conversational

#### **Brief Biography**

Elementary and high-school years in Rio de Janeiro, Buenos Aires and Paris. Moved from Europe to South America in 1970. Lived in Rio de Janeiro until mid-seventies and obtained a BS/MS in Mathematics at the University of Buenos Aires in 1981. Graduate studies at the University of Minnesota in the early 1980's. Joined the faculty of New York University in 1985. Extensive travel, with frequent visits to Latin America and Europe. U.S. Citizen since October 2002. Research focuses on the application of mathematics and statistics to real-life situations, and the development of technology that uses mathematics to handle information and data in real-time, such as statistical trading algorithms and risk-management.

**List of Publications**  
**Updated December 12, 2007**

**Quantitative Finance**

1. M Avellaneda and S Stoikov, High-frequency trading in a limit order book, *Quant. Finance* 2008
2. M Avellaneda, A look ahead at options pricing and volatility, *Quantitative Finance*, 2004
3. M Avellaneda, MD Lipkin, A market-induced mechanism for stock pinning, *Quantitative Finance*, 2003
4. M Avellaneda, D. Boyer-Olson, J. Busca, P. Friz, Reconstruction of Volatility: Pricing Index Options by the Steepest Descent Approximation, *RISK*, 2003
5. J Kampen, M Avellaneda, On parabolic equations with gauge function term and applications to the multidimensional Leland Equations, *Applied Mathematical Finance*, 2003
6. M Avellaneda, D Boyer-Olson, J Busca, P Friz, Application of large deviation methods to the pricing of index options in finance, *Comptes rendus de l'Académie des Sciences de Paris, Mathématique*, 2003
7. R Cont, M Avellaneda, Introduction to the special issue on volatility modeling, *Quantitative Finance*, 2002
8. KP Scherer, M Avellaneda, All for One and One for All? A Principal Component Analysis of Latin American Brady Bond Debt from 1994 to 2000, *International Journal of Theoretical and Applied Finance*, 2002
9. M Avellaneda, L Wu, Credit contagion: Pricing cross-country risk in Brady debt markets *International Journal of Theoretical and Applied Finance*, 2001
10. M Avellaneda, J Zhu, Distance to default, *RISK*, 2001, Distancia al Incumplimiento, *Spanish RISK*, 2002
11. M Avellaneda, R Gamba, Conquering the Greeks in Monte Carlo: efficient calculation of the market sensitivities and hedge-ratios of financial asset via Monte Carlo simulation, in *Proceedings of the First Bachelier Congress*, 2001, and in *Quantitative Analysis in Financial Markets*, vol II, 2001

12. M. Avellaneda, R Buff, C. Friedman, N Grandchamp, L. Kruk, Weighted Monte-Carlo: A new technique for calibrating asset-pricing models, *International Journal of Theoretical and Applied Finance*, 2001
13. M Avellaneda, Variance Swap Volatility and Option Strategies, *Derivatives Week*, Nov 2000
14. M Avellaneda, P Laurence, *Quantitative Modeling of Derivative Securities: From Theory to Practice*, Chapman-Hall, 2000
15. M Avellaneda, R Buff, Combinatorial implications of nonlinear uncertain volatility models: the case of barrier options, *Applied Mathematical Finance*, 1999
16. M Avellaneda, An Introduction to Option Pricing and the Mathematical Theory of Risk, *Probability Theory and Applications*, 1999
17. M Avellaneda, L Wu, Pricing Parisian-style options with a lattice method, *International Journal of Theoretical and Applied Finance*, 1999
18. M Avellaneda, editor: *Quantitative Analysis in Financial Markets: Collected Papers of the New York University Mathematical Finance Seminar Volumes I,II, III*, World Scientific, 1999, 2000, 2001
19. Y Zhu, M Avellaneda, A risk-neutral stochastic volatility model, *International Journal of Theoretical and Applied Finance*, 1998
20. M Avellaneda and J. Newman, Positive Interest Rates and Non-Linear Term-structure models, unpublished, *CIMS-NYU Working Paper*, 1998
21. M Avellaneda, A Carelli, F Stella, Following The Bayes Path to Option Pricing, *J. of Computational Intelligence in Finance*, 1998
22. M Avellaneda, Minimum-relative-entropy calibration of asset pricing models, *International Journal of Theoretical and Applied Finance*, 1998
23. M Avellaneda, The Minimum-Entropy Algorithm and Related Methods for Calibrating Asset-Pricing Models, *Proceedings of the International Congress of Mathematicians, Documenta Mathematica*, 1998
24. Y Zhu, M Avellaneda, An E-ARCH model for the term structure of implied volatility of FX options, *Applied Mathematical Finance*, 1997
25. M Avellaneda, C Friedman, R Holmes, D Samperi, Calibrating volatility surfaces via relative-entropy minimization, *Applied Mathematical Finance*, 1997

26. M Avellaneda, A Paras, Managing the volatility risk of portfolios of derivative securities: the Lagrangian uncertain volatility model. *Applied Mathematical Finance*, 1996
27. P Lewicki, M Avellaneda, Pricing Interest Rate Contingent Claims in Markets with Uncertain Volatilities, *Working Paper, Courant Institute of Mathematical Sciences* 1996
28. M Avellaneda, A Levy and A Paras, Pricing and Hedging Derivative Securities in Markets with Uncertain Volatility, *Applied Mathematical Finance*, 1995
29. M Avellaneda, Antonio Paras, Dynamic hedging portfolios for derivative securities in the presence of large transaction costs, *Applied Mathematical Finance*, 1994

#### **Statistics and Approximation Theory**

30. G Davis, S Mallat, M Avellaneda, Adaptive greedy approximations, *J. Constructive Approximations*, 1997

#### **Turbulence and Turbulent Diffusion**

31. C Apelian, RL Holmes, M Avellaneda, A turbulent transport model: Streamline results for a class of random velocity fields in the plane, *Communications on Pure and Applied Mathematics*, 1997
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Eric Ben-Artzi: New York University 2006  
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**3D. Approve Resolution to Authorize  
Exclusive Intellectual Property  
License with Intellectual  
Ventures (IV)**

**RESOLUTION TO AUTHORIZE EXCLUSIVE LICENSE OF  
UNIVERSITY INTELLECTUAL PROPERTY**

WHEREAS, the Board of Trustees of New Jersey Institute of Technology is empowered to direct and control the disposition of NJIT intellectual property if deemed necessary or advisable to carry out the goals of NJIT; and

WHEREAS, the Board of Trustees at its April 10, 2008 approved the execution of a one year Master Patent License Agreement with a subsidiary of Intellectual Ventures, which was executed on August 15, 2008; and

WHEREAS, a subsequent transaction under such Master Patent License Agreement is for the exclusive licensing of certain identified NJIT Intellectual Property.

