



About the ...

Technology Horizons Program

The Technology Horizons Program combines a deep understanding of technology and societal forces to identify and evaluate discontinuities and innovations in the next three to ten years. We help organizations develop insights and strategic tools to better position themselves for the future. Our approach to technology forecasting is unique—we put humans in the middle of our forecasts. Understanding humans as consumers, workers, householders, and community members allows IFTF to help companies look beyond technical feasibility to identify the value in new technologies, forecast adoption and diffusion patterns, and discover new market opportunities and threats.

The Institute for the Future

The Institute for the Future (ITF) is an independent, nonprofit strategic research group celebrating its 40th year of forecasting experience. The core of our work is identifying emerging trends and discontinuities that will transform global society and the global marketplace. We provide our members with insights into business strategy, design process, innovation, and social dilemmas. Our research generates the foresight needed to create insights that lead to action. Our research spans a broad territory of deeply transformative trends, from health and health care to technology, the workplace, and human identity. The Institute for the Future is located in Palo Alto, California.

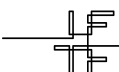




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WELCOME

Welcome to the **Future of Making!**

We are on the verge of a transformation of how products are designed, manufactured, and distributed. The entire supply chain is undergoing reinvention and the impact will be felt not only by manufacturers but also by individuals, households, communities, even entire regions. Driven by the need to innovate faster than ever before, green aspirations, and a quest for authenticity, new paradigms for “making things” are emerging. The introduction of cheap 3D printers, the growth of the Do-It-Yourself (DIY) culture, the rise of ad hoc manufacturing, and the popularity of collaborative communities around ideas, designs, and R&D all point to how the future of making may play out.

After a day of immersion in Maker Faire’s community of makers, we will help you put what you touched, explored, played with, and discovered at the Faire into context. We’ll also unpack our forecast of the Future of Making and help answer some of the questions relevant to you and your organization in this new world of highly networked, highly motivated, and highly innovative makers. What will new models for making look like? Who will be the new makers? What role will your organization play in the new production chain and what will it mean for how you relate to your customers?

We hope that you leave this exchange with the foresight and insight you’ll need to take action and be successful in the Future of Making.

Welcome!



Day 1

Maker Faire | Sunday, May 4, 2008

11:00 AM **MAKER FAIRE OPENS**

**11:00 AM–
2:00 PM** **MAKING SENSE OF MAKER FAIRE &
CONFERENCE REGISTRATION**

Stop by IFTF's "Make the Future" pavilion to register for the conference and receive instructions before venturing out to explore the Faire. Please plan to spend approximately three hours at the Faire seeking signals, from projects to people, that provoke us to rethink our understanding of how innovation, design, and manufacturing can be done. Take time to really explore the Faire and, most importantly, have fun!

6:00 PM **MAKER FAIRE CLOSES**

Day 2

Marriott San Mateo | Monday, May 5, 2008

8:00 AM **BREAKFAST & REGISTRATION**

8:15 AM **WELCOME FROM IFTF**

Marina Gorbis, Executive Director and Director,
Technology Horizons, IFTF

9:15 AM **MAPPING THE TERRAIN**

David Pescovitz, Research Director, IFTF

David Pescovitz will take us on a tour of the *Future of Making Map*, highlighting hotspots and dilemmas relevant to organizations and individuals.

9:45 AM **MAKE: AND THE MAKER MINDSET**

David Pescovitz, Research Director, IFTF
Dale Dougherty, Founder and Editor, *MAKE*:

Dale Dougherty will sit down with David Pescovitz to talk about the resurgence of DIY culture and why Maker Faire is the World's Fair of today.

10:15 AM **BREAK**

10:30 AM **OPEN-SOURCE EVERYTHING**

Moderator:

Mike Liebhold, Senior Researcher, IFTF

Panelists:

bunnie Huang, Founder, Chumby Industries

Dan Morrill, Developer Advocate, Google

Brian Carver, IP Attorney, Fenwick & West, LLP

From P2P file sharing to open-source software, today's public has very different expectations about what should be free and open to customization. In this panel, moderated by IFTF's Mike Liebhold, we will examine the role of intellectual property in an open-source culture.

11:30 AM **CUBA'S MAKERS: HACKING BY NECESSITY**

Joshua Kauffman, REGIONAL
Gwendolyn Floyd, REGIONAL

Notoriously good at doing more with less, both the Cuban people and government have been able to survive, and in some cases flourish, in conditions of constraint. With examples of both civilian and military hacking, Joshua and Gwendolyn will dive into the fundamental relationship between emerging technology and emerging social forms and share a few things to consider for technological development in every part of the world.

12:00 PM LUNCH

Sign up for a real-world problem during the lunch break.

1:30 PM CITIZEN R&D

Moderator:

Marina Gorbis, Executive Director, IFTF

Panelists:

Eric Wilhelm, Founder, Instructables.com

Dr. Hugh Rienhoff, Founder,
MyDaughtersDNA.org

Jeana Frost, Research Scientist,
PatientsLikeMe.com

Gary Wolf, *Wired*

New approaches to innovation are on the horizon, approaches that seem to indicate a shift from R&D labs to R&D communities. This expert panel, moderated by IFTF's Marina Gorbis, will address how companies can engage with lead users and citizen scientists for outsourced problem solving, product development, and conversational marketing.

2:30 PM Q&A AND INSIGHT DISCUSSION

We'll look to the audience for questions generated by the panel and insights and discussion tying the panel to our attendees' own companies and experiences.

