



Sponsors



16th Annual TFI Technology Conference

Thursday & Friday, January 21-22, 1:00-5:00 pm CST

Networking 1/2 hour before (12:30-1pm) and after (5-5:30pm)

Conference Papers, Videos, and Bios:
<https://tfi-ctfg.com/2021-tfi-conference/>
Papers will be uploaded as we receive them

Conference will be recorded via Zoom and videos posted after the conference

Facebook & YouTube: TFI Technology Conference

Twitter: [@AssetValConf](https://twitter.com/AssetValConf)



84 Waller, Austin, Texas 78702, USA
info@tfi.com • www.tfi.com • www.ctfg-tfi.com
Copyright © 2021, Technology Futures, Inc.

16th Annual TFI Technology Conference

January 21-22, 2021 – Online Conference

Schedule and Speakers

THURSDAY JANUARY 21, 2021 (Central Time)

12:30 - 1:00 **Zoom opens for Networking**

1:00 - 2:00 **Wireless Keynote**

Iain Gillott, President, iGR

2:00 - 2:30 Discussion & West Coast Lunch Break

2:30 - 3:30 **Policy Keynote**

Blair Levin, Non-resident Senior Fellow, The Brookings Institution

3:30 - 4:30 **Economic Update**

Michael A. Sadler, Ph.D., Department of Economics, Department of Finance, McCombs School of Business, University of Texas at Austin

4:30 - 5:00 **Discussion Session**

5:00 - 5:30 **Virtual Reception & Networking**



Friday January 22, 2021 (Central Time)

12:30 - 1:00 **Zoom Opens for Networking**

1:00 - 2:00 **Broadband Keynote**

Jeff Baumgartner, Senior Editor, Light Reading

2:00 - 2:30 **Discussion & West Coast Lunch Break**

2:30 - 3:30 **TFI Forecasts Update**

Lawrence K. Vanston, Ph.D., Conference Director, President, TFI

Ray Hodges, Senior Consultant, Technology Futures, Inc.

3:30 - 4:30 **Communications Technology Update**

August (Augie) Grant, Ph.D., Professor, School of Journalism and Mass Communications, University of South Carolina; Co-Editor, Communications Technology Update and Fundamentals

4:30 - 5:00 **Discussion Session**

5:00 - 5:30 **Virtual Reception & Networking**

16th Annual TFI Technology Conference

January 21-22, 2021



TFI Team

Lawrence Vanston, Ph.D.
Conference Director,
President,
Technology Futures, Inc.
512-415-5965
lvanston@tfi.com

Ray Hodges
Senior Consultant,
Technology Futures, Inc.
727-692-0133
rhodges@tfi.com

Carrie Vanston
CEO, The Alligator Wrangler
Conference Associate,
Technology Futures, Inc.
512-740-9089
carrie@carrievanston.com

John Vanston, Ph.D.
Chairman,
Technology Futures, Inc.
512-258-8898
jvanston@tfi.com

Helen Mary Marek
Conference Liaison
VP, Operations &
Creative Director,
Technology Futures, Inc.
512-914-8038
hvmmarek@tfi.com

Hudson Marek
Videographer
512-963-6626
hudsonmarek@gmail.com

16th Annual **TFI Technology Conference**

Special Thanks to our 2021 Sponsors



CostQuest Associates serves as the frontrunner in designing, developing and implementing economic models for the telecommunications industry. And rightfully so; our company holds a “jack of all trades” persona, as it provides the modeling, input, training, maintenance, testimony and witnessing that is required of any model used in advocacy or public hearings.

Global knowledge of costs, business functions, network modeling, telecommunications, economics, regulation, and applying the right data to make accurate business decisions: this is what CostQuest brings to the table to solve your business issues.

CostQuest information systems and services deliver comprehensive solutions to complicated business challenges. Our strength lies in our ability to understand complex business issues, systems, networks and policies, and then provide a solution that focuses on the bottom line.

www.costquest.com



Too much stress and frustration at work? Tired of being in up to your neck in alligators? Flee the fixed mind alligator pit. Embrace an Energized Leadership Mindset overflowing with inspiration and opportunity.

thealligatorwrangler.com



Duff & Phelps is the global advisor that protects, restores and maximizes value for clients in the areas of valuation, corporate finance, investigations, disputes, cyber security, compliance and regulatory matters, and other governance-related issues.