NOW THEREFORE BE IT RESOLVED by the Board of Trustees of New Jersey Institute of Technology that the proposed exclusive licensing of the Intellectual Property by NJIT is hereby approved; and

THEREFORE BE IT FURTHER RESOLVED by the Board of Trustees of New Jersey Institute of Technology, that the Senior Vice President for Research & Development is hereby authorized to execute any and all agreements or documents on behalf of NJIT to consummate such licensing transactions.

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Holly C. Stern, Esq.  
General Counsel and  
Secretary to the Board of Trustees  
New Jersey Institute of Technology

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Date

**STATEMENT OF INFORMATION FOR  
EXCLUSIVE LICENSE OF NJIT INVENTION DISCLOSURES  
June 4, 2009**

**Introduction**

As part of its Intellectual Property ("IP") Program, NJIT assesses the commercial value of its Intellectual Property to determine the most appropriate avenue to achieve a return on its investment. Options include the exclusive licensing of Intellectual Property.

A subsidiary of Intellectual Ventures ("IV"), has expressed interest in acquiring an exclusive license to certain NJIT Invention Disclosures listed below for the life of each patent issued by the USPTO and/or foreign jurisdiction.

As the exclusive license of the Invention Disclosures and patent applications derived therefrom for the life of the patent essentially represents a disposition of NJIT property, the Board of Trustees is being asked to approve the same. A Resolution has been prepared for consideration.

**Background of Intellectual Ventures**

IV is a private company founded in 2000 by Nathan Myhrvold and Edward Jung, both former executives of Microsoft. The purpose of the company is to invest in innovations and technologies across a broad spectrum of industries (i.e., technology, biotechnology, consumer electronics, nanotechnology and others). IV has also acquired inventions and related IP from a combination of individual inventors, government agencies, and universities. IV's business plan is to group all acquired patents into clusters of like technology and then license the patents to potential users and/or infringers of each technology cluster. The goal is to derive more value than is likely to be attained from the licensing of any individual patent.

**Current Licensing Offer**

At its April 10, 2008 meeting the Board of Trustees authorized the execution of a one year Master Patent License Agreement, which was executed on August 15, 2008.

This request is for the exclusive license of additional Invention Disclosures with right to sublicense. IV will pay for all on-going patent prosecution costs levied by the USPTO and/or foreign jurisdictions, including issuance fees on allowed patents as well as maintenance fees that become due on any and all issued patents. If any of the patents are sublicensed to third parties, NJIT will also receive an annual royalty payment. A list of the individual Invention Disclosures included in this fourth request under the new Master License Agreement is found below.

After NJIT's reimbursement of associated out-of-pocket expenses, if any, the remaining net amount derived from the transaction shall be shared with the inventors pursuant to NJIT's current Patent Policy.

### List of Invention Disclosures

Efficient Pattern Matching with Support for Run-time Updates in Network Intrusion Detection Systems; Inventors: Sotirios G. Ziavras and Nitesh Bhicu Guinde; Provisional Patent Application Number 61/119,949 Filed 12/04/2008; NJIT Reference Number 09-014.

Generalized Fourier Transform with Efficient Algorithms and Improved Performance; Inventors: Ali N. Akansu and Handan Agirman-Tosun; Provisional Patent Application Number 61/161,274 Filed 03/18/2009; NJIT Reference Number 09-018.

Two-Shot Secondary MAC Cooperation Scheme for Spectral Sharing in Cognitive Radio Networks; Inventors: Osvaldo Simeone and Tariq Elkourdi; Provisional Patent Application Number 61/155,977 Filed 02/27/2009; NJIT Reference Number 09-022.

Camera Identification Using Moments of Characteristic Functions; Inventors: Yun-Qing Shi and GuanShuo Xu; Provisional Patent Application Numbers 61/150,384 Filed 02/06/2009 and 61/152,538 Filed 02/13/2009; NJIT Reference Number 09-026.

Computer Graphics Classification Based on Markov Process Model and Using Boosting Feature Selection Technique; Inventors: Yun-Qing Shi, Patchara Sutthiwan, and Xiao Cai; Provisional Patent Application Number 61/152,543 Filed 02/13/2009; NJIT Reference Number 09-027.

Detection of Double Compression of Audio Signals Using First Digit Law; Inventors: Rui Yang and Yun-Qing Shi; Provisional Patent Application Number 61/160,808 Filed 03/17/2009; NJIT Reference Number 09-030.

MP3 Bit Rate Quality Detection through Frequency Spectrum Analysis; Inventors: Yun-Qing Shi and Brian D'allessandro; Provisional Patent Application Number 61/176,737 Filed 05/08/2009; NJIT Reference Number 09-033.

Defeating Faked MP3; Inventors: Yun-Qing Shi and Rui Yang; Provisional Patent Application Number 61/150,370 Filed 02/06/2009; NJIT Reference Number 09-034.

Design of Different Single Carrier Block-Spread CDMA with MUI-Free Detection and Frequency Domain Equalization; Inventors: Yeheskel Bar-Ness and Kodzovi Acolatse; Provisional Patent Application Number 61/160,054 Filed 03/13/2009; NJIT Reference Number 09-042.

Performance of Single Carrier Block-Spread CDMA with Frequency Domain Equalization in Time-Varying Frequency Selective Fading Channel; Inventors: Yeheskel Bar-Ness and Kodzovi Acolatse; NJIT Reference Number 09-043.

