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FUTURES • FUTURE OF GIS • VIRTUAL WORLD FUTURES • COMPUTER SECURITY • FUTURE OF ICT SYSTEMS • LIFE IN VIRTUAL WORLDS • SECOND LIFE

FUTUREVISIONS
Symposium

FRIDAY, SEPTEMBER 14, 2007
8:30 A.M. TO 4:00 P.M.
LORY STUDENT CENTER

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CAMPUS:SECOND LIFE

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The 2nd biennial FutureVisions Symposium is an exciting free conference on the future of global information and communication technology for students, faculty, government officials, and industry professionals.

Co-sponsored by the Information Science and Technology Center (ISTeC) at Colorado State University and Accenture, Covidien, Hitachi, HP, IBM, InfoPrint, Lockheed Martin, Xilinx, Zolon.

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Program Overview

8:00 – 1:00	**Registration**	Registration Booth

8:45 – 9:00   **Welcome**   East Ballroom
Tony Frank, Provost, CSU

9:00 – 9:50   **Opening Session**   East Ballroom
"The Merger of Designed and Real Worlds in Google Earth"
Scott Green, Engineering Site Manager, Google

10:00-10:50   **Session A**

Track 1   Cherokee Park Ballroom
"The Future of ICT in Growth Industries: Public Health, Renewable Energy, and Disease Control"

Track 2   Room 228
"The Merger of Still and Video Imaging"

Track 3   North Ballroom
"Fighting Future Cybercrime"

10:50-11:00   **Break**   North Ballroom

11:00-11:50   **Session B**

Track 1   Cherokee Park Ballroom
"Wireless Technologies: Shaping the Future, Creating Careers"
"Systems for TV Delivery"
"The Future of Television and The Future of Cable"

Track 2   Room 228
"Isn't That Spatial? Mapping Your Future with Spatial Thinking and GeoTechnologies"

Track 3   North Ballroom
"Botnets -- Zombies, Masters, and Victims by the Horde"

Noon-1:00   Lunch
(on your own or box lunch to pre-registered participants)

1:00 - 1:50   **Keynote Address**   East Ballroom

"The Future of Innovation in IT"
Dr. Jurij Paraszczak, Director of IBM Research Industry Solutions and IBM Research relationship manager to the Venture Capital group

2:00 – 2:50	**Session C**	
	Track 1	Cherokee Park Ballroom
	"The Future of the Internet"	
	Track 2	Room 228
	"Using SketchUp in Google Earth"	
	Track 3	North Ballroom
	"The Future of Computer Security"	
3:00 – 4:10	**Closing Session**	East Ballroom
	"Life in Virtual Worlds: Profiles of Unique Applications in *Second Life*"	
	Dr. Richard Hackathorn, Bolder Technology, Inc.	
4:10 – 4:25	**Closing Remarks**	East Ballroom
	Patrick Burns, CSU Vice President for Information Technology	

Lory Student Center

UPPER LEVEL

Track 1 - Cherokee Park - The Future of ICT
Track 2 - Room 228 - Digital Visualization Futures
Track 3 - North Ballroom - Trends in Computer Security