3:00 PM BREAK

3:15 PM LIGHTWEIGHT MANUFACTURING

Moderator:

Anthony Townsend, Research Director, IFTF

Panelists:

Mark Hatch, COO, TechShop

David ten Have, Founder and CEO, Ponoko

Liam Casey, Founder and CEO,
PCH International

Traditional approaches to centralized production are slowly making way for ad hoc factories, job shops with hyperfast turnaround times, distributed assembly, and, someday, even Kinko's-like "fab labs" with desktop 3D printers. Our experts will share their opinions of where lightweight manufacturing may be headed, and what challenges could lie in its wake. IFTF's Anthony Townsend, a specialist in lightweight manufacturing trends, will moderate the panel.

4:15 PM MAKE THE FUTURE: HEADLINE STORIES

Using the themes from our map and the day's discussion along with signals collected at Maker Faire, attendees will work at their tables to come up with headline stories highlighting how the convergence of making and traditional manufacturing will affect organizations, business models, and innovation.

5:15 PM WRAP-UP

5:30 PM BREAK

6:30 PM DINNER, KEYNOTE, AND INSIGHT TO ACTION

Adam Savage, *MythBusters*

David Pescovitz, Research Director, IFTF

Marina Gorbis, Executive Director, IFTF

After a keynote conversation with Adam Savage of Discovery Channel's *MythBusters*, IFTF researchers and our experts will be on hand to serve as sounding boards. Before leaving, you'll be prepared to brief your group on what you've learned, identify insights as they relate to your work, and outline potential action steps to engage with the future of making today.

8:30 PM ADJOURN

KEYNOTE

Adam Savage

MythBusters



Adam Savage was born in New York City in the summer of 1967. The child of a psychotherapist and a filmmaker/painter, he was raised north of the city in Sleepy Hollow, NY. After five years in New York working variously as a projectionist, photo developer, graphic designer, assistant animator, set designer, gallery owner, actor, sculptor, and prop maker, he moved to San Francisco in the summer of 1990.

He further built his skill base in the Northern California machine art community and putting together his mechanical skills and his theater skills he built a reputation for solving difficult mechanical/prop/set problems for theaters, and eventually caught the eye of the special effects industry.

In the spring of 2002, he was contacted by his old boss, Jamie Hyneman and asked if he would participate in a demo reel for a pilot for the Discovery Channel called MythBusters. The show aired in January of 2003 and was picked up by Discovery three weeks later. Six years later, MythBusters remains one of Discovery Channel's highest rated shows, and their marquis brand.

Adam currently lives five minutes from the MythBusters shop in San Francisco, with his wife, his twin boys, and the best dog in the whole freaking world.

MAKE: AND THE MAKER MINDSET

Dale Dougherty

Founder & Editor, Make:



Dale Dougherty is editor and publisher of *Make* and *Craft* magazines, both of which focus on DIY projects, and organizer of Maker Faire, which showcases creative communities.

Dale has been instrumental in many of O'Reilly's most important efforts, working closely with Tim O'Reilly to establish O'Reilly as a leading technical publisher. An early Web pioneer, Dale was the developer and publisher of Global Network Navigator (GNN), the first commercial Web site launched in 1993 and sold to America Online in 1995. Dale was developer and publisher of Web Review, the online magazine for Web designers from 1995-1999, which was sold to CMP in 1999. He developed the Hacks Series of books in 2003, which includes the bestselling *Google Hacks* and *Excel Hacks*. He coined the term Web 2.0 as part of developing the Web 2.0 Conference.

Dale is General Manager of the Maker Media division of O'Reilly Media. He lives and works in Sebastopol, California.

PANELIST BIOGRAPHIES

OPEN-SOURCE EVERYTHING

bunnie Huang

Founder, Chumby Industries



Andrew "bunnie" Huang, VP Hardware Engineering and Founder, is a nocturnal hacker and the hardware lead; his responsibilities include the architecture, design, and production of the chumby's electronics. With a PhD in EE from MIT, he has completed several major projects, ranging from hacking

the Xbox (and writing the eponymous book), to designing the world's first fully-integrated photonic-silicon chips running at 10 Gbps with Luxtera, Inc., to building some of the first prototype hardware for silicon nanowire device research with Caltech. bunnie has also participated in the design of 802.11b/Bluetooth transceivers (with Mobilian), graphics chips (with SGI), digital cinema CODECs (with Qualcomm), and autonomous robotic submarines (with MIT ORCA/AUVSI). He is also responsible for the un-design of many security systems, with an appetite for the challenge of digesting silicon-based hardware security. bunnie is also a contributing writer for MAKE magazine and a member of their technical advisory board.

Dan Morrill

Developer Advocate, Google



Dan joined Google in 2006, initially working on developer support for Google Web Toolkit. Soon after, he expanded his role to include other developer products such as Google Gears and the Android project.

Prior to joining the company, Dan was a computer scientist at GE Research, where he researched, designed, and prototyped advanced technologies for GE businesses.

Dan holds a bachelor's degree in physics and computer science from Clarkson University and a master's degree in computer science from Rensselaer Polytechnic Institute.

Brian Carver

IP Attorney, Fenwick & West, LLP



Brian's practice focuses on copyright, trade secret, trademark, and complex commercial litigation. He also provides copyright counseling to clients, particularly focused on open-source legal issues. He has published articles on the DMCA's notice and takedown rules, Section 230 immunity for online service providers, the enforceability of Web site terms of use, and an article entitled Share and Share Alike: Understanding and Enforcing Open Source and Free Software Licenses. A graduate of University of California, Berkeley School of Law, this spring he returned to campus and taught Cyberlaw, a course cross-listed at Berkeley's School of Law and School of Information.

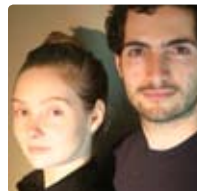
While he does not have a formal technical background, his How-To on triple-booting (OS X, Windows XP, and GNU/Linux) on an Apple MacBook was one of the first such How-Tos on the Web, and he also built his own MythTV digital video recorder with over a terabyte of storage for the over-the-air high definition content he now records for free.