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Location and Speed Estimation in Distributed MIMO Radar with Gaussian Pulse Train Waveforms; Inventors: Alexander M. Haimovich and Mohamed A. Haleem; Provisional Patent Application Number 61/155,825 Filed 02/26/2009; NJIT Reference Number 09-046.

Sidelobe Reduction in Distributed MIMO Radar with Multi-Carrier OFDM Signals; Inventors: Alexander M. Haimovich and Mohamed A. Haleem; Provisional Patent Application Number 61/155,829 Filed 02/26/2009; NJIT Reference Number 09-048.

Interference Subspace Tracking for Network Interference Alignment in Cellular Systems; Inventors: Alexander M. Haimovich, Bo Niu, and Osvaldo Simeone; Provisional Patent Application Number 61/155,833 Filed 02/26/2009; NJIT Reference Number 09-049.

Identifying the Network Coding Opportunity Algorithm (ICOP); Inventors: Nirwan Ansari and Nan Wang; Provisional Patent Application Number 61/160,067 Filed 03/13/2009; NJIT Reference Number 09-054.

Methods and Designs for Maximizing the Capacity of WDM PON; Inventors: Nirwan Ansari and JingJing Zhang; Provisional Patent Application Number 61/160,072 Filed 03/13/2009; NJIT Reference Number 09-057.

Computer Graphics Identification Using Moments of 1-D and 2-D Characteristic Functions and Boosting Feature Selection Technique; Inventors: Yun-Qing Shi and Patchara Sutthiwan; Provisional Patent Application Number 61/174,488 Filed 04/30/2009; NJIT Reference Number 09-063.

Utility Max-min Fair Resource Allocation for Diversified Applications in EPON; Inventors: Nirwan Ansari and JingJing Zhang; Provisional Patent Application Number 61/160,076 Filed 03/13/2009; NJIT Reference Number 09-064.

Camera-Model Identification Using Statistical Model Based On Markov Transition Probability Matrix; Inventors: Yun-Qing Shi and GuanShuo Xu; Provisional Patent Application Number 61/174,485 Filed 04/30/2009; NJIT Reference Number 09-065.

Methods for Achieving Efficiency and Fairness in Multi-Rate Passive Optical Networks; Inventors: Nirwan Ansari and JingJing Zhang; Provisional Patent Application Number 61/170,799 Filed 04/20/2009; NJIT Reference Number 09-073.

Design of a Differential Frame-based Scheduling Scheme for Input-Queued Switches with Guaranteed QoS and Low Complexity; Inventors: Nirwan Ansari and JingJing Zhang; NJIT Reference Number 09-076.

Peak to Average Power Ratio Reduction Method in Orthogonal Frequency Division Multiplexing Based Communications Systems Employing Generalized Discrete Fourier Transform with Selective Mapping; Inventors: Ali N. Akansu and Handan Agirman-Tosun; NJIT Reference Number 09-078.

SUPREM: An Application-Oriented Resource Allocation Scheme for Access Networks; Inventors: Nirwan Ansari and JingJing Zhang; NJIT Reference Number 09-084.

**3E. Approve Resolution to  
Authorize Expenditure for  
Electricity and Natural Gas  
for FY 2010**



**RESOLUTION TO AUTHORIZE  
EXPENDITURES FOR ELECTRICITY  
AND NATURAL GAS FOR FY 2010**

**WHEREAS, there exists a need to purchase electricity and natural gas through Public Service Electric & Gas Company Amerada Hess and other electricity and natural gas providers; and**

**WHEREAS, a cost effective combination of suppliers and transporters will be used to provide needed utilities; and**

**WHEREAS, it is estimated that amounts will not exceed \$9,121,000; and**

**WHEREAS, funds for these utilities will be provided in the FY 2010 budget**

**NOW, THEREFORE, BE IT RESOLVED that the Board of Trustees authorizes the President to execute the necessary contracts to purchase these utilities in an amount not to exceed \$9,121,000.**

**4 June 2009**

**STATEMENT  
RESOLUTION TO AUTHORIZE EXPENDITURES FOR  
ELECTRICITY and NATURAL GAS, FY 2010**

There exists a need to purchase electricity and natural gas for the campus from PSE&G, Amerada Hess and other electricity and natural gas suppliers and transporters. Shown below is the actual cost for FY 2007, FY 2008 and projections for FY 2009 and FY 2010.

	FY 2007	FY 2008	FY 2009	FY 2010
Utility Cost - \$ for Natural Gas & Electricity (\$000's)	6,662	7,489	8,184	9,121
Sq. Ft. (\$000's)	2,653	2,653	2,653	2,653
\$/sq. ft.	2.51	2.82	3.08	3.44
Cost of Electricity \$/kwh	0.125	0.162	0.164	0.172
Cost of Natural Gas \$/Therm	1.54	1.54	1.63	1.73

New and previously implemented energy conservation measures continue to have a positive effect on controlling costs. Some of these measures are shown below:

- Closure of one-half of the floors at the parking deck during the Summer
- Closure of Redwood (partial) and Oak Residence Halls for the Summer
- Summer compressed 4 day work week.
- Installation of energy efficient lighting.
- Use of Solar Energy
- Scheduling of Building Systems operations based on schedule of actual events.
- Campus wide - Photocell based illumination sensing controls for Exterior Lights
- GITC - Implementation of new DDC zone controls and installation of the energy efficient condenser water distribution system servicing the computer center.
- GITC - Installation of the new High Efficiency Chillers and Variable Drive Cooling system pumps and Variable Speed Controls for the Air Handling units.
- Demand monitoring computers installed in the Student Center, GITC, Weston Hall, Microelectronics and Tiernan Hall will monitor usage to shed load in high demand periods.
- Installation of the new high efficiency Heat Recovery unit in Oak Hall.
- Installation of the new high efficiency boilers in Kupfrian Hall will eliminate inefficiencies associated with the remnants of the Campus Wide Steam Loop System which has been replaced.

