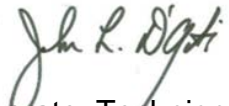


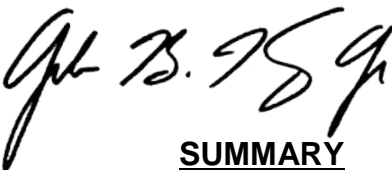


To: Higher Education Committee

From: John L. D'Agati 

Subject: Permission to Operate: Technion-Israel Institute of Technology

Date: July 13, 2012

Authorizations: 

**SUMMARY**

**Issue for Decision**

Should the Regents give Technion-Israel Institute of Technology permission to operate in New York State and to offer a Master of Science (M.S.) degree program in Applied Information Sciences through the Technion-Cornell Innovation Institute (TCII) in New York City?

**Reason(s) for Consideration**

Required by State statute and State regulation.

**Proposed Handling**

The question will come before the Higher Education Committee at its July 2012 meeting, where it will be voted on and action taken. It will then come before the full Board at its July 2012 meeting for final action.

**Background Information**

The Technion – Israel Institute of Technology, a public research university located in Haifa, Israel, has applied to the Board of Regents for permission to operate in New York State. It seeks authorization to offer a program in Applied Information Sciences leading to a Master of Science (M.S.) degree through Technion-Cornell Innovation Institute (TCII), which will be located on the CornellNYC Tech Campus.

Education Law §224(1)(a) and §3.56 of the Regents Rules prohibit any operation by out-of-state higher education institutions in New York without prior permission of the Board.

Consistent with its master planning process, the Department conducted a canvass of all degree-granting institutions in the New York City region. The Department received responses from six institutions. Three institutions expressed support for the proposed program and two had no comments. Pace University expressed concern about the effect of the proposed program on similar programs at the University. More information about the canvass results appears in the *Information in Support of the Recommendation*.

### Recommendation

It is recommended that the Board of Regents grant permission to Technion–Israel Institute of Technology to operate in New York State and offer a program in Applied Information Sciences leading to a Master of Science degree.

This approval will be effective until July 31, 2017.

## Information in Support of Recommendation

Technion-Israel Institute of Technology seeks the approval of the Board of Regents to offer a Master of Science degree in Applied Information Sciences at the Technion-Cornell Innovation Institute (TCII) in New York City.

**Background:** In December 2011, the partnership of Cornell University and The Technion–Israel Institute of Technology was announced as the winner of the competition to create an applied sciences and technology campus in New York City. The CornellNYC Tech Campus on Roosevelt Island is anticipated to be ready for occupation by 2017. In the meantime, Technion and Cornell will share space at the building owned by Google Inc., 111 Eighth Avenue, New York City. The TCII will exist as a joint institute within the CornellNYC Tech Campus.

**Purpose and Goals:** The goal of the proposed program is to graduate professionals in applied information sciences, with three specialization tracks: Connective Media, Healthier Life and Built Environment. The Connective Media specialization will focus on digital technologies that support advertising, media, publishing and entertainment. The Healthier Life specialization will focus on digital technologies that support medical and healthcare information systems, personalized medicine, medical devices and medical imaging. The Built Environment specialization will focus on digital technologies that support smart buildings, construction, urban infrastructure and environments. The proposed program will be interdisciplinary, placing some emphasis on exposure to industrial standards and practices as well as strong emphasis on entrepreneurship and innovation.

**Relationship to Technion’s Mission and Existing Programs:** The Technion–Israel Institute of Technology (Haifa), a public research university, was founded in 1912 and is Israel’s oldest university. Technion offers degree programs in science, engineering, architecture, medicine, industrial management and education, and is known for teaching and performing research in 21st century technologies, including medical, aerospace, microelectronics, communications, software and nanotechnology. Technion is consistently ranked among the world’s top science and technology universities. Technion produces 70 percent of Israel’s engineering workforce, and it is credited with transforming the Israeli economy from an agricultural to a high-tech economy, attracting many international companies to Israel and spawning a flourishing startup culture. The proposed program builds on the Technion’s current degree programs in computer science, electrical engineering, industrial engineering, mechanical engineering, civil engineering, biomedical engineering and architecture.