CUBA'S MAKERS: HACKING BY NECESSITY

Joshua Kauffman

Gwendolyn Floyd

REGIONAL



REGIONAL is the interdisciplinary design and research office founded by Gwendolyn Floyd and Joshua Kauffman. It performs and applies original analysis of global spaces, culture, and commerce, uncovering and developing opportunities for profitable innovation and meaningful cultural intervention. REGIONAL has recently been investigating emerging technology and society in Cuba, designing in that unique milieu, and leveraging findings from the experience to guide design and research processes with academic institutions and consulting practices working at the juncture of technology and society.

REGIONAL has recently lectured or led workshops at O'reilly's etech, Stanford, UCSD, and the Hong Kong Polytechnic Schools of Business and Design. They are currently preparing for talks in Hungary and the Netherlands, and will be leading a week-long workshop in SCI-Arc's Future Initiatives program about adaptive urbanism and technology in Los Angeles this summer.

Gwendolyn Floyd is an internationally recognized researcher and practitioner at the frontiers of technology and design. Joshua Kauffman is a globally active designer and advisor in technology-related urban, social and consumer scenarios.



CITIZEN R&D

Eric Wilhelm, Ph.D.

Co-founding Partner, Squid Labs
CEO, Instructables



Eric earned his SB, SM, and Ph.D. degrees in mechanical engineering from MIT, where he developed methods to print electronics and micro-electromechanical systems using nanoparticles. Eric co-founded Squid Labs in order to have impact through early-stage innovation. He spun Instructables out of

Squid Labs as an independent company, which he now runs with a passion. He loves building kite-powered contraptions, cooking breakfast, and demystifying technology so that even his Grandmother can use it.

Dr. Hugh Rienhoff, MD

Founder, MyDaughtersDNA.org



Hugh Rienhoff is a physician and entrepreneur. He is the founder of MyDaughtersDNA.org, an organization dedicated to greater understanding of genetic conditions.

During much of the 90's Dr. Rienhoff was a partner directing biotechnology investments at the venture firm New Enterprise

Associates. He was a founding director of such companies as Healthon/WebMD (HLTH) and Aurora Biosciences (ABSC). In 1998, he founded DNA Sciences (originally Kiva Genetics), a diagnostic company focused on genetic discoveries and served as its Chairman and CEO for 4 years. Dr. Rienhoff has served as a director on the boards of many public and private companies and currently serves on the boards GeneEd, Odyssey Thera, and Lipid Biosciences.

Dr. Rienhoff was a member of the faculty in the Department of Molecular Biology and Genetics at the Johns Hopkins University School of Medicine. He trained in mathematics, medicine, and genetics at Harvard University, Johns Hopkins University, and the Fred Hutchinson Cancer Research Center in Seattle, Washington. He received a Doctor of Medicine degree from Johns Hopkins University School of Medicine and a Bachelor of Arts degree, with honors, in Biology and English Literature from Williams College.

Jeana Frost

Senior Research Scientist, PatientsLikeMe.com



Jeana Frost is a Senior Research Scientist at PatientsLikeMe. Grounded in her doctoral training at the MIT Media Lab and postdoctoral training in behavioral informatics, Dr. Frost's work spans the fields of informatics, psychology and design. Her primary interest is in how analytic tools and data visualization impact reasoning, decision-making, and behavior. Throughout her career, Dr. Frost has created and evaluated technologies to enhance mediated communication and engage patients in the discussion and improvement of personal health practice.

Prior to joining PatientsLikeMe, Dr. Frost served as a member of Intel's Proactive health group, where she worked on systems to rebuild social networks and garner social support for healthy elders relocated to retirement communities. Before that, at Mitsubishi Research Labs, she worked on the composition and design of tools to aggregate and share group histories leveraging data and media archives.

Her work in patient engagement and online social interaction has been featured in the 2007 *New York Times* "Year in Ideas," *Scientific American* and *Harvard Working Knowledge*, where it was one of the most popular pieces in 2006. A recognized expert in her field, Dr. Frost has provided insights for National Public Radio (NPR), Open Source, and the Bryant Street Project.

Gary Wolf

Wired



Gary Wolf is a contributing editor at *Wired* magazine, and the co-editor of *The Quantified Self*, a Web site about self-knowledge through numbers. At *Wired*, he has been the author of a number of the magazine's most frequently cited articles, including "The Curse of Xanadu," about Ted Holmes Nelson and the invention of hypertext; "The World According to Woz," about Apple co-founder Steve Wozniak; "The Wisdom of St. Marshall, Holy Fool," about Marshall McLuhan, and "The Church of the Non-Believers," about the New Atheist movement.

Wolf is the author of three books: *Aether Madness: an Offbeat Guide to the Online World*, with Michael Stein; *Dumb Money: Adventures of a Day Trader*, with Joey Anuff (1999); and *Wired - A Romance* (2000). Writing as "Dr. McLoo," Wolf also contributed regularly to the late, lamented suck.com, under the editorship of Joey Anuff and Carl Steadman.

PANELIST BIOGRAPHIES

Part of the team that launched HotWired, one of the original commercial sites on the Web, Wolf was the executive editor of Wired Digital from 1994 through 1997. He has a B.A. in history and literature from Reed College and an M.A. in political science from the University of California, Berkeley. In 2005 and 2006, he was a John S. Knight Fellow at Stanford University.