Factors having a negative impact on cost include:

- Continuing uncertainties of the energy markets
- Continuing increase in the use of facilities to accommodate 24/7 occupancy and expected increases in enrollment.
- PSE&G tariff changes

RESOLUTION - UTILITIES 2009-2010 rev 01.doc

**3F. Approve Resolution to Renew  
Student Health Insurance**

## STATEMENT

### RESOLUTION TO AUTHORIZE RENEWAL OF STUDENT HEALTH INSURANCE

As part of student service operations, the university provides all full-time undergraduate students with an accident policy paid from student fees. In addition, the university is required by statute to ensure that all full-time undergraduate and graduate students have basic hospitalization insurance coverage. Specific coverage for intramural and intercollegiate athletics is also provided and is included in the athletic department budget.

T.L. Groseclose Associates, Inc. and the risk management consulting firm of R. L. Myers completed a review and marketing of the Student Accident and Sickness Insurance program and the intercollegiate accident insurance plan during the months of April and May 2009.

T.L. Groseclose Associates, Inc. worked with several insurance carriers and developed a final offering of a two year agreement proposal increasing prescription and coverage limits while limiting price increases to the students. No price increases are anticipated for the 2009-2010 operating year.

With respect to the athletic insurance, there will be an increase to reflect the increase in sports related injuries. The current cost is \$110,000 and the FY 2010 policy cost will not exceed \$200,000.

The Dean of Student Services Office and the Health Service Department have been satisfied with the service provided by the current agent T.L. Groseclose Associates, Inc. and recommended that they be renewed.

4 June 2009

**RESOLUTION TO AUTHORIZE  
RENEWAL OF STUDENT HEALTH INSURANCE**

**WHEREAS,** there exists a continuing need to provide accident insurance for full-time Undergraduate students and insurance coverage for athletic activities, and,

**WHEREAS,** pursuant to public law, the university is required to ensure that all full-time, Undergraduate and graduate students have basic hospitalization coverage Insurance, and

**WHEREAS,** the costs of this insurance is covered by student fees, and

**WHEREAS,** a review of the existing insurance policies by risk management consulting firm determined the existing policy to be adequate in coverage and the level of service provided by T.L. Groseclose Associates, Inc. to NJIT and its students is as good or better than the other schools polled receive, and

**WHEREAS,** the agency, T.L. Groseclose Associates, Inc. 2009-2010 reports premiums for accident insurance for full-time undergraduate students of \$44 , the health care component is \$278 , and the lump sum Intercollegiate Athletic Policy is not to exceed \$200,000, and

**WHEREAS,** said agency now provides such coverage and claims services has performed satisfactorily and after a review with the Dean of Students Office and Health Service Departments, it is recommend that the proposal be accepted, and

**WHEREAS,** there will be funds budgeted for this purpose in Fiscal Year 2010.

**NOW, THEREFORE, BE IT RESOLVED,** that the Board of Trustees authorizes the President and Treasurer to renew the Student Health Insurance Program with T.L. Groseclose Associates, Inc. for the period ending August 2009 for accident insurance not to exceed \$44 for the full-time undergraduate student, \$278 per full-time undergraduate student for the health insurance and \$200,000 lump sum for the Athletic Policy.

4 June 2009

**3G. Approve Resolution to Update  
Bank and Financial Institutions  
Account Authorizations**

## **NEW JERSEY INSTITUTE OF TECHNOLOGY**

### **Statement Resolution To Update Bank and Financial Institution Account Authorizations**

The university maintains a general banking and investment resolution that authorizes certain officers or agents to transact the day-to-day banking duties on behalf of the university. Due to the changes in banking regulations under the US Patriot Act, the general banking and investment resolutions should be regularly updated and approved by the Board.

The primary operational accounts are with Wachovia Bank, NA, Inc. The diverse investment strategies as approved from time to time by the Joint Investment Committee or donor directives, require appropriate accounts to be established with the applicable fund managers.

The proposed resolution authorizes the following officers to conduct banking functions for the university:

1. President
2. Senior Vice President for Administration and Treasurer
3. Assistant Vice President for Finance and Controller
4. Associate Treasurer

**4 June 2009**



**Resolution To Updated Bank and Financial Institution  
Account Authorizations**

**Whereas,** The Board of Trustees has previously approved the maintenance of banking and investment accounts by the University and Foundation at New Jersey Institute of Technology at a variety of banks and financial institutions and

**Whereas,** from time to time said banks and financial institutions require updated Resolutions regarding the designation of authorized university personnel to conduct business transactions, and

**Whereas,** it is advisable to have several positions be authorized to execute the necessary documents, and

**Whereas,** it is recommended that the President, Senior Vice President for Administration and Treasurer, Assistant Vice President for Finance and Controller and the Associate Treasurer be so authorized,

**NOW THEREFORE, BE IT RESOLVED THAT:**

The following university personnel are designated agent or agents and are authorized to open required University checking and investment accounts in banks, brokerage houses, and other financial institutions and to execute documents as are required by designated financial institutions to transact business:

1. President
2. Senior Vice President for Administration and Treasurer
3. Assistant Vice President for Finance and Controller
4. Associate Treasurer

**4 June 2009**

**3H. Approve Resolution to Engage  
Auditors for FY 2009**

**RESOLUTION TO ENGAGE PROFESSIONAL  
ACCOUNTING FIRM FOR  
EXTERNAL AUDIT SERVICES**

- Whereas,** there is a requirement to retain an independent accounting firm to conduct an annual audit of the university's financial statements, and
- Whereas,** the Audit and Finance Committee of the Board recommends the selection of the accounting firm KPMG, and
- Whereas,** sufficient funds are available for this purpose,

**Now Therefore, Be It Resolved** that the Board of Trustees authorizes the retention of KPMG to perform the required independent audits of the University's financial statements for Fiscal Year 2009.