We work with clients across diverse sectors, mitigating risk to assets, operations and people. With Kroll, a division of Duff & Phelps since 2018, our firm has nearly 3,500 professionals in 28 countries around the world.

www.duffandphelps.com



Founded 1978, Technology Futures, Inc. provides custom research and consulting in technological forecasting, mostly in communications and high-tech. Applications for TFI forecasts include strategic planning, finance, and asset valuation. Beyond its core mission, TFI is active in leadership coaching, technology innovation, and the arts. We are always looking for new ways to make the world better.

www.tfi.com
www.tfi-ctfg.com
www.minitrends.com
carrievanston.com



TFI Technology Conference



Maura's Voice strives to learn as much as possible about violent acts and how to prevent them - particularly those motivated by hate. We are a positive force for cultural change.

“I can hear Maura's Voice, and I hope you can too.”

— Jeff Binkley, Maura's Voice Co-Founder and Maura's Father

MAURA'S STORY

Maura Binkley was a daughter. A friend. A world traveler. A sorority leader. A penguin lover. A cake baker. A race runner. An English-loving German major. She loved her family, her friends, public radio, rap music, and her Husky, Wolfie.

On November 2, 2018 a man walked into a hot yoga studio in Tallahassee, Florida and opened fire. He wounded four and killed two women including Maura. The victims were targeted for no other reason than being women.

But Maura's story does not end there. She believed that love conquers hate. She aspired to be a diplomat, putting her passion for listening to all sides, learning from all perspectives, and advocating on behalf of the greater good to use on a world scale. She was a change agent. She is still a change agent.

100% of contributions to Maura's Voice will fund research and response efforts around effectively addressing violence in our society, with a focus on prevention of violence against women and girls, and that driven by hate.

maurasvoice.org
 @maurasvoice

16th Annual TFI Technology Conference January 21-22, 2021 – Keynote & Guest Speakers



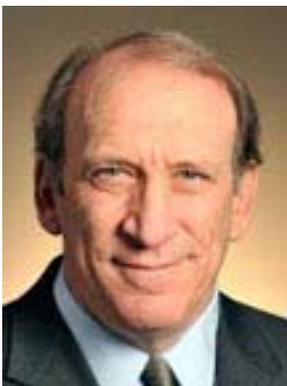
Iain Gillott

President, iGR

Iain Gillott, the founder and president of *iGR*, is an acknowledged wireless and mobile industry authority and an accomplished presenter. Mr. Gillott has been involved in the wireless industry, as both a vendor and analyst, for over 20 years. *iGR* was founded in 2000 as *iGillottResearch*, Inc. in order to provide in-depth market analysis and data focused exclusively on the wireless and mobile industry.

Before founding *iGR*, Mr. Gillott was a Group Vice President in IDC's Telecommunications practice, managing IDC's worldwide research on wireless and mobile communications and Internet access, telecom brands, residential and small business telecommunications and telecom billing services. Prior to joining IDC, Mr. Gillott was in various technical roles and a proposal manager at EDS (now HP), responsible for preparing new business proposals to wireless and mobile operators.

Mr. Gillott is a frequent speaker on industry issues and trends and has addressed audiences around the world over the past twenty years. In the past few years, he has spoken at many of the leading industry trade shows, including PCIA 'The Wireless Infrastructure Show', the DAS Forum, Southern Wireless Summit, CES, 4G World, CTIA, Small Cells Global Congress, and DAS Congress. He has also been a guest lecturer on the wireless industry at the University of Texas and at Thunderbird. In addition, he is frequently quoted in various publications, including *Wireless Week*, *FierceWireless*, the *Wall Street Journal*, *Newsweek International*, and *Business Week* and has appeared on CNN, CNBC, and TechTV.