LIGHTWEIGHT MANUFACTURING

Mark Hatch

Chief Operating Officer, TechShop



Mark Hatch is the COO of TechShop, a company dedicated to helping makers build their dreams through a membership based community. It is the first open-access, fabrication workshop and design studio of its kind, and is located in a 15,000 sq. ft facility in Menlo Park, CA.

Mark was the corporate director of global technology and business development at Avery Dennison, where he ran a futures research project; was the product director of computer services at Kinko's HQ, where he was responsible for the world's largest publicly accessible computer network; and was the chief operating officer for a health benefits ASP at Health Net.

In addition to being a former Green Beret, Mark is the author of *The End* and coauthor of *Boiling Point* with George Barna. He holds an M.B.A. from the Drucker Center at the Claremont Graduate University and a B.A. in Economics from the University of California at Irvine. He lives with his wife and two sons in Southern California.

David ten Have

Founder & CEO, Ponoko



David co-founded and was CTO of New Zealand's #1 design-led Microsoft Web development firm, Provoke. From zero, he helped to recruit 30 staff to build a multi-million dollar valuation within 5 years. Some customers included the New Zealand Fire Service, The National Bank of New Zealand, and New Zealand's Department of Internal Affairs.

Liam Casey

Founder & CEO, PCH International



Liam Casey is the founder and Chief Executive of PCH International. He started the business in 1996 because he was excited by the opportunities he saw in China. Now a world-class supply chain management company focused in the consumer electronics, hi-tech and medical sectors, PCH's

customers are mainly multinationals based in North America, including many leading companies from Silicon Valley.

PCH lists amongst its major clients three of the top five personal computer companies, three of the top five telecom and networking companies, three of the top five consumer electronics companies and the top five leading contract electronics manufacturers.

Based in Shenzhen, the company employs 800 people in Ireland, China, Taiwan, Japan, Singapore, USA, Brazil, UK and South Africa.

Liam was born in Cork, Ireland and in 2007 was named Ernst & Young Irish Entrepreneur of the Year.



Matt Chwierut

Research Manager, Ten-Year Forecast



Matt serves as the research manager for the Ten-Year Forecast Program, supporting research efforts in a variety of ways. He thinks foresight and forecasting holds immense promise for addressing traditional social problems, and his passions mirror his IFTF research efforts on education, sustainability, social enterprise, and global development. In addition to his work on the Ten-Year Forecast, Matt has recently contributed to several other projects including the development of a map of future forces that will affect sustainability over the next ten years. He holds a B.A. in Interdisciplinary Studies in the Humanities from Stanford University.

Matt Daniels

Research Manager



Matt's background is in physics, planetary science, and foreign policy, and brings to the team a deep interest in emerging issues for science and technology policy, international affairs, and humanitarian issues. He has worked as an intern at the U.S. Department of State and NASA Headquarters, both in Washington, D.C., as well as at the NASA Ames Research Center, in Northern California. Matt holds a B.A. in physics from Cornell University, with concentrations in planetary science and international relations.

Marina Gorbis

Executive Director, Institute for the Future



A native of Odessa, Ukraine, Marina is particularly suited to see things from a global perspective. She has directed international programs and led international development projects for SRI (formerly Stanford Research Institute) in China, Japan, Vietnam, India, and Eastern Europe. Marina has also authored publications on international business and economics, with an emphasis on regional innovation and competitiveness.

In addition to serving as IFTF's Executive Director, Marina leads the Technology Horizons Program, focusing on innovation at the intersection of new technologies and social organization. She has initiated a Global Ethnographic Network (GEN), a multi-year ethnographic research program which tries to develop an understanding of daily lives of people in Brazil, Russia, India, China, and Silicon Valley, in an attempt to integrate their voices

into IFTF's forecasts. She has also led several major private client engagements at IFTF, one of the most recent being a global Science and Technology Forecast for the U.K. Government's Department of Trade & Industry.

She holds an M.P.P. from the University of California, Berkeley, a certificate in international business from the University of London, and a B.A. in industrial psychology also from the University of California, Berkeley.

Jess Hemerly

Research Manager, Technology Horizons



In addition to writing and editing as a research manager for the Technology Horizons program, Jess is particularly interested in the future of music and free media—how new technologies will shape the way we make, access, share, and appreciate music and other media. Her writing has appeared on AlterNet and in *The Onion*, *Chord*, *Berkeley Daily Planet*, and *The Morning Call*, among others. She covers the San Francisco music scene for TheOwlMag.com and her own blog, SFJukebox (sfjukebox.blogspot.com), and has appeared on panels for the Bandwidth Conference and the Bay Area Video Coalition. She worked as an intern in President Clinton's post-presidential office in Harlem and has held jobs at *National Journal*, *Dow Jones*, *Macworld*, and *Good Capital*, primarily in advertising or online media. Jess has a B.A. in politics from New York University and rides a bicycle instead of driving a car.

Lyn Jeffery

Research Director



Lyn is a cultural anthropologist who has spent the last 25 years living and working between California and mainland China. Her current research interests include the development of the Chinese language Internet, global families and changing daily life, the future of mobility, and youth and work. Lyn brings expertise in ethnographic methods and analysis to IFTF and has worked in all of its research programs. She has led numerous research tasks for individual clients and is a practiced content facilitator. Lyn is fluent in Mandarin. She is the co-editor of *China Urban: Ethnographies of Contemporary Culture*, as well as author of articles on post-socialist entrepreneurialism and Chinese network marketing.

IFTF BIOGRAPHIES

Mike Liebhold

Senior Researcher



Mike Liebhold is a Senior Researcher focusing on mobile and abundant computation, immersive media and geospatial web foundations for context-aware and ubiquitous computing. Previously, Mike was a Visiting Researcher, Intel Labs, working on a pattern language based on semantic web frameworks

for ubiquitous computing. Before that, during the late 1990s Mike worked on startups building large scale international public IT services and IP networks for rural and remote regions, and for GPS enhanced precision agriculture, a complete IT architecture for schools in Shandong Province China, satellite networks in India, Europe, and Latin America, and was the Principal Investigator for a National Science Foundation project to bring Internet2 broadband IP networks to seventy rural low income communities in the United States.