**Planned Curriculum:** The proposed program is being developed and will be offered by the TCII, a collaboration between Technion and Cornell University, resulting in a dual degree in which students receive a Master of Science degree from each university. Students choose one of three specialization tracks, which consist of core courses and elective courses for each track. The program requires the completion of 60 credits over four semesters; 45 credits of the program consist of coursework, including 15 basic credits, 18 core credits, and 12 elective credits. The remaining 15 credits consist of the completion of an Industrial Project. Students will be required to address a real-world

problem proposed by a company active in the specialization domain. This component involves developing technology to solve the problem plus study of its commercial viability and value, under the joint supervision of academic and industrial mentors. Additionally, the summer between the second and third semester is expected to be used for the student to complete a paid internship.

The program will **not** lead to licensure in engineering or architecture.

**Unique Characteristics of the Program:** The program emphasizes exposure to industrial processes. It is designed to provide the necessary background and skills required to enhance typical undergraduate science and engineering degrees. Students will have the opportunity to enhance their classroom education and acquire up-to-date applied skills, knowledge and insight in a specific application domain, under the supervision of both an industry mentor and a faculty advisor. Graduates of the program will be positioned to immediately contribute to the R&D efforts of relevant companies, and/or start companies of their own.

**Requirements for Admission:** Applicants are required to hold an undergraduate degree. The degree should include a major in a scientific or engineering field, or the applicant should possess the equivalent knowledge. Also required are a strong academic record, high GRE scores, and recommendations from the undergraduate institution. A committee of faculty and instructors would review each applicant and make a recommendation regarding admission.

**Prospective Student Body and Projected Enrollment:** The Institute anticipates strong demand from both American and international applicants who want to pursue the program in an urban environment with close ties to local industry, business and entrepreneurship knowledge and experience. Enrollment is projected to be 30 students (10 per track) in the first year of the program. TCII might concentrate on offering just one or two specialization tracks in the first year, depending on applicant demand and faculty expertise.

**Faculty:** Permanent faculty will be academics holding PhD degrees, tenured either at Technion or at the partner institution, Cornell University. Adjuncts and visiting faculty (mostly from Cornell or Technion) will complement the permanent faculty. All faculty will be scientists or engineers, most with entrepreneurial skills, and be able to engage effectively with industry. A number of non-faculty “industrial liaisons” will be dedicated to interaction with industry. Industrial mentors will come from affiliated companies.

**Facilities and Resources:** Google, Inc., has donated space for the CornellNYC Tech campus in their building in Chelsea, New York City, starting July 2012. The overall space initially will be approximately 22,000 square feet, expanding to 58,000 square feet within five years. In mid-2017, the campus will move to its permanent location on Roosevelt Island. The permanent campus will have two buildings of 150,000 square feet each dedicated to the academic programs offered on the campus. Both the temporary and permanent campuses will have standard classroom and technology lab space, and video-conferencing facilities that will provide students with access to lectures conducted at the Technion campus in Haifa. All students will have access to

Technion's extensive electronic library resources with more than 10,000 electronic journals, hundreds of databases, electronic books and digital journal archives. The collections cover the fields of Engineering, Sciences, Architecture and Medicine.

**Employment Prospects for Program Graduates:** The proposed program is expected to ease the acute shortage of persons prepared to work in New York City's burgeoning technology sector (estimated at 30 percent annual growth). Graduates of the program are expected to receive multiple job offers at starting salaries of \$100,000 and up per year. Companies including Google, Facebook, Microsoft, and Twitter have indicated the demand for graduates of the proposed program.

**Planning Review:** The Department conducted a canvass of all institutions in the New York City region and received six responses. Three expressed support and two had no comments regarding the proposed program. One institution, Pace University, responded that the proposed program will have a detrimental effect on enrollment in similar programs at Pace. The University made the following points:

- Technion has an international reputation and is proposing to offer a degree program similar to those offered through Pace; this will have a detrimental effect on Pace's efforts to build enrollment and reputation in the area of information systems and information technology.
- Offering the proposed program at the temporary Chelsea location is seen as having a detrimental effect as both institutions will be recruiting from similar populations.

Technion responded with the following points:

- The programs in Information Systems offered by Pace University are focused on developing skills necessary for development of in-house information technology (IT) systems in large corporations. Technion's proposed program is an interdisciplinary program with an emphasis on information sciences as applied to one of three application domains (Connective Media, Healthier Life and Built Environment.) Graduates are expected to work mostly in technological research and development.
- The programs at Pace and the proposed program differ significantly in course requirements, the level of industrial involvement required by students, the focus on entrepreneurial skills and the requirement of a significant Industrial Project.

It is recommended that the Board of Regents grant permission to Technion-Israel Institute of Technology to operate in New York State and offer a program in Applied Information Sciences leading to a Master of Science degree.