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<p>1. To produce a nuanced foundational analysis of the condition of City Tech women faculty in STEM disciplines as the baseline for identifying problems and prioritizing an agenda for action. Three perspectives will be employed – historical, sociological, and psychological – to analyze such relevant topics as structural impediments to advancement as well as psychological and social factors that may work against equity.</p>	<p>INTRODUCTION</p> <p>INTERNAL PLANNING COMMITTEE Bonne August, Provost and Vice President for Academic Affairs (PI) Pamela Brown, Dean of Arts and Sciences (Co PI 2008-2011) Victoria Gitman, Assistant Professor of Mathematics (Co PI) Delaram Kahrobaei, Associate Professor of Mathematics, (Co PI) Nadia Benakli, Associate Professor of Mathematics (2011) Reginald Blake, Associate Professor of Physics AE Dreyfuss, Project Manager Pa Her, Assistant Professor of Psychology, 2011 Hong Li, Associate Professor and Chair of Computer Systems Technology (2001) Janet Liou-Mark, Professor of Mathematics Maria Pagano, Associate Professor of Psychology (2008-2010) Marie Parnes, Assistant Professor of Psychology (2008-2010)</p> <p>EXTERNAL ADVISORY BOARD Benjamin Flores, Professor of Electrical Engineering and Acting Dean of the Graduate School, College of Engineering, University of Texas at El Paso Louise Hainline, Professor of Psychology and former dean, Brooklyn College, CUNY Vita Rabinowitz, Provost, Hunter College, CUNY Gillian Small, Vice Chancellor for Research, City University of New York</p> <p>1. DEVELOPING A NUANCED FOUNDATIONAL ANALYSIS The City Tech ADVANCE IT-CATALYST team collected and analyzed quantitative and qualitative data to develop an accurate assessment of the specific issues regarding the advancement of women in STEM areas at City Tech. Both survey data and institutional data were included. These data provide important evidence to support our analysis, undergird our plan to address these issues, and will serve as the baseline for measuring the effectiveness of future IT interventions.</p> <p>a. COACHE Survey. The Job Satisfaction Survey developed by COACHE (Collaborative on Academic Careers in Higher Education), a Harvard based program, was administered in Spring 2009 to all full-time tenured and tenure track faculty. The response rate was 55% for tenure-track and approximately 50% for tenured faculty.</p> <p>Per an agreement with the IRB, the data were sent directly from COACHE to the Office of Institutional Research and Assessment (OIRA) of The City University of New York (CUNY), where the data are housed. A staff member of the campus Office of Assessment and Institutional Research (AIR) worked at CUNY OIRA to analyze the data in response to questions</p>

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	<p>formulated by the City Tech ADVANCE Planning Committee. To provide context for the institution’s results, COACHE asks for a list of five institutions for use as comparative sites. City Tech identified the following institutions as peer institutions against which to benchmark findings: California Polytechnic State University at Pomona, California State University at Long Beach, Queens College CUNY, University of Michigan—Flint, UNC—Winston-Salem University.</p> <p>Tenure-track Faculty</p> <ul style="list-style-type: none"> • City Tech tenure-track faculty identified as the best aspects of working at the college: Geographic location (shared with 3 peers), diversity (3 peers), support of colleagues (2 peers), and “my sense of ‘fit’ here” (3 peers). Faculty in all categories (female/male, white/faculty of color) ranked diversity as one of the four best aspects. • Tenure-track faculty described as the worst aspects: compensation (4 peers), quality of colleagues (0 peers), too much service/ too many assignments (4 peers), and quality of facilities (1 peer). All categories except faculty of color ranked compensation as one of the four worst aspects. • COACHE asks faculty to rate policies as either “important and effective” or “important and ineffective.” Both female and male faculty wanted an upper limit on committee assignments. Results suggested some divergence between female and male faculty. Although males generally (57%) found formal mentoring effective, only 32% of female faculty did. Women also expressed a stronger need for child care (56% vs., 41% for men). • Overall, women’s responses were at least 10% lower