In the 1990s, Mike was a senior consulting architect at Netscape Communications and a founding member of Netscape's Strategic Investors board. Previously, Mike was Vice President, Chief Technology Officer for Times Mirror Publishing. For ten years prior, he was Senior Scientist for Apple Computer researching and developing media technologies, geospatial information systems, and high-speed communications. Mike served as principal technology policy adviser for Apple Chairman John Sculley and drafted core recommendations on the National Information Infrastructure which were later incorporated directly in the Clinton-Gore Technology Initiative.

Mike is a frequent speaker on the topic of the geospatial web and has authored several papers, including one published in a special edition of the *IEEE Journal on Pervasive Computing*, "Data Management in the World-Wide Sensor Web."

Mike Love

Collaborative Media Designer



Mike researches and designs online collaborative spaces to improve interaction between IFTF researchers, its expert network, and its members. He is interested in the use of interactive visual tools including graphs (network diagrams) to help find patterns in large sets of data. Before joining

IFTF, Mike worked as an editorial assistant for Howard Rheingold and worked on the Cooperation Commons project with Rheingold and IFTF's Andrea Saveri. Mike has a B.A. in mathematics from Stanford University.

Jane McGonigal

Research Affiliate & Resident Game Designer



Jane McGonigal is a game designer and games researcher who specializes in networked experiences for real-world spaces. As a lead designer for 42 Entertainment, she uses ubiquitous computing technologies and metaphors to explore new social architectures and create massively scaled, collaborative play. As a researcher, she focuses on the ways in which collective gaming has long-term and persistent impacts on the cognitive frameworks, social relations, public participation, and personal identities of players in their everyday lives. Her games have been recognized by awards from the International Game Developers Association and the International Academy for Digital Arts and Sciences, and in 2006, she was named by *MIT Technology Review* as one of the top 35 young innovators changing the world through technology. She has a Ph.D. in performance studies from the University of California, Berkeley, and has taught at UC Berkeley and San Francisco Art Institute. She is also the Node Runner World Champion of 2003.

Sean Ness

Business Development Manager



A self-described nerd growing up, Sean read all he could about science as a kid, and immersed himself in maps for hours at a time. He also set his chemistry set on fire a few times, took junior high computer classes on a TRS-80, and was on his high school ecology team. In college, he switched from mechanical engineering to polymer science when he learned that polymer grads often went on to technical sales. The idea of technical sales piqued his interest, and an entrepreneur was born.

Since then, Sean's career has ping-ponged between scrappy software startups and research organizations. At IFTF, Sean oversees business development, with a focus on the Technology Horizons and Ten-Year Forecast programs. He looks for creative ways to interact with outside organizations and works tirelessly to keep IFTF's client database accurate and up to date. He also hosts monthly potlucks so that the IFTF crew can get to know each other better.

In addition to his day-job at IFTF, Sean co-founded the STIRR Network (www.stirr.net), a group that helps catalyze early-stage entrepreneurial activity in Silicon Valley and beyond. He has previously worked at Forrester Research and ComputerWire.



Sean Ness

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Sean holds a B.S. in Polymer Science from Penn State University, with a minor in Chemistry. During the week, Sean is connected to work 24/7, but he keeps the weekends for himself. That is when he pursues his favorite hobby, wine collecting.

Mani Pande

Research Director



Mani is a sociologist with expertise in conducting both quantitative and qualitative research. She has experience designing and conducting large-scale surveys. She has conducted surveys looking at future expectations and technology usage habits of today's youth, and on the changing notion of health and sustainability in the United States. She is in the process of conducting a survey of youth in India looking at their career paths and work choices. She is proficient in statistical techniques like structural equation modeling, cluster analysis, confirmatory factor analysis, and logistic regression. She has taught courses on research methods and gender. She has conducted ethnographic research in India and in the United States looking at technology usage in the family

and studying issues around health and nutrition. Her research interests include health and sustainability, mobility, gender, and demography. For five years, she wrote for *The Times of India* and *The Pioneer* in New Delhi on crime, education, politics, and media issues. She also worked with UNICEF as a copywriter in New Delhi.

Alex Pang

Research Director



Alex writes on the future of the sciences, the social and cultural impacts of pervasive computing, and the co-evolution of technology and society. He is the founding editor of Future Now, IFTF's blog on emerging technologies, and is involved in other IFTF experiments in social software and electronic publishing.

Before coming to IFTF, he served as managing editor of the Encyclopaedia Britannica, where he oversaw its transition from print to electronic publication. He also taught at Williams College and the University of California, Davis, and held postdoctoral fellowships at Stanford University and the University of California, Berkeley.

Alex has been quoted in a number of venues, including *Rolling Stone*, Germany's *Die Welt*, and the *New York Times*. He has also published articles in scholarly and popular magazines, ranging from the *British Journal for the History of Science* and *Human IT* to the *Los Angeles Times* and *Wired*. He is the author of *Empire and the Sun: Victorian Solar Eclipse Expeditions* (Stanford University Press, 2002), and is currently writing a book on the end of cyberspace. He is also general editor of the *Berkshire Encyclopedia of the 21st Century*, forthcoming from Berkshire Press. Alex holds a Ph.D. in history and sociology of science from the University of Pennsylvania.