**4 June 2009**

**3I. Approve Resolution to  
Amend Investment Policy**

**RESOLUTION TO AMMEND POOLED ENDOWMENT FUND  
STATEMENT OF INVESTMENT POLICY OBJECTIVES & GUIDELINES**

**Whereas**, the Joint Investment Committee in accordance with the Endowment Fund Investment Policy adopted in 2002 by the NJIT Boards of Trustees and Overseers is responsible for setting investment guidelines within which the investment management firm(s) operate, and to monitor its/their performance and adherence to those guidelines and,

**Whereas**, the endowment portfolio is to be invested to maximize long-term total return, and the portfolio performance is expected to preserve or enhance the real value of the endowment and the purchasing power of income released to meet the approved spending rate and,

**Whereas**, at the request of the Joint Investment Committee, the investment advisor Convergent Wealth Advisors, Inc. continues an on-going analysis of the portfolio and recommends a continued diversification of investment portfolio in a rapidly changing economic environment and,

**Whereas**, the Joint Investment Committee, comprised of representatives of the Trustees and Overseers, has conducted a review of existing policies governing the investment with NJIT administration and the financial consultants of Convergent Wealth Advisors and,

**Whereas**, the financial consultants have recommended that the policy permit the acquisition of below investment grade bonds within the equity security investment vehicles to serve as “equity substitutes” provided that the allocation of the sum of the equities and the equity substitutes do not exceed the policy asset allocation limit for equity investment, and

**Whereas**, the Committee concurs with the consultant’s recommendation and recommends that Board Investment Policy be amended to permit same,

**Now, therefore be it resolved** that the Board of Trustees authorize a modification to the NJIT Pooled Endowment Fund Statement of Investment Policy Objectives & Guidelines to allow for the investment of below grade bonds to serve as “equity substitutes” within the equity security investment vehicles and subject to the overall asset allocation for equities, any investment made in these strategies must be made in structures enabling NJIT to liquidate within 24 months.

4 June, 2009

## **4A. Ethics Training**

## New Jersey Institute of Technology

### Board of Trustees'

#### ANNUAL NEW JERSEY STATE ETHICS BRIEFING - 2009

The New Jersey State Conflict of Interest Law requires that each officer of State departments, agencies, authorities, boards, commissions, colleges and universities must complete an annual Ethics Briefing. Below are the key points to the New Jersey State ethics laws, rules and regulations that pertain to all officers of NJIT. This briefing is designed to address some of the common ethics questions/issues.

**1) GIFTS AND FAVORS:** There is a zero tolerance policy for receiving gifts. You may not accept any gift, favor, service or thing of value from someone who conducts business with NJIT, which includes vendors and potential vendors. Any gift you receive related to your duties at NJIT must be sent to the Ethics Office for appropriate action. Please include the donor's name and contact information if known. If a perishable item is received, such as flowers, cookies, or fruit, please notify the Ethics Office for immediate pickup and these items will be donated to a local charity.

The ONLY exceptions to this rule are snacks at meetings or items of nominal value that you may receive at meetings or through mass mailings, such as pens, calendars, etc.

**2) ATTENDANCE AT EVENTS:** You may not be "wined and dined" by vendors or by people who conduct business with NJIT or who have the potential to. If you do have a meal with someone who conducts business with the University, you or NJIT must pay for your meal.

**3) COMPENSATION FOR OFFICIAL DUTIES:** You may not accept compensation or expenses for performing your role as an officer of NJIT from any individual or entity other than NJIT.

**4) CONFLICTS OF INTEREST:** As an officer of NJIT, you may not be involved in any matter in which you, your family, or your close friends have personal or financial interests that conflict with the proper discharge of your official duties. You should recuse yourself from the matter and ask someone else to perform the task. In addition, you must recuse yourself on an official matter if you had any involvement in that matter, other than on behalf of the State, prior to commencement of your NJIT service.

**5) EXPLOITATION OF OFFICIAL POSITION:** You may not use your NJIT position to secure a job, contract, governmental approval or special benefit for yourself, a friend, or family member. In addition, NJIT stationery shall be used only in connection with official NJIT business.

**6) PROHIBITION ON USE OF CONFIDENTIAL INFORMATION:** You may not accept employment or engage in any activity that may require or induce you to disclose confidential information acquired through your position at NJIT.

7) **NEPOTISM:** A relative of an appointed member of the governing board of an independent authority, board, commission, agency or instrumentality of the State may not be employed in any office or position in that entity. A relative is defined as your spouse, your spouse's parent, child, brother, sister, aunt, uncle, niece, nephew, grandparent, grandchild, son-in-law, daughter-in-law, stepparent, stepchild, step brother, stepsister, half brother or sister, whether the individual is related to the officer or the officer's spouse through blood, marriage or adoption.

8) **POST-EMPLOYMENT RESTRICTIONS:** After you leave your NJIT position, you may not represent or assist a person/entity concerning a particular matter if you were substantially and directly involved in that particular matter while an officer at NJIT. You may not use or disclose any information not generally available to members of the public, gained during the course of your employment.

9) **SEEKING FUTURE EMPLOYMENT:** NJIT officers who have direct and substantial contact with any interested parties must refrain from circulating resumes or in any manner seeking employment with those individuals or entities while still in NJIT service.

10) **EXECUTIVE ORDER #14:** The EO #14 Conflict of Interest form is to be completed by members of State college and university governing boards. The form must be completed electronically.

11) **OUTSIDE ACTIVITIES AND BUSINESS INTERESTS:** You should not undertake any employment or service, whether compensated or not, which might reasonably be expected to impair your objectivity and independence of judgment in the exercise of your official duties at NJIT.

The ethics laws, rules and regulations are available on the NJIT Ethics Web, <http://ethics.njit.edu>, and on the State Ethics Commission website, [www.nj.gov/ethics](http://www.nj.gov/ethics).

If you have any questions pertaining to these items or any ethics questions contact your Ethics Liaison Officer, Jean Feeney, at 973-642-4285 or via email at [ethics@njit.edu](mailto:ethics@njit.edu).



**4B. Status of Budget, Tuition and  
Fee Schedule for FY 2010**

## **4C. Discussion of Development Growth Strategy**

## DEVELOPMENT GROWTH STRATEGIES

The Highlander Athletics Campaign was successfully concluded and celebrated on May 9th at a combined Athletic Hall of Fame induction ceremony and campaign victory celebration, held on campus. The campaign raised \$5.2 million on a campaign goal of \$5 million. The mass appeal conducted this spring yielded \$3,600 from thirty-one donors.