than men’s in several areas: research (reasonableness of expectations as a scholar, amount of time to conduct research, satisfaction with expectations for finding external funding); mentoring (effectiveness of formal mentoring); work-life balance (way you spend your time as a faculty member, ability to balance between professional and personal time); efficacy and institutional support (discretion over course content; opportunities for participation in governance of institution; quality of clerical, research, and teaching services) <p>Tenured Faculty</p> <ul style="list-style-type: none"> • As tenure-track faculty found expectations unclear, especially for research, their tenured colleagues responded that they found a lack of clarity in the promotion criteria, expectations for scholarship, and the promotion process in their department. Women indicated more dissatisfaction, by as much as 31%, than men in these areas. • Time was an important theme for all women respondents. 66% of all respondents, male or female, were dissatisfied or very dissatisfied with the amount of time for research, but like their tenure-track colleagues, tenured women were more dissatisfied (20%) than men. Furthermore, 24% fewer women than men indicated satisfaction with the number of students in the classroom. • Weighing importance and effectiveness of policies, tenured women, like their colleagues on the tenure track express concern about work-life balance issues. 29% fewer women than men think the institution makes family and career compatible, and 22% fewer women think the department makes them compatible. <p>Additionally, subsequent to City Tech’s administration of the COACHE, the survey was administered under different auspices to untenured faculty at all CUNY senior colleges (Tenured faculty will be surveyed in Fall 2011), and this will</p>

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	<p>provide us with additional comparative data for that group.</p> <p>Data obtained from the COACHE survey served as a basis for discussions (focus groups) among faculty in May 2010. All faculty were invited, and participants were self-selected. Dr. Lisa Frehill, the External Evaluator, facilitated these sessions and summarized her findings in a report (July 14, 2010). General findings are:</p> <ol style="list-style-type: none"> 1) the peer review process for evaluating teaching should be examined and improved; 2) the expectation that City Tech faculty, like all CUNY faculty, must meet the University’s expectations for research demands adequate resources, including space, facilities, library resources, and time; 3) acknowledgment of a “generation gap” between faculty hired at City Tech when research was not emphasized, and the more recent faculty hires who understand that research is part of their “working portfolio;” 4) the relative ease of obtaining tenure but difficulty in attaining promotion at the College. <p>b. Affirmative Action data. The research team examined internal data provided by the Affirmative Action Officer, using the 2005-2006 academic year as the baseline period. Within each STEM department, data on the number of male and female faculty (full and part time) across all academic ranks were collected and analyzed by Profs. Maria Pagano and Marie Parnes. The information was used to support data collection in answering the NSF-12 questions.</p> <p>c. Institutional data. Data regarding hiring, tenure, promotion and attrition patterns were obtained from the Office of Instructional Staff Relations. These data were examined to find patterns within departments and across the institution and used to answer the collection of questions posed by the NSF “Toolkit” (NSF-12 Indicators). Data regarding leadership and advancement were compiled, such as the number of female STEM faculty holding administrative positions, the number of female STEM faculty who are department chairs, and the number of female STEM faculty who serve on departmental appointments committees (committees charged with recommending hiring, reappointment, and tenure).