IFTF BIOGRAPHIES

David Pescovitz

Research Director



David is a research director in the Technology Horizons Program at IFTF. He is also the writer-in-residence for University of California, Berkeley's College of Engineering and the Berkeley Sciences, co-editor of the popular blog BoingBoing.net, and special projects editor for *MAKE: Magazine*. In 1996,

Pescovitz co-wrote the book *Reality Check* (1996), based on his long-running futurist column in *Wired* magazine, where he is still a contributing writer. Pescovitz has also written for *Scientific American*, *Popular Science*, *Business 2.0*, the *New York Times*, the *Washington Post*, *Salon*, and *New Scientist*, among many other publications. In 2002, he won the Foresight Prize in Communication, recognizing excellence in educating the public and research community about nanotechnology and other emerging technologies. Pescovitz holds a Bachelor of Fine Arts in electronic media from the University of Cincinnati and a Master's in journalism from University of California, Berkeley.

Pescovitz's writing also has appeared in the *Los Angeles Times*, *IEEE Spectrum*, *Industry Standard*, *Spin*, MTV Online, Interior Design, Discovery Channel Online, FlashArt, Small Times, and Encyclopaedia Britannica Online. His explorations of fringe culture are featured in the *Happy Mutant Handbook* (1996) and *The Zine Reader* (1997). In 1996, Pescovitz created Nrrrd, a critically acclaimed technology and youth culture Web site for Turner Entertainment. Pescovitz is a member of the International Academy of Digital Arts & Science and has appeared on numerous television and radio programs and networks including CNN's Sonya Live, NPR, Fox News, ZDTV, and CNET.

Jason Tester

Research & Design Manager



Jason Tester's interests in interactive technology began the old-fashioned way, tinkering one-on-one with the equipment he had at hand. With his work on technological voting, however, he saw the possible effects of computer-human interaction on the future of society as a whole.

At IFTF, Jason focuses on three areas: research into how people use emerging technologies, the application of design to futures research, and facilitating groups to stimulate insights and implications about the future. Jason strives to look beneath the surface of society and its artifacts for hidden layers of meaning.

Jason has long been interested in researching and designing the ways people interact with technology, expertise he brought to IFTF's ongoing effort to broaden the ways in which its findings are visualized and presented. To this end, he developed one of IFTF's current methodologies called "artifacts from the future." Most recently, he has been interested in moving futures thinking out of the think tanks and onto the street by developing a platform called human-future interaction. Such a platform is designed to make futures thinking part of daily life by using immersive experiences and new media tools to provoke and capture citizens' thoughts about the future.

Before IFTF, Jason was in the founding class at the Interactive Design Institute in Ivrea, Italy, where he undertook the "Accelerated Democracy" project, a series of scenarios that uniquely illustrate potential future—positive and negative—for technological voting. This project has been widely featured in the press and formed the basis of his focus on new methods for integrating design with long-term futures research. When he was at Stanford, Jason helped found the Stanford Persuasive Technology Lab, the only research and design group focused on the new field of persuasive technologies—technologies that influence users' thoughts or activities as they use them.

Jason holds a B.S. in human-computer interaction design from Stanford University, and a master's degree from the Interaction Design Institute in Ivrea, Italy.



Anthony Townsend

Research Director



Anthony was one of the original infonet surfers. As a teenager on the Jersey Shore in the 1980s, Anthony used a Tandy 3 and its primitive ModemPak to dial-up local BBSs at 300 bps. He writes “that humble ModemPak changed the way I thought about the world. ... I could not physically be someplace, but I

could be there electronically.” Since then, Anthony has been fascinated by the social and economic transformations wrought by information networks as they expand astronomically in both size and capabilities.

In response, Anthony has been researching the implications of new technology on cities and public institutions for over a decade. At IFTF, Anthony’s work focuses on several inter-related topics: mobility and urbanization, economics and demographics, public and nonprofit organizations, pervasive computing, and the media industry. His goal is to bring a scientific, rational approach to forecasting and to avoid the temptations of easy sound bites and unwarranted forecasts of doom.

Anthony leads IFTF’s Open Ex Forum, which focuses on tools, such as prediction markets, for sharing forecasts between organizations. Before joining IFTF, Anthony enjoyed a brief but productive academic career at New York University, where he directed research sponsored by the National Science Foundation and the Department of Homeland Security. Anthony is active in international futures research networks, and received a Fulbright scholarship in 2004 to study the social impacts of broadband in South Korea. He was one of the original founders of NYCwireless, a pioneer in the municipal wireless movement that promotes the use of public-access Wi-Fi in the development of local communities.

Anthony holds a Ph.D. in urban and regional planning from Massachusetts Institute of Technology, a master’s in urban planning from New York University, and a B.A. from Rutgers University. When he’s not working, Anthony loves to sail.

Anthony Weeks

Graphic Recorder



Anthony Weeks is an illustrator, information designer, and documentary filmmaker based in San Francisco, CA. Since 1998, Anthony has been working with leadership teams and C-suite executives to illustrate their conversations around product, strategy, and organizational design. In real time, during

group conversations, Anthony listens to the content and draws out, literally, the main themes, relationships between ideas, key questions, and storytelling metaphors that emerge. The work serves as an engagement and sensemaking tool during the meeting while providing a visual artifact of group memory after the meeting. Anthony has also worked closely with IFTF and other organizations to create a variety of mural-size works, like history maps and forecast maps, that help turn “data” into “stories.”

Anthony was on sabbatical in 2006-07. He lived in New York and completed a graduate certificate program in documentary media studies at The New School. During the year, Anthony made several short documentaries. One film, “Blind Faith: A Film about Seeing,” was selected as a finalist in the 2007 International Documentary Challenge filmmaking competition and premiered at the 2007 Hot Docs Canadian Documentary Film Festival in Toronto.

