

IBIT INSTITUTE FOR BUSINESS AND INFORMATION TECHNOLOGY

ANNUAL REPORT 2018-2019



NEW DIGITAL INNOVATION FOUNDRY TAKES OFF READ MORE PAGE 13





A MESSAGE FROM **THE EXECUTIVE DIRECTOR**

The Institute for Business and Information Technology (IBIT) impacts business and society by engaging industry and academia in partnership with our corporate members.

The new Digital Innovation Foundry is already working on exciting digital transformation and innovation projects in its first year. Starting spring 2019 with \$1.27 million in funding, the multidisciplinary foundry is poised to have a major impact.

Under the leadership of Chairman **Bruce Fadem**, the Information Technology advisory board is the major driver of engagement including a new mentoring program, inspiration and data for the nationally recognized Analytics Challenges, scholarships and other activities. Please review the report for more details.

We look forward to continuing the path to impacting business and society this coming year.

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Munir Mandviwalla Executive Director Institute for Business and Information Technology

INFORMATION TECHNOLOGY ADVISORY BOARD



The IT Advisory Board is chaired by **Bruce Fadem**, retired VP and CIO, Wyeth. The board is managed by IBIT and its mission is to advise the Fox School including the MIS department and Institute for Business and Information Technology in realizing its vision of becoming an internationally ranked premier provider of integrative business and technology education and research. The board meets triennially and has the following goals and responsibilities:

Education + Research + Fund Raising + Professional Development

+ Careers + Promotion of the School



Andrea Anania Retired VP & CIO CIGNA



Sondra Barbour Member, Board of Directors AGCO Corporation & Perspecta



Satbir Bedi EVP, Operations & CTO Scholastic Corporation



Michael Bradshaw EVP & CIO NBCUniversal



Jonathan A. Brassington Head, Capgemini Invent NA Capgemini



Chris Cera CEO Arcweb Technologies



Dale Danilewitz CIO AmerisourceBergen



Dinesh Desai Chairman & CEO Emtec, Inc.



Larry Dignan Global Editor-in-Chief ZDnet



Jeff Hamilton SVP Business Technology Pfizer



George Llado SVP & CIO Alexion



Sukumar Narayanan President DecisivEdge, LLC.



Niraj Patel Global Head, Platforms and Al DMI



Kent Seinfeld Retired SVP & CIO Commerce Bank

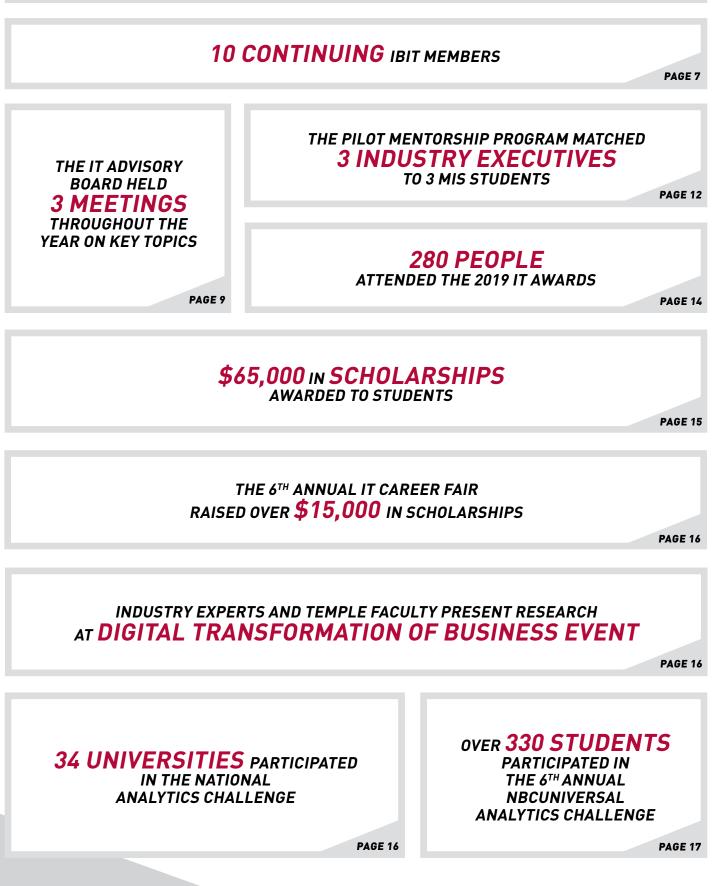


Todd Sprinkle SVP, Brand, Creative and Production Ourate Retail Group

2018-2019 AT A GLANCE BY THE NUMBERS

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2018 IT CAREER FAIR READ MORE PAGE 16 >>