TO ENGINEERING

ELEVATOR

Room 228
Track 2

224

Cherokee Park
Track 1

North Ballroom
Track 3

West
Ballroom

East
Ballroom

Registration
Booth

ELEVATOR

Event
Planning
and
Catering
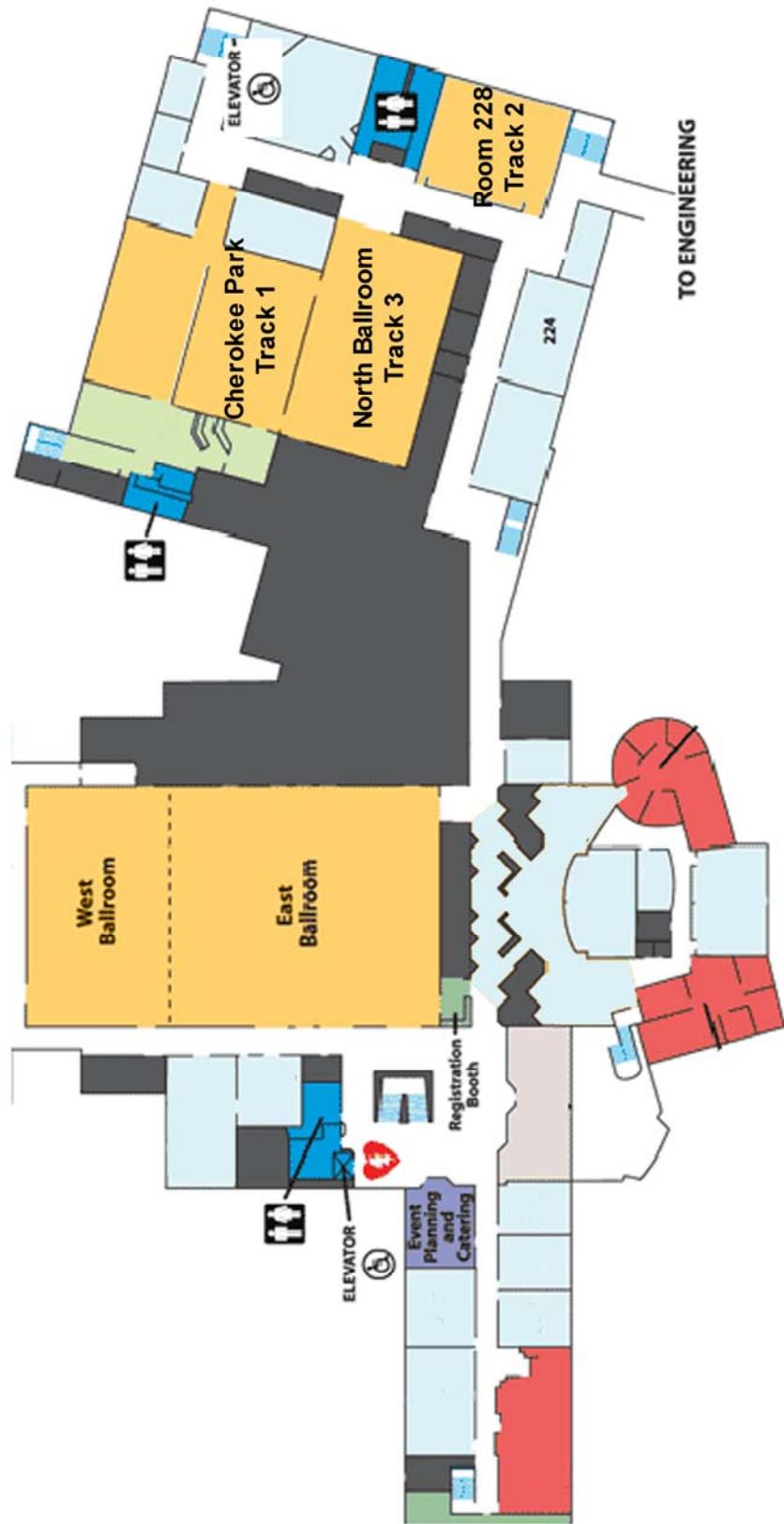
9:00-9:50 a.m. – Opening Session - East Ballroom
Introduction by ISTeC Education Advisory Council Co-Chair Pete Seel

"The Merger of Designed and Real Worlds in Google Earth"

Scott Green, Engineering Site Manager, Google

Google Engineering Site Manager Scott Green will deliver a presentation on the use of 3-D design tools such as Google's SketchUp software to create realistic structures that can then be inserted into Google Earth. SketchUp is easy-to-learn software that is presently used by thousands of designers, engineers, and architects worldwide. The session will also explore the future of Google Earth as a visualization tool for ecologists, land use managers, natural scientists, engineers, and architects.

Scott Green is the site lead for the Google office in Boulder, Colorado. Google acquired @Last Software in 2006. At that time, Mr. Green was the VP of Engineering for @Last Software (SketchUp) and joined that company in 2003. Prior to that he was the Director of Engineering at E-mail Publishing / MessageMedia which was purchased by DoubleClick. Mr. Green is a graduate of Iowa State University with a B.S. in Mechanical Engineering.