Anthony holds a B.A. from Grinnell College, a M.A. in social work, and was a 1997-98 Coro Fellow in Public Affairs.

ATTENDEES

John Alderman

**Senior Content Strategist
Avenue A/Razorfish**

420 Townsend Street
San Francisco, CA 94107

Mariana Amatullo

**VP International Initiatives
Art Center College of Design**

1700 Lido Street
Pasadena, CA 91103
p: 626.396.2418
f: 626.396.2339
mariana.amatullo@artcenter.edu

Athellina Athsani

**IP Innovation Manager
Yahoo! Inc.**

701 First Avenue
Sunnyvale, CA 94089
p: 408.306.5704
att@yahoo-inc.com

Henrik Bennetsen

**Research Director
Stanford**

450 Serra Mall, Wallenberg Hall
Stanford, CA 94305-2055
p: 415.418.4042
bennetsen@gmail.com

Mari-Pat Boughner

**Principal
Boughner & Associates**

89 South Deere Park Dr
Highland Park, IL 60035
P: 847.681.1992
F: 847.681.2112
mpboughner@boughnerassociates.com

Lonny Brooks

**Assistant Professor
Cal State East Bay**

Meiklejoh Hall 3011
Hayward, CA 94542
(510) 684-0504
dr.brooks@gmail.com

Brian Carver

**IP Attorney
Fenwick & West LLP**

555 California Street, 12th Floor
San Francisco, CA 94104
p: 415.875.2420
f: 415.281.1350
bcarver@fenwick.com

Liam Casey

**CEO
PCH International**

Block D & E, 4/F, Dushimingyuan,
Jin Tong St., Shenzhen 518010
China
p: 86.755.259.88866
f: 86.755.25988084
liam@pchintl.com

Jason Chen

**Android Advocate
Google**

1600 Amphitheatre Parkway
Mountain View, CA 94043
p: 858.336.6837
jasonchen@google.com

Glenn Edens

Art2Science LLC

25 Carrera Court
Redwood City, CA 94062
p: 650.299.9832
f: 650.299.9401
glennedens@mac.com

Steve Favrre

**Innovation Manager
Deere and Company**

One John Deere Place
Moline, IL 61265
p: 815.761.5070
f: 309.765.3807
faivrestephenm@johndeere.com

Gwendolyn Floyd

**REGIONAL
Interdisciplinary Design & Research**

p: 323.319.4226
gwendolynfloyd@gmail.com

Jeana Frost

**Senior Research Scientist
Patients Like Me**

222 Third Street, Suite 0234
Cambridge MA 02142
p: 617.497.4003
jfrost@patientslikeme.com

Jon Georges

**Director
Walt Disney Imagineering**

1401 Flower Street
Glendale, CA 91201
p: 818.544.7252
jon.g.georges@disney.com

Mark Gibson

**Principal
Mark Gibson Consulting**

1502A Sanchez Street
San Francisco, CA 94131
p: 415.203.5484
mark@markgibson.net

David Evan Harris

**Executive Director
Global Lives Project**

431 Kent Drive
Mountain View, CA 94043
p: 510.847.6767
david@globallives.org

Rick Holman

**Senior Strategy Consultant
General Motors**

Renaissance Center MC 482-C19-C-36
Detroit, MI 48265-3000
p: 313.667.9018
rick.holman@gm.com

bunnie Huang

**VP Hardware Engineering & Founder
Chumby Industries**

12264 El Camino Real, Suite 203
San Diego, CA 92130
bunnie@bunniestudios.com

Joshua Kauffman

REGIONAL Interdisciplinary Design & Research

Interdisciplinary Design & Research
p: 323.319.4226
joshua.kauffman@gmail.com

Steve King

Partner Emergent Research

4 Oliveira
Lafayette, CA 94549
p: 925.284.80025
f: 925.284.8834
sking@emergentresearch.com

Ian Kizu-Blair

SFZero

761 Oak Street
San Francisco, CA 94117
p: 415.516.1391
ikb@paragooogle.com

Sam Lavigne

SFZero

761 Oak Street
San Francisco, CA 94117
p: 415.238.2494
sam@paragooogle.com

Ben Lorica

Senior Researcher O'Reilly Radar

213 Bocana Street
San Francisco, CA 94110
p: 415.647.6844
Ben@oreilly.com

Carl Loweth

Manager, Technology Innovation Strategy Deere and Company

One John Deere Place
Moline, IL 61265
p: 309.765.4753
f: 309.765.3807
lowethcarlv@johndeere.com

Roger Magoulas

Director of Research and Analysis O'Reilly Media

1005 Gravenstein Highway North
Sepastopol, CA 95472
p: 510.652.6255
roger@oreilly.com

Ron Martinez

VP, Intellectual Property Innovation Yahoo! Inc.

701 First Avenue
Sunnyvale, CA 94089
ronm@yahoo-inc.com

James Mason

Senior Research Analyst Allstate Research & Planning

4200 Bohannon Drive
Menlo Park, CA 94025
p: 650.833.6337
f: 650.833.6301
james.mason@allstate.com

David McLaughlin

Developer Technical Program Manager Google

1600 Amphitheatre Parkway
Mountain View, CA 94043
p: 415.728.8392
dsm@google.com

Dr. Nader Mehravari

Director Lockheed Martin

1801 Route 17C
Owego, NY 13827
p: 607.751.2966
f: 607.751.3727
nader.mehravari@lmco.com

Jerry Michalski

President Sociate

1133 Church St.
San Francisco, CA 94114
p: 415.465.0256
jerry@sociate.com

Sarah Milstein

Operations Manager & Chief Loop Closer BoingBoing.net/Happy Mutants

60 29th Street, #662
San Francisco, CA 94110
p: 917.837.9693
sarah@boinboing.net

Dan Morrill

Developer Advocate Google

1600 Amphitheatre Parkway
Mountain View, CA 94043
p: 650.284.9191
morrilld@google.com

Jim Newton

Founder & CEO TechShop

120 Independence Drive
Menlo Park, CA 94025
p: 650.766.6306
f: 800.640.1975
jim@techshop.ws

Jason Niemi

Innovator Lead Kraft Foods

Three Lakes Drive
Northfield, IL 60093
p: 840.646.5268
jniemi@kraft.com

Ulf Pillkahn

Corporate Technology Siemens

80200 Munich
p: 49.89.636.48068
ulf.pillkahn@siemens.com

Brian Ralphs

Technology Director BP America, Inc.