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IBIT MEMBERS

IBIT membership offers participating corporations the opportunity to leverage our knowledge, human capital, relationships and established network. Membership benefits include:

- + Commission projects involving world class faculty and students across Temple as part of the new Digital Innovation Foundry
- + Featured roles at major events and symposiums
- + Sponsorship opportunities for the Temple Analytics Challenge, National Analytics Challenge, Cyber Analyst Challenge and other special projects, such as the national Information Systems Job Index
- + Customized corporate education and professional training programs
- + Featured spaces at the IT Career Fair and customized assistance with recruiting, including special events
- + Working with world-class faculty on research projects or commissioning student projects that leverage the insights of the digital generation
- + Leveraging The IBIT Report a white-paper publication on relevant topics and commissioning specific IBIT Reports on topics of mutual interest
- + Professional development opportunities, including speaking in classes, attending conferences and participating in curriculum design
- + Mentoring students as part of the IBIT Mentoring program
- + Visibility on campus and in the profession members are showcased in all print and web material
- + Select executives are invited to serve as Executives-in-Residence; select qualified individuals are invited to serve on the IT advisory board
- Presenting named scholarships to the nationally recognized students of the MIS department
- + Featured roles at the IT Awards, an annual celebration and evening of recognition

IBIT offers full membership for large and medium-sized firms, as well as a special program for small firms. Learn more at *ibit.temple.edu/ibitmembers*

BOARD MEMBER SPOTLIGHT

Dinesh Desai brings a wealth of experience and vision to the IT Advisory Board.



DINESH DESAI Emtec, Inc.

For nearly 15 years, Dinesh Desai has served as the Chairman of the Board and Chief Executive Office of Emtec, a leading provider of tech-based business solutions and IBIT member. Desai, a Temple alum who earned his MBA in 1978, joined the IT Advisory Board in 2015, and has been helping shape the direction and experience of IT at Temple ever since.

"It has been gratifying to re-connect with Temple through the IT Advisory Board," Desai says. "I am particularly excited about the role of the board in the new mentoring program."

Desai brings years of experience in IT leadership and innovative problem-solving to his Board post: Before Emtec, he was Chairman and CEO of Darr Global Holdings, Inc., a management consulting firm he founded in 1986. Prior to that, Desai served as President, CEO, Co-Chairman and part owner of Western Sky Industries, a privately held manufacturer of proprietary component parts used in aerospace applications. (Western Sky grew from roughly

\$3 million in revenues to more than \$170 million prior to its sale to McKenhnie in 1999.) Before that, Desai spent 12 years with American Can and Arco Chemical in a range of management positions.

Desai lives in Moorestown, NJ, with his wife and two daughters, where he's involved with several nonprofits and community organizations, including the Philadelphia-based Enterprise Center, which focuses on accelerating small and mid-sized businesses and creating jobs in low-income communities. His family also created a school near his hometown in India to help create educational opportunities for impoverished children.

In addition to the MBA, Desai also holds a Bachelor's degree in chemical engineering from the Indian Institute of Technology in Bombay, and a Master's degree in both chemical and industrial engineering from Montana State University.

"We are very fortunate to have Dinesh as a member of our Advisory Board," says IT Advisory Board Chair, Bruce Fadem. "He provides an amazingly broad perspective having had a successful career in the manufacturing, management consulting, and technology industries. That, coupled with being a Temple alumnus, allows him to provide great insight on the challenges and opportunities for the Advisory Board to continue ensuring that the MIS Department and IBIT are recognized as premier providers of integrative business and technology education and research."

MEMBERS

IBIT members are educating the next generation of industry leaders and creating the forums for generating best practices in information technology.



BOARD ENGAGEMENTS



BRUCE FADEM

Bruce Fadem, Retired Vice President and CIO, Wyeth, hosted the inaugural dinner meeting with top performing students. The meeting is part of the new IBIT board member engagement program. Similarly, Jeff Hamilton, Senior Vice President, Business Technology, Pfizer, hosted the inaugural dinner meeting with selected faculty.