1:00-1:50 p.m. – Keynote Address - East Ballroom
Introduction by ISTeC Director H.J. Siegel

"The Future of Innovation in IT"

Jurij Paraszczak, Ph.D., Director of IBM Research Industry Solutions and IBM Research relationship manager to the Venture Capital group

Innovation in IT continues -- not only does IT matter, it matters more than ever. Despite various pundit's claims that Information Technology is coming of age and that there is nothing left to invent, the truth is that not only is IT being used as a tool for invention, but invention in IT itself continues to grow and fuel the global economy.

From its original role in delivering ever-faster and cheaper processing power and denser storage, IT has become a tool which enables the analysis and development of business processes. It has become a tool providing insight into how enterprises behave and is expanding into the analysis of vast reams of information, extracting meaning and understanding. This talk will explore how the underlying technology which supports IT has led to ever-increasing sophistication of IT's capabilities and where it may migrate to innovate in the future.

Dr. Paraszczak is Director of IBM Research Industry Solutions and IBM Research relationship manager to the Venture Capital group in Hawthorne, New York, focusing globally on integrating technology components into solutions targeting specific industries. Previously, Dr. Paraszczak was Chief Technology Officer of the Venture Capital group and also Director of Technology for the IBM Research Emerging Business Group, where he was focused on technologies which support a broad range of industries including healthcare, digital media (with particular emphasis on games), finance, retail, telecommunications, and government.

3:00-4:00 p.m. – Closing Session - East Ballroom
Moderator: ISTeC Education Advisory Council Co-Chair Jim Folkestad

"Life in Virtual Worlds: Profiles of Unique Applications in _Second Life_"

Presenter: Richard Hackathorn, Ph.D., Bolder Technology, Inc.

This session will provide an exploration of unique applications in **Second Life** as examples of how this virtual world can be populated with "real" educational institutions. A virtual tour in-world will feature creative educational sites that can be accessed by any Second Life avatar. Panelists will appear as avatars in Second Life in a forum created for this session hosted by Second Life expert Dr. Richard Hackathorn.

Dr. Hackathorn is president and founder of Bolder Technology, Inc. (BTI) in Boulder, Colorado. BTI is a twelve-year old consulting and education firm specializing in the Information Technology industry. He has over thirty years of experience in the IT industry as a well-known industry analyst, technology innovator, and international educator. He has pioneered many innovations in database management, decision support, client-server computing, database connectivity, data warehousing, and web farming. Current focus areas are: Active (Real-Time) Business Intelligence, Associative Link Analysis, Web Farming, and Ethics of Business Intelligence.

Dr. Hackathorn has published several hundred articles in trade and academic publications, presented regularly at leading industry conferences, and conducted professional seminars in eighteen countries. He writes regularly for the Business Intelligence Network. He has written three professional texts, entitled _Enterprise Database Connectivity_, _Using the Data Warehouse_ (with William H. Inmon), and _Web Farming for the Data Warehouse._

For eleven years, Dr. Hackathorn was a professor at the Wharton School of the University of Pennsylvania and at the University of Colorado. He received his B.S. degree in Information Science from the California Institute of Technology and his M.S. and Ph.D. degrees in Information Systems from the University of California, Irvine.

Track 1 – The Future of ICT
Cherokee Park Ballroom

These sessions will provide views of the future of Information and Communication Technology (ICT) services from varied perspectives. Consumer and industry demand will drive the growth of these services and will directly influence ICT industry hiring and service/product development. Speakers will make predictions on future developments in each of these key areas.