</p> <p>d. Key Informants. Sophia Catsambis, Sociologist, Queens College, CUNY, met with members of the ADVANCE Internal Planning Committee, and suggested that key informants be interviewed to obtain different perspectives from those of faculty. A session was held in November 2009 with the Provost and the five academic deans, which was taped and transcribed. The transcribed discussion was reviewed to draw out themes and issues, including good practices and problematic areas. These themes provided additional support for several findings of the COACHE and the focus groups regarding inadequate procedures, conflicting interpretations of expectations for faculty, the existence of a generation gap, and the presence of an unsupportive or even hostile climate in some departments, and thus helped inform discussions among members of the ADVANCE Internal Planning Committee.</p> <p>KEY FINDINGS</p> <ol style="list-style-type: none"> 1. Women are significantly under-represented in STEM Departments at City Tech. Although the college has been able to increase the hiring of women in STEM since 2004, in several cases adding the first woman faculty member to departments, retention is a challenge. Eight women have resigned or been denied reappointment, as opposed to three men. 2. In part because of historic gender imbalance in the STEM departments, women are significantly under-represented at the upper

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	<p>ranks in most STEM departments and on important committees. Disparities also exist in the rate of time spent in rank.</p> <p>3. As the college transforms itself from a largely associate-degree granting institution to a college of technology with a growing number of baccalaureate programs in STEM areas, research expectations have changed. Genuine confusion about the importance of research and the balance between expectations for service and research is compounded, however, by conflicting guidance, opaque departmental processes, and an unsupportive climate in some departments, resulting in career disadvantages for female STEM faculty.</p> <p>4. The gender gap in STEM departments is further compounded by a generation gap across the college caused by very limited hiring in the 1990's. Female faculty members at all professional levels seek mentoring support but find it lacking.</p> <p>5. While the college works to upgrade facilities, some critical resources (lab and office space) are in short supply. CUNY has provided research time for new faculty, but release time and support is more difficult to obtain for long-term faculty wishing to restart or continue a research agenda. Such disparities in resource allocation will require varying interventions to address. In the meantime, a degree of resentment is generated among some senior faculty.</p>
<p>2. To interpret, communicate to internal audiences, and disseminate to external audiences the findings of the gender equity self-study; being sure that the deans and department chairs are kept involved.</p>	<p>1. COMMUNICATING AND ACTING ON THE FINDINGS</p> <p>a. Sharing the COACHE Findings</p> <p>The COACHE data results were received during the Spring 2010 semester and used as the basis for the discussion groups facilitated by the External Evaluator. Because the pre-tenure report is lengthy (252 pages plus tables), the recommendations for dissemination were to:</p> <ol style="list-style-type: none"> 1) serialize the findings based on specific themes; 2) present a 2-3 page short “story” with graphics of successful practices, including existing resources that could be used by faculty; 3) use the website for dissemination; and 4) prepare “briefs” focusing on specific points with evidence could be presented to administrators. <p>The briefs were prepared as summary sheets by Victoria Gitman and Delaram Kahrobaei, and the PI presented the findings to the chairs of all the departments and received comments.</p> <p>These briefs were also distributed, along with a PowerPoint presentation at a dissemination meeting to which all faculty members were invited, which was held on December 1, 2010. The COACHE results and the results of the focus groups were presented by Provost Bonne August, P.I. of the ADVANCE grant as well as members of the ADVANCE Internal Planning Committee. Discussion was lively and the 15 faculty members who attended confirmed that the climate in certain departments is a real issue.</p> <p>b. Initiating Policy and Procedural Changes</p> <ol style="list-style-type: none"> 1). New Guidelines and College Forms for Reappointment, Tenure, and Promotion. In her capacity as provost, ADVANCE PI Bonne August convened a sub-committee of the College Personnel and Budget Committee to revise the forms used for reappointment and tenure. The sub-committee produced several documents: a revised Professional Development Plan, a