GEORGE LLADO

George Llado, Senior Vice President and Chief Information Officer, Alexion Pharmaceuticals Inc., and Douglas Robinson, Senior Vice President - IT Finance and Sourcing, AmerisourceBergen, served as keynote speakers at the Association for Information Systems Student Chapter Leadership Conference in April of 2019. Over 180 students and faculty attendees from 33 schools across the United States participated in the conference, which was hosted at Temple University.



MICHAEL BRADSHAW

Dr. Munir Mandviwalla led a workshop for Michael Bradshaw at NBCUniversal on Systems Thinking and Innovation, August, 2018. The workshop which was was part of Bradshaw's senior IT leadership retreat, featured tools to apply systems thinking to transform and innovate.

EXECUTIVES IN RESIDENCE

The IBIT Executive in Residence program facilitates mutually beneficial engagement and collaboration between select industry leaders and Temple University.



Jeff Hamilton SVP Business Technology Pfizer



Michael Bradshaw EVP & CIO **NBCUniversal**



Dale Danilewitz EVP & CIO AmerisourceBergen



Atish Banerjea CIO Facebook



Ben Hasan Senior Vice President Walmart



Sondra Barbour Member, Board of Directors **AGCO Corporation & Perspecta**



CIO - Lending Platforms IBM

Niraj Patel

2018-2019 BOARD MEETING TOPICS

The IT advisory board held three meetings during the year, covering a wide range of subjects including:

- **Digital Innovation Foundry** +
- Board Student and Faculty ÷ Engagement
- Curriculum Design in MIS
- The IBIT Report
- National Cyber Analyst ÷ Challenge and Conference
- **IBIT** Mentoring Pilot ÷ Program
- 20th Anniversary ÷

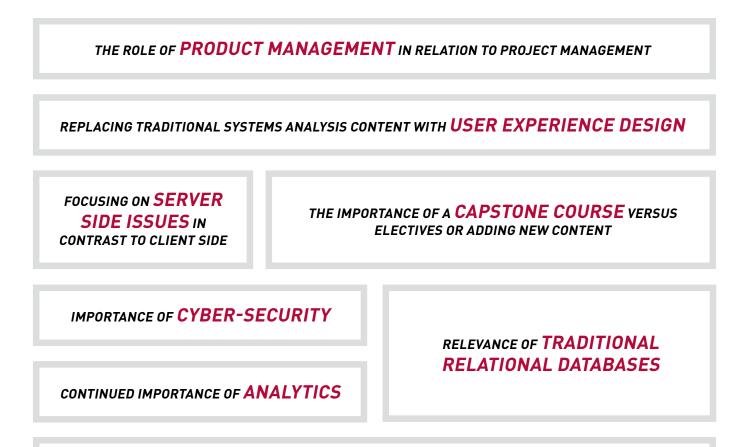
MIS CURRICULUM **REVISION**

During the last year, the IT advisory board worked closely with the MIS department on revising the curriculum of the Bachelors in Management Information Systems.

The process started with a vision presentation by Dr. David Schuff that led to a lively discussion about topics such as:

+ Role and extent of coding + Application programming interfaces (API) + Serverless computing

An expert on Serverless computing from NBCUniversal led a special presentation and discussion for the entire faculty in the MIS department. A sub-committee of the board including Larry Dignan (Ziff-Davis), Sondra Barbour (AGCO Corporation and Perspecta), Jeff Hamilton (Pfizer), Michael Bradshaw (NBCUniversal), and Bruce Fadem (Retired-Wyeth) continued the discussion in both group and one-on-one meetings. The topics covered included:



THE IMPORTANCE OF DEVELOPING **APIS** VERSUS LEARNING HOW TO LEVERAGE EXISTING APIS

In a subsequent meetings the board agreed with completely refocusing the program to *Design, architect, and manage digital products by building API-driven applications that apply APIs, cloud, cyber-security, agile, user experience, and analytics.* Led by Dr. Schuff, the department redesigned all the courses in the curriculum to meet the above objectives.

These changes are rolling out in fall 2019 less than a year after the initial discussions!