Moderator: Session A – 10 a.m.	Edwin Chong, CSU Electrical and Computer Engineering Industry – Faculty – Government Panel **"The Future of ICT in Growth Industries: Public Health, Renewable Energy, and Disease Control"** **"The Future of ICT in Public Health"** Peggy Collins, IT Systems Engineer, Northrop Grumman CDC IT Support Contract **"The Future of ICT in Renewable Energy"** Sunil Cherian, CEO, Spirae Inc. **"Information Technology: New Capacity and Opportunities for Dengue Control in Mexico"** Barry J. Beaty, University Distinguished Professor, CSO, MicroRx
Session B – 11 a.m.	Industry Panel **Telecommunication Futures** **"Wireless Technologies: Shaping the Future, Creating Careers"** David J. Southern, Product Development Manager, FreeWave Technologies **"Systems for TV Delivery"** James H. Alexander, Sr. Architect & Software Development Manager, Echostar **"The Future of Television and The Future of Cable"** Donald P. Dulchinos, Senior VP Advanced Platforms, CableLabs
Session C – 2 p.m.	Industry – Faculty Panel **"The Future of the Internet"** Margarita Lenk – CSU Computer Information Systems Tim Barry, Configuration Management Software, Master Architect, Hewlett Packard Anura Jayasumana – CSU Electrical and Computer Engineering

Peggy Collins is an IT Systems Engineer serving as team technical lead with Northrop Grumman. She is currently assigned as a contractor with the Centers for Disease Control (CDC) in Fort Collins. Much of her work has been with CDC's arboviral surveillance team in developing and maintaining ArboNET, the national arboviral surveillance system, which also does all of the database and application support for the entire Vector Borne Diseases Division in Fort Collins and San Juan, Puerto Rico. Ms. Collins has a Bachelors of Music Education from UNC in Greeley and her Applied Technology Certificate was earned at the Information Technology Institute in Denver.

Sunil Cherian, Ph.D. is the founder and CEO of Spirae, Inc. in Fort Collins. He founded Spirae to develop and commercialize systems-level solutions for the large-scale integration of renewables and distributed energy into electric power systems and end-use applications. His expertise and professional interests include computational intelligence, distributed control and communications, new product development, renewable energy, and sustainable development. He also serves as an organizing committee member for the Northern Colorado Clean Energy Cluster that promotes economic vitality through sustainability and clean energy initiatives. Dr. Cherian earned his M.S. and Ph.D. degrees in Mechanical Engineering from Colorado State University in 1991 and 1995, respectively.

Barry Beaty, Ph.D., is Director of CSU's Infectious Disease SuperCluster and is Chief Scientific Officer of MicroRx, the enterprise arm of the SuperCluster. He has conducted a major research program in Mexico for many years that has focused upon defining the determinants of the emergence of epidemic dengue and dengue hemorrhagic fever. His research interests include: the evolutionary and emergence potential of arboviruses and rodent borne viruses, the molecular biology and ecology of vectors, principally mosquitoes, the development of new strategies and approaches to predict, prevent, and control the emergence of vector borne diseases.

David Southern, P.E., is a degreed and licensed professional engineer with FreeWave Technologies in Boulder, Colorado. He has 26 years of professional experience as an engineer and a manager. Mr. Southern traveled throughout North America, and Europe working on new product development projects in mining, water & wastewater, hazardous waste remediation, power generation, energy, and oil and gas. He enjoys building new stuff, metal fabrication, welding sculpture, home construction, and drag racing motorcycles. Mr. Southern's youngest daughter is a fourth year student at Colorado State University and is the Drum Major for the CSU marching band.

James H. Alexander, Ph.D. Dr. Alexander has been involved with the delivery of television services, interactive television services, and Internet services for over 15 years. He has led the development and deployment of consumer services via cable, satellite, and the Internet. His focus is upon the end-to-end system integration required for successful product deployments.

Donald P. Dulchinos is Senior Vice President, Advanced Platforms and Services, for Cable Television Laboratories, Inc. (CableLabs ®) in Louisville, Colorado. Mr. Dulchinos directs and manages the OpenCable project, an initiative of the cable television industry being managed through CableLabs with a goal of defining a family of advanced, interactive digital devices which support the range of current and future digital cable product offerings. The family of devices includes set-top boxes, digital televisions, personal computers, and more. Product offerings include interactive program guides, video on demand, interactive television, and more.

Margarita Lenk, Ph.D., is an Associate Professor in the Department of Computer Information Systems and the Department of Accounting in the College of Business at Colorado State University (CSU), in Fort Collins, Colorado. Margarita was awarded her Ph.D. from the University of South Carolina's College of Business Administration in Accounting and Management Information Systems. She teaches Internet Strategy, Accounting Information Systems, and Cost Accounting at both the undergraduate and graduate levels.