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	<p>new Professional Activity Report and Self-Evaluation form, and comprehensive Guidelines for the Faculty Personnel Process; these were approved by the P&B in April 2010 and have since been implemented college-wide. They serve both to inform the faculty member’s understanding of the policies, expectations, and procedures and also to support a more consistent understanding of policies and application of practices among the decision-makers (department chairs, department appointments committees, and College Personnel and Budget Committee).</p> <p>2). Training for Departmental Appointments Committees. The review and implementation of the new forms and guidelines have provided a rationale for mandatory training for departmental Appointments Committee members held at the start of each semester since 2009. These sessions have been conducted by a team consisting of the Director of the Faculty Commons, Professor Julia Jordan; the Director of Instructional Staff Relations, Michelle Harris; and the ADVANCE project manager, AE Dreyfuss, a learning specialist. Issues identified during the data gathering have provided the topics of the sessions, which include 1) Issues facing new faculty and how they should be advised (August 2009); 2) Evaluation criteria for tenure and promotion (January 2010); 3) Peer observations (August 2010); 4) Self-evaluation component of the Professional Activity Report (PAR) (January 2011); and models for preparing thoughtful self-evaluations September 2011).</p> <p>3). Disseminating to CUNY. A CUNY-wide “forum,” <i>Inspiring Women Scientists</i>, was held at the CUNY Graduate Center on September 24, 2010. Pam Brown, Co-PI on the ADVANCE grant, was a member of the planning committee. Speakers included Gillian Small, Vice Chancellor for Research, CUNY, who is a member of the ADVANCE IT-Catalyst External Advisory Committee. The City Tech ADVANCE team presented a poster: “Research, Reflect, Plan: NSF ADVANCE IT Catalyst Grant at New York City College of Technology, CUNY.”</p>
<p>3. To conduct research on best practices in achieving gender equity gathered from ADVANCE Institutional Transformation projects around the country and identify those most suitable for adaptation or adoption.</p>	<p>3. GATHERING AND SHARING KNOWLEDGE FROM OTHER ADVANCE INSTITUTIONS</p> <p>a. Video Conferencing and Face-to-Face Meetings with Other ADVANCE Institutions. In Year 1, visits and contacts with other ADVANCE sites were initiated. These have helped provide examples of issues, barriers, and guidance for City Tech’s ADVANCE project.</p> <ol style="list-style-type: none"> 1. UTEP. A videoconference was held on January 12, 2009 between City Tech and University of Texas, El Paso (UTEP). Present at City Tech were: Bonne August - Provost and PI of ADVANCE grant, Delaram Kahrobaei, Victoria Gitman – Co-PIs; Reggie Blake, Janet Liou-Mark – Internal Planning Committee members; and AE Dreyfuss – Project Manager. Present at UTEP: Evelyn Posey – PI of ADVANCE grant (English Department); Patricia Witherspoon-PI of ADVANCE grant (Dean of Graduate School, Communications); and Ben Flores, PI, Model Institutions of Excellence, and member of City Tech’s External Advisory Committee. 2. RPI. An audio-conference was held on February 5, 2009 between City Tech and Rensselaer Polytechnic Institute (RPI). Present at City Tech were: Bonne August - Provost and PI of ADVANCE grant; Pamela Brown, Dean, School of Arts & Sciences; Delaram Kahrobaei, Co-PI; and AE Dreyfuss – Project Manager. Present at RPI: Cheryl Geisler, PI, “Ramp up” Project, and Chair of Rensselaer’s Department of Language, Literature and Communication. 3. Hunter College. The City Tech Advance team met at City Tech on March 20, 2009 with Vita Rabinowitz, Provost of Hunter College, CUNY, and Co-PI of the Gender Equity Project, and Annemarie Nicols-Grinenko, Director of Programs