IBIT **IMPACT**

Students and faculty at Temple University as well as experienced IT professionals benefit from the latest industry insights, standard-setting forums and valuable connections that IBIT facilitates.

The long-ranging impact of IBIT extends beyond simple professional networking between students, faculty and industry leaders. IBIT also supports promising students with awards and scholarships. It's hosting national academic competitions and annual career fairs. It's organizing symposiums that facilitate and disseminate helpful industry insights to students and professionals alike. In short? IBIT is sustaining and advancing excellence in information technology.

Through the integration of from-the-field knowledge from industry professionals and with the academic research prowess of Temple University, IBIT bolsters the development of IT best practices while fostering a new, well-trained generation of tech professionals. IBIT draws from the expertise of the entire Temple University community and the most innovative corporations in the world.

You can see the ways IBIT is continually impacting students, faculty and IT executives at **ibit.temple.edu.**



NEW MENTORING PILOT TAKES OFF

The Spring 2019 IBIT pilot matched students with top executives.

One of the great advantages Temple students have long enjoyed is the opportunity to work directly with **top industry executives under the IBIT mentorship program**. In the 2018-2019 academic year, the mentorship model shifted a bit from project-based pairings to one-on-one assignments designed to give students even more access to guidance, perspective and feedback from seasoned senior executives.

"Our mission with IBIT is to integrate professional perspectives with academic expertise to create best practice forums and facilitate excellence in IT," says Sondra Barbour, IT Advisory Board member. "This newly designed mentoring program directly supports that mission. By pairing students with industry experts, we're providing the opportunity to increase knowledge and connections between students, industry and faculty."

Mentors have traditionally been members of either the IT Advisory Board or executives of IBIT member firms, and this year was no different: The roster of leaders included George Llado, CIO of Alexion; Chris Cera, the CEO of Arcweb; and Dinesh Desai, the Chairman and CEO of Emtec, Inc.

The pilot program's three mentees, nominated by faculty and chosen by the Institute, were all MIS majors. Rising senior Michelle Purnama and rising juniors Sophia Spadotto and David Shin were assigned to their mentor based on background and mentor expertise.

"It was a special and unique opportunity," Purnama says. She was paired with Alexion's Llado, which she says was ideal given her upcoming internship with the company. Not only did her conversations with Llado and tour of the Alexion office help her prepare for the internship, she says, she found the CIO accessible and easy to talk to. "That made it comfortable for me to ask him questions and ask for advice."

The mentors, too, enjoyed the experience. "The mentorship program has been a great way to build relationships with young professionals while simultaneously helping them create new building blocks for their careers," Arcweb's Cera says. "I plan to continue being a part of the mentorship program moving forward."

In fact, not only will the new model of IBIT mentorship continue on through upcoming semesters, but the next goal for the program is **expanding to include a dozen mentors** with anywhere from one to three students each.



DIGITAL **INNOVATION** FOUNDRY

Temple University's Digital Innovation Foundry (DIF), which launched in 2019 with \$1.27 million in funding, is working on a series of exciting projects in its first year.

DIF focuses on **digital transformation and innovation projects** involving masters and undergraduate students and faculty. DIF takes a digital-first approach to serve as a prototype generator, analytical engine, demonstration showcase and knowledge resource for each project. The Foundry is housed in the *Institute for Business and Information Technology*.

The Capgemini Digital Innovation Lab, which is a part of DIF, provides a collaboration and project home for teams to work on the projects. The Lab also provides access to technology such as drones, 3D printers, servers and large screen displays, as well as lockers to secure materials.

Firms engage and commission multidisciplinary Temple University faculty and/or student teams to explore novel technologies, prototype, assess, and evaluate digital innovation and transformation projects. Students receive scholarships and/or grants to apply design thinking to leverage new technology and generate prototypes. Similarly, faculty also receive grants to conduct design science research, build toolkits and collaborate with industry to solve and assess the value of digital projects.

DIF will work on seven projects on a rolling basis. The following are sample projects that just started or will start soon.

NEW DIGITAL MARKETS

Digital markets are constantly evolving through new product development and convergence. It is important for service providers to continuously examine new opportunities. The DIF project, in collaboration with the Fox Enterprise Management Consulting, is working with a digital services firm to analyze markets, technology evolution and digital business models. The project consists of two phases: The first phase is to identify new markets and opportunities, and the second phase is to prototype the most relevant product mixes.