Tim Barry is a member of Hewlett-Packard's Configuration Management Software Group in Fort Collins where he is a Master Architect and leads the development of HP's OS Management Software. Before that he led a performance engineering team at a startup computer company (Digital Archway). He is currently the lead developer for an HP product that manages, deploys, configures and heals the OS installations of mass PC and server installations. Mr. Barry holds patents on numerous software innovations and has more than 20 years experience in the field. He holds a B.S.C. and M.S.C. in Computer Science from the University of Minnesota. He has held numerous technical and leadership roles in developing systems and networking software for Unix, Linux, and Windows platforms.

Anura Jayasumana, Ph.D., is a Professor in Electrical & Computer Engineering and also holds a joint appointment in the Computer Science Department. His areas of expertise include Applications and Protocols for Next Generation Internet, Sensor Networks, Optical Networks, and Testing and Testable Design of VLSI. He is a member of the NSF Engineering Research Center for Collaborative Adaptive Sensing of the Atmosphere. He is the author of a book and over 175 publications in his areas of research and has advised over 60 Ph.D. and M.S. students at CSU. He has served extensively as a consultant to industry, ranging from startups to Fortune 100 companies.

Track 2 – Digital Visualization Futures
Room 228

Digital imaging is an area with high growth potential in the future. New cameras are being created that can acquire high-definition digital video *and* also take high-resolution still photos. Many creative software applications have emerged in the past two years and include tools that can assist in visualizing our planet (Google Earth and Geotechnologies), creating 3-D virtual structures using digital still photos (SketchUp), or merging real and virtual elements in digital worlds that have remarkable levels of realism.

Moderator:	Jamie Switzer, Journalism and Technical Communication
Session A – 10 a.m.	**"The Merger of Still and Video Imaging"** Robert Gann, Master Engineer, Hewlett Packard
Session B – 11 a.m.	**"Isn't That Spatial? Mapping Your Future with Spatial Thinking and GeoTechnologies "** Joseph J. Kerski, Geographer, Environmental Systems Research Institute (ESRI)
Session C – 2 p.m.	**"Using SketchUp in Google Earth"** Aidan Chopra, Product Evangelist, Google

Robert (Bob) Gann, Ph.D., is a master engineer in the HP Digital Camera and Scanner (Image Capture) Group in Fort Collins and focuses on advanced image processing technologies, image quality, and future technology directions for HP digital image capture devices. He has worked in the area of digital image capture quality for more than 15 years. Dr. Gann's focus is on the area of captured image quality with a primary focus on scanners and digital cameras, but always from a system and customer solution view.

Dr. Gann is the author of "Desktop Scanners: Image Quality Evaluation" as well as three previous scanner image quality books and has contributed to several other books published by HP. Dr. Gann interacts regularly with the technical press and scientific community both inside and outside Hewlett-Packard and has been presenting technical seminars about digital imaging for over 13 years. He holds 15 patents with several pending.

Joseph J. Kerski, Ph.D., serves as education curriculum manager for Environmental Systems Research Institute, Inc. (ESRI). He has served as geographer for the USGS and the US Bureau of Census, and has taught 40 workshops annually for the past 15 years for a wide variety of educators, students, scientists, policymakers, and others in academia, K-12 education, government agencies, nonprofit organizations, and private industry around the world. With three degrees in the field, Dr. Kerski focuses on the incorporation of spatial thinking and Geographic Information Systems, Global Positioning Systems, Web-based mapping, and Remote Sensing technologies into education and in society for better decision making to benefit people and the planet.

Aidan Chopra is a Product Evangelist at Google. Aidan recently wrote "Google SketchUp for Dummies" and writes "SketchUpdate," a monthly e-mail newsletter that reaches half a million SketchUp users worldwide. He has a Masters of Architecture degree from Rice University.

Track 3 - Trends in Computer Security
North Ballroom

As computer software and interconnected networks have become more sophisticated and complex, criminal elements have emerged to exploit system vulnerabilities with theft, disruptive viruses, and direct attacks on networks. Identity theft and cyber-warfare attacks are also areas of increasing international concern. This track will explore present and future trends in computer security, a rapidly-growing field in information science and technology.