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	<p>and Research, Gender Equity Project. Present from City Tech were Bonne August, Pamela Brown, Reggie Blake, Victoria Gitman, Delaram Kahrobaei, Janet Liou-Mark, Marie Parnes, Maria Pagano, and A.E. Dreyfuss.</p> <p>b. Participating in the ADVANCE Network</p> <ol style="list-style-type: none"> 1. Two faculty members were accepted to attend a workshop on institutional change, the Science and Technology Excellence Program (STEP), sponsored by ADVANCE at the University of Michigan on May 26-28, 2009. Lisa Pope Fisher and Howard Sisco, Assistant Professors, Social Sciences Department, had submitted a proposal to conduct workshops on how to write successful refereed publications. 2. Bonne August, PI, with Delaram Kahrobaei and Victoria Gitman, co-PIs, attended the ADVANCE meeting in October, 2009 and presented a poster. 3. Hong Li, Associate Professor in Computer Systems Technology, attended the “Mid-career” meeting at Auburn University, Auburn, AL, in May 2010, and returned with a report with multiple suggestions for programmatic ideas directed toward enhancement of mid-career women faculty (of which she is one). She has since become department chair. 4. Delaram Kahrobaei, co-PI, attended the NSF Joint Annual Meeting in June 2010. 5. Bonne August and Pam Brown attended the ADVANCE meeting in October 2010 and reported on several exciting models, including a peer mentoring project where the project pays for faculty to meet twice a year, and every two weeks there is a meeting online. 6. Co-PI Delaram Kahrobaei and Nadia Benakli attended the “FORWARD to Professorship Workshop” held in Washington, D.C. from May 23-26, 2011. <p>c. Reading Key Texts on Gender Equity in STEM. The members of the ADVANCE Internal Planning Committee read and discussed Virginia Valian’s <i>Why So Slow?</i> and also reviewed chapters in <i>Transforming Science and Engineering</i> by Abigail Stewart, Janet Malley, and Danielle LaVaque-Manty, to examine themes and social science theories. Chapters were summarized by team members and compiled by Victoria Gitman and Delaram Kahrobaei. This grounding has helped to frame the analysis of data and also provided several important themes and theories that can be implemented to support institutional change at City Tech.</p> <p>d. Outreach Activities</p> <ol style="list-style-type: none"> 1. A “Kick-off” Luncheon to introduce the ADVANCE City Tech Project was held on October 21, 2008, in the Janet Leffler Dining Room. City Tech’s leadership, including deans, chairs, as well as women faculty in STEM disciplines were invited. A descriptive fact sheet was distributed. 2. Vita Rabinowitz, Provost of Hunter College, CUNY, and Co-PI of Hunter’s Gender Equity Project, gave a talk at City Tech on March 20, 2009. A podcast of her talk is available on the project website, www.AdvanceCityTech.org. 3. At the end of the first year, “A Conversation on Lessons Learned,” a panel discussion to review activities was held on Wednesday, May 13, 2009. Panelists were Co-PIs Victoria Gitman and Delaram Kahrobaei, and senior personnel Maria Pagano and Marie Parnes; the moderator was Janet Liou-Mark. Discussion focused on expected achievement including fostering a sense of community on campus; standardization of promotion/tenure practices, appreciation of

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	<p>faculty achievements, and promotion of leadership at all levels. The national context for the grant was discussed, and it was noted that City Tech is only the second CUNY college to be awarded an ADVANCE grant.</p> <p>e. Professional Development. In 2009-2010, ADVANCE at City Tech sponsored workshops focused on topics perceived to be important to support faculty development. Speakers from departments across the institution were asked to participate. Summaries of both workshops were posted on the ADVANCE website.</p> <p>1. “Mentoring: What’s In It for you?” was held on October 7, 2009, moderated by Delaram Kahrobaei, Assistant Professor, Department of Mathematics; speakers were:</p> <ul style="list-style-type: none"> ▪ Nadia Benakli, Associate Professor, Department of Mathematics ▪ Pamela Brown, Dean, School of Arts and Sciences, Department of Chemistry ▪ Anthony Cioffi, Professor and Chair, Department of Construction Management and Civil Engineering Technology ▪ Laina Karthikeyan, Assistant Professor, Department of Biological Sciences <p>2. “Publishing without Perishing” was held on November 5, 2009, moderated by Victoria Gitman, Assistant Professor, Department of Mathematics; speakers were</p> <ul style="list-style-type: none"> ▪ Candido Cabo, Associate Professor and Chair, Department of Computer Systems Technology ▪ Soyeon Cho, Assistant Professor, Department of Human Services ▪ Thomas Tradler, Assistant Professor, Department of Mathematics ▪ Anne Zissu, Associate Professor and Chair, Department of Business <p>In 2010-2011 three events were held, sponsored by the ADVANCE IT-Catalyst grant, and co-sponsored with City Tech’s I-Cubed project (Innovation through Institutional Integration) and C-PATH grant.