AUTONOMOUS VEHICLE TESTBED

Connected, automated, autonomous vehicles will fundamentally change how traffic flows. While live experiments are costly, computer-based simulations will only take us so far in understanding issues such as safety and flow characteristics. The DIF project is to support the design and creation of a scaled robotic testbed to study system-level flow characteristics of mixed human-autonomous traffic. The testbed will afford rapid prototyping to experimentally study how different levels of connectivity and coordinated algorithms modulate traffic flows.

CORPORATE PROFESSIONAL DEVELOPMENT

In today's rapidly changing environment, the upskilling and professional development of existing employees has become critical, especially when the economy is near full employment. The DIF project is working with a corporate partner to adapt the Temple University PRO platform to encourage and measure employee professional development.

ANNUAL INFORMATION Technology Awards

Congratulations to the winners of the Leader, Innovator and Distinguished Alumni awards, chosen by a committee of leaders and previous honorees for their remarkable accomplishments in information technology.



IT LEADER AWARD

Recognizing leadership in the use and development of IT in business

Angela L. Heise President Leidos Civil, Leidos Inc.



IT INNOVATOR AWARD

Recognizing innovation in applying IT to create business opportunity

John K. Collier Chief Information Officer Wawa, Inc.



IT AWARD FOR DISTINGUISHED ALUMNI

Recognizing a distinguished career in IT and a contribution to the community, industry or Temple University

Himesh Bhise CEO and Director

Synacor

SCHOLARSHIPS

Every year, IBIT—along with several corporate partners—offers support and encouragement to promising students with a series of scholarships. Winners are celebrated at the Annual IT Awards Reception.

IT ADVISORY BOARD SCHOLARSHIP

The IT Advisory Board Scholarship recognizes exceptional Management Information Systems (MIS) students with **\$5,000 tuition scholarships**. Students must excel academically with a cumulative GPA of 3.7 or higher and must impress the committee with their potential for achievement and accomplishment, shown through an essay and letter of recommendation from a Temple faculty member or administrator.



IBIT CORPORATE SCHOLARSHIPS

The IBIT Corporate Scholarships recognize exceptional future MIS students with **\$5,000 tuition scholarships**. Again, students must excel academically and impress the committee with their potential for achievement and accomplishment. Below are the corporations that currently offer IBIT scholarships.



YEAR IN REVIEW

2018-2019 **YEAR IN REVIEW**

6TH ANNUAL IT CAREER FAIR

Each year, the Information Technology Career Fair connects high-performing students interested in internships and jobs with top employers looking to recruit graduates of the MIS, IT Audit and Cyber-Security, Information Technology Management, Digital Marketing and ITIE programs. Highlights from the 2018 fair included:

- + 41 firms raised over \$15,000 in scholarships.
- 282 students attended.



NATIONAL ALEXION ANALYTICS CHALLENGE

The 2019 National Challenge was open to AIS students across the country and featured problems and data sets from NBCUniversal, AmerisourceBergen and Alexion.

Students once again competed for awards in two overall categories - graphic and analysis.

The challenge is organized by Laurel Miller, Director of IBIT, Steven Sclarow, Assistant Professor, MIS, and Jacklin Altman, Assistant Director, IBIT. Over **30 universities** participated in this year's event.

For more information on the data or case studies, please visit http://sc.aisnet.org/conference2019/ competitions/

DIGITAL TRANSFORMATION OF BUSINESS SUMMIT

The event, which took place in April of 2019, was held in partnership with the new Fox Center for Translational Research. Highlights included:

Sunil Wattal, Associate Professor of MIS, discussed how digital crowd-based approaches are changing the sharing economy.

Anthony Vance, Associate Professor of MIS and Elmer R. Deaver Senior Research Fellow, addressed the influence of digital security behaviors on the cyber-risk of firms. **Chris Cera**, CEO, Arcweb Technologies and **Umesh Yerram**, VP, AmerisourceBergen provided an executive viewpoint on the academic research presented.



WINNERS ANNOUNCED FOR 6TH ANNUAL TEMPLE UNIVERSITY NBCUNIVERSAL ANALYTICS CHALLENGE

The **6th Annual NBCUniversal Temple University Analytics Challenge** attracted more than 130 entries across four colleges, with the first-place finishers coming from Fox School of Business, Klein College of Media and Communications and the Tyler School of Art.