President Altenkirch and Vice President Dees have begun the recruitment of volunteer leadership to form the nucleus of the Campaign Leadership Committee. To date, Drs. Altenkirch, Dees and Bloom have met with fifteen candidates. All but two of these prospects have accepted an invitation to join the leadership group, or are pending. Four prospect appointments are scheduled for June and eleven are to be scheduled over the next two months. The campaign case for support has undergone a number of revisions and will be presented to the Deans on June 11th. The case statement will continue to evolve over the summer months. The campaign plan, budget and policies have been drafted and await review and approval.

The Annual Fund effort this year is enjoying some increases, in spite of difficult economic times. Phonathon 2009 reached its goal of 4,000 pledges, which is a 4% increase in pledges over 2008. We are currently at a 79% collection rate high above the national average of 70%. In addition, the phonathon average gift is up 20% over last year. Part of this success can be attributed to a concentration on credit card donations which has increased 22% over last year. This year we added a phonathon initiative to all donors from the fall to make an additional gift in the spring. As of today this has seen a 4% response rate and more than \$4,000 in additional gifts.

The new Director of Annual Giving continues to work to expand Leadership Circle, recognizing donors who give annually at the highest levels and reinforcing their sustained membership. Efforts include the introduction of a new giving society focusing on young alumni. The goal of this new society is to have these young alumni at the President's Circle gift level through gradual increases in giving over their first 10 years after graduation.

Leadership Circle gift clubs now include: Eberhardt Society (\$25,000 or more), Weston Society (\$10,000-\$24,999), Founders' Club (\$5,000-\$9,999), President's Circle (\$1,000-\$4,999), Highlander Society (based on gift amounts and years since graduation), Dean's Club (\$500-\$999), and Annual Fellow (\$100-\$499). Other gift clubs include: Olympian Society (lifetime giving of \$1m or more), and the 1881 Society (planned gifts). The introductory invitation for the Highlander Society has recently been sent.

The 2008 Leadership Circle recognition dinner was also a great success. There were 127 attendees at this year's gala, a 35% increase over the previous year. The event's success

was highlighted by the participation of a guest speaker, New York Yankees announcer, John Sterling. Important changes are being implemented to increase attendance and assist with fundraising for the next Leadership Circle Gala. Plans include moving the event to spring of 2010.

Email communications and email appeals are also receiving a significant response this year. To date, \$8,522 has been donated through email appeals, an 18% increase over the same time frame last year. The "Green Beaver" appeal was a rousing success and raised more than half the funds received through this venue. A detailed report from the Pursuant Group regarding our last two years in e-communications is expected shortly and will help to craft 2010 strategies.

The overall development effort has been extremely productive this year. As of May 27, 2009 we have reached 102% of the goal for FY '09 with \$8,736,505 raised to date.

The development team has continued to cultivate and expand advisory boards and alumni councils, encouraging the involvement of deans and department chairs, and using one-to-one solicitation methods to the greatest extent possible. Fifty-four new board members have been added to Overseer, college, advisory and alumni boards since the beginning of this year.

Targeted dinners and receptions remain strategic to the cultivation process. This year three cultivation dinners were hosted by members of the Board of Overseers: Rick Bowles, Senior Vice President, Global Quality Operations, Schering-Plough Corporation, Rodney Dickens, until this month a Vice President at PSE&G, currently the newly appointed President of Allegheny Power, and Vince Naimoli, Chairman Emeritus/Founder, Tampa Bay Rays. These events, held at a restaurant in Kenilworth, at the home of President Altenkirch, and in the case of Vince Naimoli, at his New York City apartment, were attended by ten Vice Presidents from various disciplines at Schering-Plough, various business leaders from a range of engineering, design and manufacturing firms, the Executive Vice President of MLB and a number of significant benefactors. These cultivation initiatives targeting alumni and corporate contacts are intended to provide visibility for the President and the university, new contacts and potential new sources of support.

The economic downturn continues to have a challenging impact on the planned giving program's ability to secure gift annuities and charitable remainder trusts (split interest gifts). The interest rates offered to gift annuitants declined both in 2008 and 2009, but still remain higher than rates offered by banks for CDs and government obligations. Moreover, fund balances for trusts under management sustained a considerable decline during the last calendar year. Lower fund balances equate to lower payouts for our

beneficiaries during the current calendar year. This is hardly an appealing attribute for donors who are seeking to recover and preserve their assets.

As the markets begin to slowly rehabilitate, the Planned Giving Program must return its attention to securing the traditional bequest. As the capital campaign moves forward, bequest expectancies and other planned gifts will be a vital component of its success. The planned giving officer must collaborate with senior administration and major gift officers to encourage donors to make structured gifts to include (1) an annual gift to provide regular unrestricted support, (2) a major gift that is an outright gift for immediate use, and (3) a planned gift to be used by the organization in the future. Planned giving training sessions will be necessary not only for development staff, but also for external staff, volunteers and board members.

University Advancement is currently in the final stages of recruitment for two vacant positions. The Director of Development for NCE and a Planned Giving officer. We anticipate naming the new DOD for NCE this month and a Planned Giving officer shortly thereafter.