</p> <p>1. “Strategies for Success in STEM Undergraduate Education” (October 22, 2010). Dr. Francis K. Stage, New York University—Invited talk and discussion with a cross-disciplinary STEM audience.</p> <p>2. “What is Computational Thinking? Innovations in STEM Education” (February 4, 2011). Dr. Jeannette Wing, Carnegie-Mellon University. Symposium for faculty and students.</p> <p>3. “Women in Science: Looking for Role Models” (February 25, 2011). Dr. Magdolna Hargittai, Hungarian scholar. Invited talk and discussion for faculty and students in STEM departments.</p> <p>f. Website. The project website was developed and will remain active for ADVANCE-inspired activities at www.AdvanceCityTech.org. It advertises events, archives STEM scholarship reports and ADVANCE Reports, and provides links to ADVANCE projects.</p>

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<p>4. To develop an Institutional Transformation ADVANCE grant application that reflects a vision for gender equity in STEM at City Tech based upon our self-study and choice of best practices to emulate based upon the unique context of our institution</p>	<p>4. FROM SELF-STUDY/ ANALYSIS TO AN INSTITUTIONAL PLAN</p> <p>a. Because of delays in obtaining data from the COACHE survey, issues with IRB and negotiations with CUNY IRB to act as intermediary, and the time necessary to analyze the collection of data from various sources, City Tech’s ADVANCE project requested a no-cost extension for a third year in which to examine data and develop a grant application.</p> <p>b. Develop an Internal Network. From the beginning of the Project, the Internal Planning Committee has guided the direction of the grant and coordinated activities. Core members throughout the project have been Provost Bonne August (PI), Pamela Brown, Dean of the School of Arts& Sciences (Co-PI until August 2011), Professors Delaram Kahrobaei (Computer Science and mathematics) and Victoria Gitman (Mathematics), and Professors Reginald Blake (Physics) and Janet Liou-Mark (Mathematics). In the first two years of the grant, Professors Maria Pagano and Marie Parnes (Social Sciences—Psychology) conducted data analysis. AE Dreyfuss has been project manager since Year 1. Three new members were added to the Internal Planning Committee in Year 3: Pa Her (Social Sciences-psychology), Hong Li (Computer Systems Technology) and Nadia Benakli (Mathematics).</p> <p>c. Develop External networks. The External Advisory Committee has been an active and supportive factor throughout the project.</p> <p>In Year 2, the External Advisory Committee met on November 24, 2009. Some suggestions that emerged included:</p> <ul style="list-style-type: none"> • As new faculty draft their Professional Development plans, or mid-career faculty need to re-establish their research connections, collaborations with other institutions in the City University of New York system would be helpful. • Junior faculty need to learn how to take advantage of the system, and be aware of CUNY-wide resources, such as the Science facilities at CCNY, which will allow more research collaborations. • Although there was a focus on hiring in the proposal’s problem statement, our focus has been on analyzing the quality of life at City Tech, which now appears more pressing. • A suggestion that a first grant to be submitted to NIH be drafted for a \$250,000/3 year project to develop undergraduate research. Since the first grant is always the hardest, reviewers may be more positive. This is a faculty development effort. NIH would want proposals that are disease-focused. • P&B committees are composed of more mature faculty, who may be unaware of current trends. For example, it was noted that the accepted wisdom has been “Get an individual grant, keep that individual grant.” Yet the funding agencies are looking for collaborative grants or for projects that can be commercialized. • Those who already have tenure can be re-energized through strategic hiring and creating a critical mass. At the Department of Geology at UTEP this strategy gave women past tenure a stronger say in the hiring process. • Consider mid-career hires so that the women hired would have some power. While this solution would be more expensive, it might help bring about changes. • Consider cluster hiring in a specific department to support key areas of research involving students.