28100 Torch Parkway
Warrenville, IL 60555-3938
p: 630.836.3933
f: 630.836.3955
brian.ralphs@bp.com

ATTENDEES

Hugh Rienhoff

Founder My Daughter's DNA

2729 Debbie Court
San Carlos, CA 94070
p: 650.216.6773
f: 650.216.6774
hrienhoff@datahooks.com

Dawn Rivera-Ernster

Director, Talent Development Walt Disney Animation Studios

500 S. Buena Vista Street
Burbank, CA 91506-4947
p: 818.460.9782
f: 818.460.8205
dawn.rivera-ernster@disney.com

Daniel Roesch

Director General Motors

100 Renaissance Center
Detroit, MI 48265-3000
p: 313.667.2982
f: 313.665.0528
daniel.roesch@gm.com

Linda Rogers

Director, Strategy & Planning Sun Microsystems

10 Network Circle
Menlo Park, CA 94025
p: 650.786.4441
f: 650.786.8389
linda.rogers@sun.com

Silke Sasano

Corporate Technology Siemens

silke.sasano@siemens.com

Adam Savage

Mythbuster Beyond Productions

1268 Missouri Street
San Francisco, CA 94107
p: 415.824.8044
adam@adamsavage.com

Ted Selker

Selker Design Research

910 Mockingbird Lane
Palo Alto, CA 94306
p: 617 759 3001
f: 650 383 5079
selker@media.mit.edu

Byron Shaw

Managing Director General Motors

422 Portage Avenue
Palo Alto, CA 94306
p: 650.388.8956
f: 650.899.1516
Byron.shaw@gm.com

Robin Sloan

Current Media

rsloan@currentmedia.com

Doug Standley

Principal Deloitte Consulting

6363 N. State Highway 161
Irving, TX 76092
p: 469.417.3006
f: 469.417.5006
dstandley@deloitte.com

Moshe Tamssot

VP New Services Kraft Foods

Three Lakes Drive
Northfield, IL 60093
p: 847.646.2284
f: 847.646.4241
moshe.tamssot@kraft.com

David ten Have

CEO Ponoko

795 Folsom Street, 1st Floor
San Francisco, CA 94107
p: 415.335.4471
david.tenhave@ponoko.com

Adam Tobin

Director of Exhibit Development Exploratorium

3601 Lyon Street
San Francisco, CA 94123
p: 415.353.0457
f: 415.561.0370

atobin@exploratorium.edu

Eric Wilhelm

Instructables

ewilhelm@instructables.com

Lawrence Wilkinson

Chairman Heming & Condell

1914 Lake Street
San Francisco, CA 94121
p: 415.387.6155
lawrence@hemingandcondell.com

Gary Wolf

Quantified Self

2749 Bryant Street
San Francisco, CA 94110
p: 415.826.8117
gary@aether.com

Theresa Wood

Senior Research Manager Herman Miller

855 East Main Avenue
Zeeland, MI 49464
p: 616.654.8562
theresa_wood@hermanmiller.com



IFTF STAFF

Robin Bogott

Graphic Designer

rbogott@iftf.org

Jeff Burgan

Communications Manager

jburgan@iftf.org

Matt Daniels

Research Manager

mdaniels@iftf.org

Vivian Distler

Research Editor, Health Horizons

vdistler@iftf.org

Rod Falcon

Director, Health Horizons

rfalcon@iftf.org

Marina Gorbis

Executive Director

mgorbis@iftf.org

Jean Hagan

**Director of Communications
& Production**

jhagan@iftf.org

Jess Hemerly

Research Manager, Technology Horizons

jhemerly@iftf.org

Lyn Jeffery

Research Director

ljeffery@iftf.org

Crystal Lynn Keeler

Research Manager, Health Horizons

clkeeler@iftf.org

Mike Liebhold

Senior Researcher

mliebhold@iftf.org

Mike Love

Media Designer

mlove@iftf.org

Miriam Lueck

Research Assistant

mlueck@iftf.org

Jane McGonigal

Research Affiliate

jmcgonigal@iftf.org

Lisa Mumbach

Editorial Assistant

lmumbach@iftf.org

Sean Ness

Business Development Manager

sness@iftf.org

Neela Nuristani

Research Administrative Coordinator

nnuristani@iftf.org

Mani Pande

Research Director

mpande@iftf.org

Alex Pang

Research Director

apang@iftf.org

David Pescovitz

Research Director

dpescovitz@iftf.org

Lynne Postlethwaite

Chief Financial Officer

lpostlet@iftf.org

Kathy Seddiqui

Executive Assistant

kseddiqui@iftf.org

Jeannie Swanson

Programs Administrator

jswanson@iftf.org

Jason Tester

Research & Design Manager

jttester@iftf.org

Anthony Townsend

Research Director

atownsend@iftf.org

Kathi Vian

Program Director, Ten-Year Forecast

kvian@iftf.org

Anthony Weeks

Graphic Recorder

anthony.d.weeks@gmail.com