Blair Levin

Non-resident Senior Fellow, The Brookings Institution

As Non-Resident Senior Fellow at The Brookings Institution, Blair Levin works with cities to assist in upgrading broadband networks and expanding broadband access. He continues to direct Gig.U: The Next Generation Innovation Project, a coalition of three-dozen research university communities seeking to accelerate the deployment of next generation networks in their communities

Previously he was Communications & Society Fellow with the Aspen Institute Communications and Society Program on May 10, 2010, following his departure from the Federal Communications Commission, where he served as the Executive Director of the Omnibus Broadband Initiative. In his role at the Federal Communications Commission, Mr. Levin oversaw the development of a National Broadband Plan, a project mandated by Congress in the America Recovery and Reinvestment Act. Mr. Levin rejoined the Commission in June, 2009, after eight years as an analyst at Legg Mason and Stifel Nicolaus.

Blair Levin joined the Stifel Nicolaus Research Team (then Legg Mason) in 2001 as the firm's principal telecom, media and tech regulatory and strategy analyst.

Mr. Levin served as chief of staff to Chairman Reed Hundt at the Federal Communications Commission from December 1993 through October 1997. Mr. Levin's time at the Commission included the most productive and important period in the Commission's history. Described by Broadcast and Cable Magazine as "The Sixth Commissioner," Mr. Levin oversaw, among other matters, the implementation of the historic 1996 Telecommunications Reform Act, the first spectrum auctions, the development of digital television standards, and the Commission's Internet initiative.

Prior to his position with the FCC, Mr. Levin was a partner in the North Carolina law firm of Parker Poe, Poe, Adams and Bernstein, where he represented new communications ventures, as well as numerous local governments on public financing issues. He is a summa cum laude graduate of Yale College and Yale Law School.



Michael A. Sadler, Ph.D.

Department of Economics, Department of Finance,
McCombs School of Business, University of Texas at Austin

Dr. Michael Sadler is a Senior lecturer in the Department of Finance at the McCombs School of Business as well as the Department of Economics at UT-Austin. Dr. Sadler's career as an economist began as a research economist at the Centre for Economic Performance at the London School of Economics, where his research focused on European and U.S. labor markets. After receiving his Ph.D. at the University of Texas at Austin, Dr. Sadler was an assistant professor in economics at Kansas State University. In 2000, Dr. Sadler returned to Texas and transitioned to the private sector as an economic and financial consultant. Throughout his consulting career, he has continued to teach on a part time basis in the Department of Economic at UT – Austin, specializing in macroeconomics and monetary economics. As an academic, Dr. Sadler is a published author in the area of macroeconomics and growth theory. As a consultant, Dr. Sadler has provided expertise in the areas of economic and financial analysis, valuation, forecasting and statistical analysis to clients in a wide range of industries, including financial services and banking, energy, pharmaceuticals, computer hardware and software and transportation. Dr. Sadler is also a frequent speaker at professional conferences and seminars in the area of the current status of the United States and global economy, financial markets analysis, and macroeconomic policy.



Jeff Baumgartner

Senior Editor, Light Reading

As Senior Editor, Jeff Baumgartner is responsible for Light Reading's day-to-day news coverage and analysis of the cable and video sectors, and works in tandem with the editorial team on various Light Reading events.

Baumgartner, who previously served as Site Editor for Light Reading Cable from 2007 to 2013, most recently was Senior Content Producer of Technology at Multichannel News, heading up tech coverage for the publication's online and print platforms, and was a regular contributor to Broadcasting & Cable, a sister publication to Multichannel News. Earlier this year, Baumgartner was named to the 2018 class of the Cable TV Pioneers to be inducted on Oct. 22, 2018, in Atlanta.



August (Augie) Grant, Ph.D.

J. Rion McKissick Professor of Journalism and Director of the Center for Teaching Excellence at the University of South Carolina

Co-Editor, *Communications Technology Update and Fundamentals*

Dr. August E. ("Augie") Grant is a technology futurist who specializes in research on new media technologies and consumer behavior. His teaching and research combine the study of traditional and emerging media, with emphases on media management, organizational structure, integrated communication and consumer behavior. He specializes in integrating both quantitative and qualitative research to provide a rich understanding of consumer behavior. In the past twenty years, he has conducted or supervised more than 120 survey research projects. On the qualitative side, he has conducted more than 60 focus groups since 1998. He has written numerous journal articles and conference papers dealing with adoption and use of emerging communication technologies, broadband services, audience behavior, and theories of new media.