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	<p>In Year 3 the External Advisory Committee met on December 2, 2010. Suggestions and discussion included the following points:</p> <ul style="list-style-type: none"> • It was clear from the discussion groups held with Lisa Frehill that departmental climate is a real concern in some departments. • Might generational difference be attributed to differences in perceptions by mid-career faculty, which is a problem across CUNY campuses, as there were few hires in the 1990s? • There is a “generation gap” at City Tech, which was founded as a teaching institution, and service was of key importance for promotion and tenure, with little or no expectation of scholarship or research . Now there is a greater emphasis on scholarship, and new faculty do not always appreciate the need for service. • The COACHE survey for Pre-tenure faculty has also been administered at all CUNY campuses. City Tech results suggest we are in the middle. City Tech is low on facilities and the physical plant. There is wonderful equipment but not wonderful space, and therefore little or no room to use the equipment. • City Tech continues to support teaching, as this remains its primary mission; however, a college of technology must have a faculty that remains current and contributes to knowledge in their fields. • The “Logic Model” developed by the Internal Planning Committee as a planning tool for the full ADVANCE proposal is based on an overall concept of climate change in the natural world: to change climate in positive directions, mitigating and adaptive strategies are needed, including using outside forces to create impact on the institution.. • CUNY-wide collaborations could be fostered by a variety of means, including networking events and use of technology. • City Tech will identify activities that can be implemented without additional external funding, such as reviewing procedures for promotion, continuing the Appointment Committees’ training, and participating in CUNY-sponsored events that address research, diversity, and collaboration, as well as for ways to maintain opportunities that are mechanisms to bring people together. • City Tech’s faculty will be advantaged if the College’s special strengths become better known in CUNY. <p>d. Development of an ADVANCE Logic Model. The members of the ADVANCE Internal Planning Committee began work on a logic model as the underpinning for the grant proposal; work began in January 2010 and has continued throughout 2010 and 2011.</p> <p>e. Leadership Workshop 2011-2012. Pam Brown responded to an RFP, “To run a tailored workshop for women professors in STEM,” in February 2011, and City Tech received funding. A plan was developed for a workshop to be held in March 2012 at City Tech, with a follow-up leadership workshop in April 2012. Invited speakers for the March 2012 workshop include:</p> <ul style="list-style-type: none"> • Jill Pipher (The President of Association for Women in Mathematics, Professor of Mathematics and Computer Science at Brown University) • Leonore Blum (Professor of Computer Science, Carnegie Mellon University) • Stephanie Fitch (NSF program director, DUE) • NSF program director for Computer Science • Tanya K. Vassilevska (NSF, program director, Computational Math) • Pamela Brown (Dean of Arts and Sciences, City Tech, CUNY)

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	<ul style="list-style-type: none"> • A math education or CS education expert for the teaching talk, to be decided <p>There will be panel discussions on 1) communications; 2) negotiations; 3) service without over-commitment; and 4) home-life balance. Invited panel participants include:</p> <ul style="list-style-type: none"> • Vita Rabinowitz (Provost of Hunter College, CUNY, ADVANCE grantee) • Karen Gould (President of Brooklyn College) • Bonne August (Provost of City Tech) • Gillian Small (Vice Chancellor for Research CUNY, Scientist) • Lisa Staiano-Coico (President of CCNY) <p>f. Additional Related Activities: Co-PI Delaram Kahrobaei 1) co-organized a special session on Geometric Group Theory at Brown University AWM Anniversary Conference at ICERM: "40 Years and Counting: AWM's Celebration of Women in Mathematics" (September 17-18, 2011) (With Moira Chas, Stony Brook University); 2) will give a plenary talk at New York Tensor Scholars: Women in Mathematics 2-Day Mini-Conference in March 12, 2012, on <i>Applications of Group Theory in Cryptography, and Women in Mathematics and Computer</i>.</p>