**June 2009**

## **4D. Report of Gifts and Fund Raising Activities**

Summary - 2007 (7/1/2006 to 4/30/2007) vs 2008 (7/1/2007 to 4/30/2008) vs 2009 (7/1/2008 to 4/30/2009)

Comparison of Total Giving Year to Date:

	2007	2008	2009
To All Sources:	\$7,064,617	\$11,474,642	\$8,552,234
To All Sources without Gifts in Kind:	\$5,965,554	\$9,397,826	\$7,185,838
Matching Gifts:	\$134,465	\$143,359	\$138,983

Comparison by Donor type year to date for 2007, 2008, 2009

Category	2007			2008			2009		
	\$ Giving	%	# Donors	\$ Giving	%	# Donors	\$ Giving	%	# Donors
Alum	\$1,587,193	22.47	4,118	\$2,832,250 <sup>1</sup>	24.68	4,325	\$2,463,320	28.80	3,832
Corp	\$2,999,485	42.46	381	\$3,975,757 <sup>2</sup>	34.65	412	\$3,345,471 <sup>3</sup>	39.12	348
Foundations	\$993,505	14.06	20	\$2,830,865 <sup>4</sup>	24.67	22	\$2,022,958 <sup>5</sup>	23.65	19
Friends	\$761,038 <sup>6</sup>	10.77	535	\$1,520,528 <sup>7</sup>	13.25	744	\$512,393	5.99	383
Other	\$723,396 <sup>8</sup>	10.24	23	\$315,242 <sup>9</sup>	2.75	20	\$208,091	2.43	23
<b>Totals:</b>	<b>\$7,064,617</b>	<b>100.0</b>	<b>5,077</b>	<b>\$11,474,642</b>	<b>100.0</b>	<b>5,523</b>	<b>\$8,552,234</b>	<b>100.0</b>	<b>4,605</b>

Year End Totals

Total Dollars	2007	2008	2009	% of FY 07 Funds Raised	% of Year Elapsed
	\$8,205,293	\$13,318,420	\$8,552,234	100%	100%
				163%	100%
				104%	83%

<sup>1</sup> Alumni - Burt Bequest \$192K, Stark Bequest \$90K  
<sup>2</sup> Corporations - Anonymous \$1.9M  
<sup>3</sup> Corporations - Anonymous \$1.2M  
<sup>4</sup> Foundations - Stabile \$1.5M  
<sup>5</sup> Foundations - Stabile \$1M  
<sup>6</sup> Friends - York \$300K  
<sup>7</sup> Friends - Murawski \$700K, Metz \$200K  
<sup>8</sup> Other - NJIT Student Senate \$300K, Vanguard (Dow) \$100K  
<sup>9</sup> Other - Vanguard (Dow) \$100K

# HIGHLANDER ATHLETICS CAMPAIGN INTERNAL UPDATE

Confidential – April 30, 2009

## Campaign Purpose

The purpose of the Highlanders Athletics Campaign is to raise funds necessary to upgrade selected athletics facilities and increase the amount of money available for athletic scholarships. A \$5 million goal has been set, which will provide \$3 million for athletics facilities, \$1.5 million for athletic scholarships and \$500,000 for program support.

<u>Campaign</u>	<u>2/28/09</u>	<u>3/31/09</u>	<u>4/30/09</u>
<u>Progress</u>			
Cash in hand	\$3,163,272	\$3,273,004	\$3,377,636
Balance of Pledges	\$1,925,224	\$1,818,520	\$1,727,253
Total	\$5,088,496	\$5,091,524	\$5,104,889

## Recent Highlights:

- Received \$100K Gift from Alumni Donor for Fencing Scholarship
- Received \$250K Gift from Alumni Donor
- Received \$100K CRUT Gift from Alumni Donor for Baseball Scholarships
- Received Final Payment of \$50k on \$250k pledge from Alumni Donor for Athletics Campaign

## Upcoming:

- Athletics Hall of Fame / Campaign Victory Celebration May 9, 2009



**4E. Operating Statement  
Year to Date**

A

NEW JERSEY INSTITUTE OF TECHNOLOGY  
STATEMENT OF CURRENT FUND REVENUES AND EXPENDITURES  
FOR THE TEN MONTHS ENDED APRIL 30, 2009  
(dollars in thousands)

RESTRICTED YEAR TO DATE (83%)					UNRESTRICTED YEAR TO DATE (83%)					
BUDGET	AMOUNT		% OF BUDGET		REVENUES	BUDGET	AMOUNT		% OF BUDGET	
	2008/2009	2007/2008	2008/2009	2007/2008			2008/2009	2007/2008		
					Education and General					
\$ 67,830	\$ 53,927	\$ 52,098	80%	81%	Tuition and Fees	\$ 105,586	\$ 106,406	101%	100%	
					Appropriations, Contracts, Gifts	80,685	65,621	81%	83%	
					Other sources	7,595	5,929	78%	92%	
					Allocated Balances	2,375	934	39%	55%	
67,830	53,927	52,098	80%	81%	TOTAL	196,241	178,890	91%	92%	
					Auxiliary Enterprises	12,260	11,897	97%	102%	
67,830	53,927	52,098	80%	81%	TOTAL REVENUES	208,501	190,787	92%	92%	
					EXPENDITURES					
					Educational and General					
	1,670	2,524			Instruction	71,800	62,149	87%	80%	
	29,307	28,883			Research	8,500	4,032	47%	65%	
	236	224			Public Service	3,300	2,769	84%	89%	
	292	215			Academic Support	20,700	15,185	73%	78%	
	1,664	1,448			Student Services	13,700	11,393	83%	87%	
	216	476			Institutional Support	27,900	24,427	88%	79%	
					Operation and Maintenance of Physical Plant	17,734	12,056	68%	79%	
	20,542	18,328			Financial Aid to Students	18,197	17,244	95%	102%	
67,830	53,927	52,098	80%	81%	TOTAL EDUCATIONAL & GENERAL	181,831	149,255	82%	81%	
					TRANSFERS	14,410	11,833	82%	84%	
67,830	53,927	52,098	80%	81%	TOTAL	196,241	161,088	82%	81%	
					Auxiliary Enterprises	6,948	5,883	85%	84%	
					Auxiliary Transfers	5,312	4,427	83%	83%	
					TOTAL AUXILIARY	12,260	10,310	84%	84%	
67,830	53,927	52,098	80%	81%	TOTAL EXPENDITURES & TRANSFERS	208,501	171,398	82%	82%	
\$ 0	\$ 0	\$ 0			EXCESS OF REVENUES OVER EXPENDITURES AND TRANSFERS	\$ 0	\$ 19,389			

B

NEW JERSEY INSTITUTE OF TECHNOLOGY  
EXPENSE REPORT  
FOR THE TEN MONTHS ENDED APRIL 30, 2009  
(dollars in thousands)