Grant is also one of the most prominent academics working in the field of convergent journalism. He is coeditor of *Understanding Media Convergence: The State of the Field* and co-author of *Principles of Convergent Journalism*, both published by Oxford University Press. His work in media convergence includes founding and serving for five years as Executive Editor of *The Convergence Newsletter*, chairing nine national conferences on convergent journalism since 2002, and directing the Newsplex Summer Seminar program to train academics in convergent journalism.

Dr. Grant is best known as Editor of *Communication Technology Update and Fundamentals*, a biennial review of the latest developments in consumer electronics, telephony, electronic mass media, and satellite technology. The Update, as of 2014, in its 14th edition, is produced in cooperation with Austin-based Technology Futures, Inc. It is used extensively in industry and has become one of the top-selling textbooks in the field of Communication Technology.

His first teaching job was at Sam Houston State University in 1983. After completing his doctorate at the University of Southern California, he joined the faculty of the University of Texas at Austin. He was the UT representative to the Texas Association of Broadcast Educators from 1989 through 1997. During that time, he served as President, Secretary, and Treasurer of TABE, as well as representing TABE on the Texas Association of Broadcasters Board of Directors. He also served on the board of the Texas Broadcast Education Foundation, spearheading fund-raising events to fund new scholarships for prospective Texas broadcasters. Since 1994, Grant has been a consultant to the Texas Association of Broadcasters, conducting a variety of research projects including TAB's annual Public Service Study. Grant currently serves on the Board of Directors of the Broadcast Education Association.

Dr. Grant has also been published in virtually every major academic journal in the communication field, including *Journal of Communication*, *Journal of Broadcasting and Electronic Media*, *Journal of Media Economics*, and *Communication Research*. The major theme of his research studies is the application of theory to understand practical problems and emerging phenomena in the communication industries. Dr. Grant is also a frequent speaker on consumer behavior and market opportunities for emerging technologies.

Dr. Grant began a career in local broadcasting while earning his undergraduate degree in Telecommunications from the University of Florida. His subsequent work in radio, television, and corporate communications inspired him to return to the University of Florida to earn a Master's degree in Journalism and Mass Communication. He subsequently joined the faculty of the Radio-Television-Film Department at Sam Houston State University. The appeal of a career in research led to doctoral studies at the Annenberg School for Communications at the University of Southern California. After completing his doctorate, he began a new dual career as an academic and industry consultant, with clients including the Fox Broadcasting Network, the Academy of Television Arts and Sciences, Group W Productions, and Nielsen Media Research. After spending nine years with the Department of Radio-Television-Film at the University of Texas at Austin, he became the founding Director of the Center for Mass Communication Research in the College of Journalism and Mass Communications at the University of South Carolina. From 1998 through 2000, he was Director of Market Research for a 2Wire, Inc., a telecommunications start-up located in San Jose, California. He rejoined the USC faculty in 2002.

16th Annual TFI Technology Conference

January 21-22, 2021 – TFI Staff Bios



Lawrence K. Vanston, Ph.D.

Conference Director, President, Technology Futures, Inc.,
512-415-5965, lvanson@tfi.com

Dr. Lawrence Vanston is an internationally recognized authority on technology forecasting for the communications industry. As president of Technology Futures, Inc., he has conducted and managed future-looking studies for the communications and other high-tech industries for over thirty years. His current research interests include broadband, wireless, video, and emerging technologies. An expert on the impact

of technology change on equipment depreciation and valuation, Dr. Vanston has served as an expert witness in regulatory, tax, and other proceedings.

Dr. Vanston has been the director and principal author of numerous reports and papers commissioned by government agencies, industry organizations, and individual companies, including all of the major U.S. broadband and wireless providers. The Communications Technology Forecasting Group (CTFG), currently comprised of AT&T, Charter, Comcast, and Cox, has been actively supporting TFI research since 1985. Dr. Vanston is Editor of the CTFG blog and resource website.