Moderator:	Wim Bohm, Computer Science
Session A – 10 a.m.	**"Fighting Future Cybercrime"** Joseph C. Schwecke, Special Agent, FBI
Session B – 11 a.m.	**"Botnets – Zombies, Masters, and Victims by the Horde"** Michael J. Staggs, Chief Investigator, FireEye, Inc.
Session C – 2 p.m.	Industry – Faculty Panel **"The Future of Computer Security"** Indrajit Ray, Computer Science Terry Escamilla, IBM Joe Gersch, Vice President of Engineering, Secure64

Joseph C. Schwecke. Supervisory Special Agent Schwecke entered duty with the Federal Bureau of Investigation (FBI) in 1984 and has experience in investigating white collar criminal cases that included bankruptcy fraud, wire fraud, bank fraud, and governmental fraud. Previously assigned to the FBI's New York Office, he worked on matters involving foreign counterintelligence, and most recently was the Crimes against Children Coordinator for the Denver Division of the FBI. Now promoted to lead the FBI's Cyber Crimes program for the states of Colorado and Wyoming, he is charged with identifying the criminal, state-sponsored, and terrorist intrusions of computers/networks, as well as crime matters involving the Internet, including theft of identity, intellectual property rights, fraud, and the sexual exploitation of children.

Michael J. Staggs, Ph.D., is Chief Investigator for FireEye, Inc., a Menlo Park, California, a firm that supplies IT security systems and software to industry and government clients. His position involves the forensic and investigative aspects of network crime and abuse. Dr. Staggs has more than 20 years of network security experience and has taught at:
   -Case Studies in Botnet behavior, Colorado Technical University
   -Advanced Forensic Techniques, University of Denver
   -Integrating Network and Host Forensics, University of Denver

Indrajit Ray, Ph.D., is an Associate Professor in the Computer Science Department at Colorado State University. He joined the faculty of Computer Science in August 2001. From Fall 1997 to Winter 2001 he was tenure track faculty in the Computer and Information Science Department at the University of Michigan-Dearborn. He teaches courses in computer networks, database systems and computer security. Dr. Ray's main research interests are in the areas of security models, database and network security and computer forensics. Some of his recent works involve developing secure transaction processing systems and designing secure and reliable fair-exchange protocols, anonymous protocols, and voting protocols. One of his current on-going projects proposes a new model of trust for developing trustworthy systems from semi- or un-trustworthy components and actors. A second on-going project develops a model for predicting malicious attacks from the authorized insider. A third project addresses the survivability of long duration transactions in the face of malicious attacks.

Terry Escamilla, Ph.D., is a Senior Technical Staff Member who started his career with IBM in 1991 when he joined the RS/6000 Division in Austin. While in Austin, Dr. Escamilla was a member of the AIX System Architecture team working in several areas including security, distributed systems management, object technologies, and system packaging. He joined Haystack Labs in 1996 – a startup firm in Austin specializing in intrusion detection products. After Haystack was acquired by Trusted Information Systems in 1998, he rejoined IBM to work on e-business strategy and architecture for IBM's Software Group Division in Boulder. After five years in SWG, he joined IGS Global Security Services where he worked as an architect before joining the CIO Security team in 2004. Dr. Escamilla is also an Adjunct Professor at the University of Colorado. He has a B.S. degree in Psychology, and M.S. and Ph.D. degrees in Computer Science. His interests include computer security, cryptography, distributed systems, artificial intelligence, object technologies, and software engineering.

Joe Gersch is Vice President, Engineering, directing software development and productization at Secure64. He is retired from Hewlett-Packard and served as an independent technology marketing consultant before joining Secure64. During his 24 years with HP, he managed Research and Development and Marketing departments that delivered innovative products across a wide range of technologies. Product responsibilities included HP OpenView, HP Smart Card Center, HP Enterprise Networking and Security, as well as HP Engineering Workstations, CD Writer, Tape Storage Products, and HP UX. He earned a B.S. in Computer Science at the University of Michigan and an M.S. in Computer Science from Colorado State University. He is also a board member of OpenView Forum International and an advisory board member of Voyence, Inc.

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