MIS students **Jake Green** and **Rohit Bobby** partnered with **Klein's Sergio Aguilar** to win the analysis category. Tyler School of Art student **Xi (Cynthia) Cheng** was the graphics category winner. The first-place finishers took home \$2,500. There were also cash prizes for the second and third place winners and two honorable mentions in each category.

"All of the teams put a lot of work into their challenges," said MIS Assistant Professor **Laurel Miller**, who organized the event and serves as Director of the Institute for Business and Information Technology. Miller was also a mentor to the threemember analysis team winners and said she was impressed "by how meticulously they looked at each and every angle."

Teams could choose from three data sets to answer the following questions: The first, from competition sponsor NBCUniversal, asked how media companies align with esports; the second, from global biopharmaceutical company Alexion, sought to learn who the winners and losers were in healthcare funding and payments; the third, from pharmaceutical distributor AmerisourceBergen, questioned why pharmacies buy drugs from non-primary vendors.

This was the first year a sports-related challenge was offered and many teams were drawn to that. Both first place winners took on the NBCUniversal challenge. Graphics winner Cheng used images from Pac-Man and simple synthesizer sounds to look at the overlap between esports viewers and traditional sports fans in her four-minute video. The analysis trio reworked the question, team member Green said, to ask, "What can media companies and specifically, networks such as those powered by NBC sports group do to adapt to the esports audience and remain a leading delivery and engagement platform for sport entertainment?"



"This project taught me so many lessons that will be of value in my future professional endeavors," Green said. "It taught us to give more with less. It taught us to condense mountains of data and weeks' worth of information gathering into a fourminute pitch. We had the privilege of coming together as a team in pursuit of a common goal, despite our differences in educational background."

Aidan Doyle, Alexion's Director of Data and Analytic Platforms and a first-time competition judge, said he was impressed by the students and the challenges they tackled.

"When I went to college, you signed up for a class, walked into an amphitheater, the professor wrote on a board, you wrote it down and at the end you'd take a test," said Doyle. "What I see in the system in the US 30 years later, especially at Temple, is a collaborative effort that brings the best ideas together between all faculty while engaging students and industry... To me, it summed up why Temple and other institutions are the place to be."

> To learn about the Analytics Challenge visit analyticschallenge.temple.edu.



2019-2020 LOOKING AHEAD

7[™] ANNUAL TEMPLE UNIVERSITY ALEXION **ANALYTICS CHALLENGE** **APPOINT** NEW IT ADVISORY BOARD MEMBER

PUBLISH THE 2019 IS JOB INDEX **DIGITAL** INNOVATION FOUNDRY

GROW IBIT WITH SMALL-COMPANY AND LARGE-COMPANY MEMBERSHIP

HOST 20TH ANNIVERSARY IT AWARDS

ADD **NEW MEMBERS** TO IT ADVISORY BOARD

AWARD IT ADVISORY BOARD AND IBIT CORPORATE SCHOLARSHIPS

NATIONAL SCHOLASTIC ANALYTICS CHALLENGE

PUBLISH NEW **IT JOURNAL**

7TH ANNUAL IT CAREER FAIR

IBIT **STAFF**



LAUREL MILLER

Director

Laurel is Director of IBIT and manages external relations and programs, including the IT Awards, IBIT memberships, and *The IBIT Report*.

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MUNIR MANDVIWALLA

Executive Director

Munir is Executive Director of IBIT and provides strategic leadership on programs and relationships.

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LAUREN LEWIS

Assistant Director Lauren is Assistant Director of IBIT and assists in managing external partnerships and professional development programs, as well as acting as an interdepartmental liaison.

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MANOJ Chacko

Associate Director

Manoj is Associate Director of IBIT and manages high-level technical support for the department. He also supports the new Digital Innovation Foundry (DIF).

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ABOUT IBIT

The Institute for Business and Information Technology (IBIT) provides cutting-edge knowledge and valuable connections to sustain excellence in information technology. IBIT integrates industry perspectives with academic research expertise to create forums for generating and exchanging best practices.

IBIT membership offers participating corporations the opportunity to leverage our knowledge, human capital, relationships and established network.



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