	CURRENT MONTH AMOUNT	YEAR TO DATE ACTUAL	BUDGET	83% PERCENT OF BUDGET		
				ACTUAL YEAR TO DATE	INCLUDES PRIOR YEAR	ENCUMBRANCES CURRENT YEAR
<b>ACADEMIC</b>						
Salaries & Fringe Benefits	\$ 8,076	\$ 84,353	\$ 103,323	82%	93%	93%
Equipment Purchases	92	1,543	2,816	55%	64%	73%
Financial Aid to Students	67	17,244	18,197	95%	102%	95%
Other Operating Expenses:						
Materials & Supplies	72	1,117	1,600			
Travel & Development	144	1,710	2,050			
Library Collections	160	978	1,064			
Other General Operating	574	5,332	8,686			
Total Other Operating	950	9,137	13,400	68%	87%	79%
<b>TOTAL ACADEMIC</b>	<b>9,185</b>	<b>112,277</b>	<b>137,736</b>	<b>82%</b>	<b>93%</b>	<b>92%</b>
<b>SUPPORT</b>						
Salaries & Fringe Benefits	2,207	24,535	26,289	93%	100%	114%
Equipment Purchases	18	185	417	44%	68%	67%
Utilities	318	6,851	9,005	76%	97%	98%
Other Operating Expenses:						
Materials & Supplies	63	700	920			
Travel & Development	89	366	489			
Other General Operating	276	3,407	4,600			
Total Other Operating	428	4,473	6,009	74%	100%	105%
<b>TOTAL SUPPORT</b>	<b>2,971</b>	<b>36,044</b>	<b>41,720</b>	<b>86%</b>	<b>99%</b>	<b>109%</b>
<b>TRANSFERS</b>	<b>1,185</b>	<b>11,833</b>	<b>14,410</b>	<b>82%</b>	<b>100%</b>	<b>100%</b>
<b>TOTAL ACADEMIC, SUPPORT &amp; TRANSFERS</b>	<b>13,341</b>	<b>160,154</b>	<b>193,866</b>	<b>83%</b>	<b>95%</b>	<b>96%</b>
Auxiliary Enterprises	515	5,883	6,948	85%	98%	99%
Auxiliary Transfers	443	4,427	5,312	83%	100%	100%
<b>TOTAL OPERATING EXPENSES</b>	<b>14,299</b>	<b>170,464</b>	<b>206,126</b>	<b>83%</b>	<b>95%</b>	<b>96%</b>
<b>EXPENSES FROM ALLOCATED FUNDS</b>	<b>35</b>	<b>934</b>	<b>2,375</b>	<b>39%</b>	<b>100%</b>	<b>100%</b>
<b>TOTAL UNRESTRICTED EXPENSES</b>	<b>14,334</b>	<b>171,398</b>	<b>208,501</b>	<b>82%</b>	<b>94%</b>	<b>95%</b>
<b>RESTRICTED</b>	<b>3,320</b>	<b>53,927</b>	<b>67,830</b>	<b>80%</b>	<b>81%</b>	<b>80%</b>
<b>TOTAL EXPENSES AND TRANSFERS</b>	<b>\$ 17,654</b>	<b>\$ 225,325</b>	<b>\$ 276,331</b>	<b>82%</b>	<b>91%</b>	<b>92%</b>

## **4F. Schedule of Short Term Investments**

NEW JERSEY INSTITUTE OF TECHNOLOGY

SCHEDULE OF INVESTMENTS  
AS OF APRIL 30, 2009

<u>Date Purchased</u>	<u>Maturity Date</u>	<u>Rate</u>	<u>TYPE</u>	<u>USBank</u>	<u>Wachovia Bank N.A.</u>	<u>City National Bank</u>	<u>Wachovia Securities</u>	<u>JP Morgan Asset Mgmt</u>	<u>Total</u>
--	Overnight	0.13	Bank Deposit Sweeps				\$ 117,313		\$ 117,313
	Varies	3.89	Fixed Income Securities -Govt Bonds				4,266,002		4,266,002
1/23/2009	7/24/2009	2.47	Certificate of Deposit			\$ 500,000			500,000
--	Varies	0.59	Prime Money Market Fund					\$ 2,282,383	2,282,383
--	Varies	0.92	US Treas & Agency Short Term Obligations	\$ 6,782,560					6,782,560
	Varies	0.92	Corporate Short Term Obligations	1,798,410					1,798,410
	Varies	2.67	US Government Issues	1,201,562					1,201,562
	Overnight	0.80	Evergreen Institutional Money Market	7,216,219					7,216,219
--	Overnight	0.56	Money Manager-Evergreen Institutional		\$ 15,618,000				15,618,000
				\$16,998,751	\$ 15,618,000	\$ 500,000	\$ 4,383,315	\$ 2,282,383	\$ 39,782,449
								Crossfoot	\$ 39,782,449

INVESTMENT AS OF APRIL 30, 2008 WERE \$44,174,059  
\* MONIES IN THIS ACCOUNT ARE INVESTED IN GOVERNMENT SECURITIES  
\*\* NET OF FEES

# **Chairperson's Closing Statement**

**BOARD OF TRUSTEES**

**RESOLUTION RE: CLOSED SESSION TO DISCUSS PERSONNEL MATTERS,  
REAL ESTATE AND CONTRACT MATTERS.**

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**WHEREAS, THERE ARE MATTERS THAT REQUIRE CONSIDERATION BY  
THE BOARD OF TRUSTEES THAT QUALIFY UNDER THE OPEN PUBLIC  
MEETINGS ACT FOR DISCUSSION AT A CLOSED SESSION.**

**NOW, THEREFORE, BE IT RESOLVED, THAT THE BOARD OF TRUSTEES  
SHALL HAVE A CLOSED SESSION TO DISCUSS MATTERS INVOLVING  
PERSONNEL, REAL ESTATE AND CONTRACTS TO TAKE PLACE ON  
JULY 16, 2009 AT 9:30 AM, EBERHARDT HALL NJIT ALUMNI  
CENTER BOARD ROOM.**