Dr. Vanston is a popular speaker on the future of communications and on forecasting methods. Programs he has spoken at include the *Broadband Tax Institute Conference*, the *International Institute of Forecasters International Symposium*, the *Society of Depreciation Professionals Conference*, and the *Wichita Program for Appraisal for Ad Valorem Taxation*. Dr. Vanston also directs the annual *TFI Technology Conference* which he launched in 2006.

Before joining Technology Futures in 1984, Dr. Vanston was with Bell Labs and Bellcore in network planning where he proposed and evaluated potential new long distance, billing, access, and data services. His academic achievements include a B.A. in government (1975) and an M.S. (1977) and Ph.D. (1979) in operations research and industrial engineering, all from the University of Texas at Austin.



Ray L. Hodges

Senior Consultant, Technology Futures, Inc.
727-641-3589, rhodges@tfi.com

Mr. Hodges brings 40 plus years of telecommunications expertise and experience to TFI's clients. As Senior Consultant at Technology Futures, Inc., Mr. Hodges' research has been focused on both emerging wireless and wireline technologies, their markets, and their impacts on the public telecommunications network.

Since joining TFI in 1994, he has managed and worked on numerous projects related to his expertise for leading companies and organizations such as ALLTEL, AT&T, Bell Canada, Boeing, Bosch, Citizens, Cincinnati Bell, Coca-Cola, Deloitte & Touche, Evergreen School District, GAO, Hughes, Motorola, NIMA, NSA, Qwest, Raytheon/TI, Rice University, Samsung, Qwest, Southern Company, Embarq, Taiwan Semiconductor Manufacturing Company, Teleglobe, Telus, and Verizon.

Mr. Hodges has been the author or co-author of a number of ongoing reports commissioned by Communications Technology Forecasting Group (CTFG), currently comprised of AT&T, Charter, Comcast, and Cox,. Topics have included Internet access requirements, xDSL technologies, ATM switching, fiber optics, video services, and wireless communications. Mr. Hodges is co-author of TFI's signature publication *Transforming the Local Exchange Network*.

Mr. Hodges' views and the results of his research are regularly cited by general business and industry publications including *America's Network*, *Inter@ctive Week*, *ISDN News*, *Lightwave*, *Research Alert*, *Telecom Insider*, *Telephony*, *Wireless Systems Design*, and *Wireless Today*.

Prior to joining TFI, Mr. Hodges spent 25 years with GTE Telephone Operations (now Verizon) under the titles of Manager of Separations & Access Costs, Revenue Manager of Revenue Planning, Manager of Capital Recovery, Revenue & Earnings Coordinator, Business Relations Administrator, Senior Planning Analyst, Engineer and Assistant Engineer. His activities included successful strategy development, expert testimony and defense of capital recovery, and network-related issues in numerous rate cases and depreciation filings.

As a member of the Institute of Electrical and Electronic Engineers (IEEE), Mr. Hodges has served as vice chairman of IEEE's Technology Forecasting and Assessment Committee and as chairman of IEEE Communications Society Florida West Coast Section. He is also a senior member of the Society of Depreciation Professionals. He holds a B.S. from Georgia Southern University in industrial management and technology.



John Vanston, Ph.D.

Chairman, Technology Futures, Inc.

512-258-8898, jvanston@tfi.com

Dr. John Vanston is an internationally-renowned consultant, educator, and award-winning author in the fields of technology forecasting, technology/market integration, trend analysis, and technology management in uncertain environments. His book *MINITRENDS: How Entrepreneurs & Innovators Discover & Profit From Business & Technology Trends*, is an Eric Hoffer Business Book Award Winner, a ForeWord Review's Book of Year Finalist, and has received many excellent reviews and endorsements from prestigious publications and distinguished individuals.

He founded Technology Futures, Inc. (TFI) in 1978, and served as its president for 14 years, building the Austin, Texas-based company into a leader in the technology forecasting, trend analyses, planning, and management fields.