<p>Summary and Next Steps</p>	<p>ADVANCE IT-Start funding has supported a range of activities needed to change the culture at City Tech and make it more supportive for all faculty, in particular for women faculty in STEM. These activities have included a survey of best practices at other institutions, self-assessment through the collection and evaluation of data, revision of important procedures related to reappointment and tenure, educational programs to raise awareness of hidden bias, and professional development opportunities. Awareness of ADVANCE and the need to hire and nurture a diverse faculty is now established at City Tech.</p> <p>At the same time, the grant period has brought some surprising insights. We have learned that it has been relatively easy to increase the hiring of women faculty in STEM at City Tech; the greater challenge is providing the support and nurturing at the department level needed to retain them. Unlike some ADVANCE institutions, we have been able to change procedures; the challenge here will be to implement these changes consistently across departments. Although fairly robust resources for professional development exist, untenured women faculty at the college report a significantly higher level of dissatisfaction with them than do their male counterparts. Climate issues have proven to be more serious, notably for women faculty in STEM departments, than anticipated. And because many STEM departments lack a mentoring generation, the College will need to grow its own for both untenured and mid-career faculty.</p> <p>NSF ADVANCE supports change that is systemic, comprehensive, institution-wide and transformational. The institutional self-reflection that the ADVANCE CATALYST grant has made possible at City Tech has enabled the college to better understand institutional factors that inhibit professional growth and to begin to improve the professional climate for women in STEM fields. This work is part of an even broader transformational agenda of which gender equity is one key inseparable dimension. The college is contemporizing STEM education through a variety of NSF-funded initiatives: <i>The City Tech I³ Incubator: Interdisciplinary Partnerships for Laboratory Integration (I³)</i>; <i>Learning Project Design through Hands-On Mechatronics (ATE)</i>; <i>Fuse Lab: Collaborative Education for Tomorrow's Technology in Architecture, Engineering & Construction (ATE)</i>; <i>Metropolitan Mentors Network: Creating a STEM Talent Pool across New York City (STEP)</i>; <i>The Brooklyn Waterfront 2050 (CCLI)</i>, and others. Taken together, these initiatives are re-forming organizational</p>

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	<p>structures, pedagogical practices, and conceptions of subject matter that belong to a past era. The synergies among these initiatives and the coordinating structure provided by the I³ project make this a most opportune moment to operationalize the principles of equity and diversity that the ADVANCE Catalyst project has brought to the fore, so that they become part of the fabric of professional life at the individual, departmental, and institutional levels.</p> <p>We now have an agenda for action to Increase representation of women and other under-represented groups, both through continued hiring and improving retention:</p> <ul style="list-style-type: none"> • Transform the institutional climate at all levels and in particular at the departmental level to better advance the professional and personal satisfaction of all faculty members. • Create a culture of research in a teaching institution. • Leverage and strengthen relationships and networks with the institution and with other CUNY colleges and professional organizations to provide multiple layers of mentoring that will support equity in professional advancement. • Ensure continued institutional commitment by developing an ADVANCE Center for Equity under the Office of the Provost to support collaborative activities both within and outside the institution, build and maintain an information and dissemination infrastructure, and implement a continuous process of measuring change and assessing impact. <p>An ADVANCE-IT proposal is in preparation and will be submitted this fall to further this work. Driven by the analysis of the data collected and framed by what we have learned from reading and from study of other ADVANCE institutions, we plan a proposal that will incorporate both mitigating and adaptive actions to stimulate and support climate change in departments and college-wide. We envisage these actions as including, among others, linking faculty expectations for teaching, research, and service more specifically to the College’s mission; identifying champions and developing future leaders; conducting an in-depth study of service at the College, which appears to be an especially fraught aspect of the generation gap; and creating and extending robust external networks, especially within CUNY and the metropolitan New York area, thus taking advantage of potential institutional and disciplinary partnerships to support faculty research and professional advancement. As our highly diverse urban institution completes its long transition from a community college to an open access baccalaureate-granting college of technology, we hope to use ADVANCE to engage the administration and faculty in developing the systems and supports needed to retain and advance our diverse STEM faculty.</p>