During his career, Dr. Vanston has managed multimillion-dollar high-tech R&D projects, fashioned a computer-based program for planning and managing complex research activities, and developed a formal system for promoting and targeting innovation activities. He is the primary architect of TFI's popular forecasting concepts *Five Views of the Future™* and *Technology Advantage Management*.

Dr. Vanston has provided services for a wide range of commercial, government, and academic organizations, including, among many others, 3M, Chevron, Kodak, Hughes Space and Communications, the National Security Agency, the National Imagery and Mapping Agency, and Rice University. He is a popular speaker on the subjects of forecasting, trend analysis, and minitrends.



Carrie Vanston

CEO, The Alligator Wrangler

Conference Associate, Technology Futures, Inc.

512-740-9089, carrie@carrievanston.com, www.carrievanston.com

Carrie Vanston helps executives who are up to their necks in alligators increase their energy and leadership levels so they can reach their goals quicker and with less stress. Her popular Mindset Accelerator for Leadership Success Programs help people move on from the proverbial alligator pit to grow their businesses and lead lives of joy and abundance.

Carrie co-authored the award-winning book *MiniTrends: How Innovators & Entrepreneurs Discover & Profit From Business & Technology Trends*. Her article "Energize Your Mindset: 7 Tips for Getting Out of the COVID-19 Alligator Pit" recently appeared in *Texas CEO Magazine*. Her "Crucial Keys to a Thriving Business Culture" is included in Austin's National Speakers Association anthology.

Carrie previously led Corporate Cultures That Rock, where she helped build transformational organizations. Prior to that she was Vice President of Communications for Technology Futures, Inc. and directed TFI's MiniTrends Project. She is presently a TFI Board Member.

She is a popular speaker on being a more energized, visionary leader. Her presentations have included the Project Management Institute, ETWT, World Futures Society, ICF, IEEE, Texas Women's Chamber, and many others.

She leads the Association of Corporate Growth's (ACG) Austin-San Antonio C-Suite Roundtable and Mastermind, where she is also the Ambassadors Officer. She was recently nominated for Austin Business Journal's Profiles in Power.

Carrie is an Energy Leadership Index Master Practitioner (ELI-MP), iPEC Certified Professional Executive Coach (CPC), and Accredited ICF Coach (ACC).

On the personal side, Carrie loves to dance, travel, and spend time with her two children.



Helen Mary Marek

Conference Liaison, VP Operations/Creative Director,
Technology Futures, Inc.

512-914-8038, hvmmarek@tfi.com, www.tfi.com, www.vanmarek.com

Helen Mary is intricately involved with all aspects of TFI's traditional and electronic media and website design. Her expertise includes computer graphics, presentation visuals, design and layout, corporate identity, photography and photo editing, and displays.

Activities at TFI range from layout and logos for several TFI publications to the the cover and graphics of the award-winning book *MiniTrends* by Dr. John H. Vanston and Carrie Vanston. She plays an important role in the bi-annual college textbook *Communication Technology Update and Fundamentals*, now in its 17th edition. She also designs TFI's annual holiday card.

In addition to her creative responsibilities, Helen Mary serves as VP of Operations of Technology Futures where she leads day-to-day corporate operations and general management. She is the event liaison of the popular TFI's Technology Conference, now in its 15th year.

Helen Mary holds a Bachelor of Fine Arts in Graphic Design from Texas State University, San Marcos and, prior to that, studied Architecture at the University of Texas at Austin.

Outside of TFI she is a visual artist designing art and jewelry utilizing a range of new and upcycled materials, photography, and traditional media as VanMarek Design. She is also the Associate Director of Art84.org.



Hudson Marek

Videographer

512-963-6626, hudsonmarek@gmail.com

Hudson is a freelance photographer and videographer. He was the lead videographer for the 2020 *TFI Technology Conference*, and assistant videographer for the three years prior. For the 2021 virtual TFI conference, he is helping capture and edit the zoom presentations. Over the past two years Hudson has been working with Dan Winters Photography, TableRock Productions, Broadway Digital, TriadMedia, and other local film production organizations. He is a recent graduate from the Moody College of Communication of the University of Texas at Austin in Radio/Television/Film.