Singularity UNIVERSITY

Private Bank

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Citi Private Bank, May 23-25, 2017

DAY ONE (TUESDAY, 23 MAY)

Domain	Topic	Duration	Run Times	Proposed Speaker	Notes
	Registration and Breakfast	60m	8:00 – 9:00		
	Opening Remarks	15m	9:00 - 9:15	Money K Citi Private Bank	
	Introductions	30m	9:15 - 9:45	Moderator: Jeffrey Rogers	
	Expectations/Goal Setting	15m	9:45 - 10:00	Jeffrey Rogers	Layout for the day / what the goals are / how to listen / etc.
Foundations	**Introduction to Exponentials and Abundance**	30m	10:00 - 10:30	Jeffrey Rogers	
	Break	30m	10:30 - 11:00		
Core xTech	**Artificial Intelligence**	80m	11:00 - 12:20	Neil Jacobstein	45 minutes speech + 35 minutes Q&A and discussion
	Lunch	60m	12:20 - 13:20		
Core xTech	**Big Data and Machine Learning**	80m	13:20 - 14:40	Michael Gillam	45 minutes speech + 35 minutes Q&A and discussion
	Break	30m	14:40 - 15:10		
Application	**Disruptive Innovation and Global Impact**	90m	15:10 - 16:40	David Roberts	
	Recap: Find themes and sort ideas	10m	16:40 - 16:50	Jeffrey Rogers	
	Transfer to dinner venue	45m	17:00 – 17:45		
	Cocktails and dinner at Regale Winery & Vineyards		17:45 – 21:30		

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DAY TWO (WEDNESDAY, 24 MAY)

Domain	Topic	Duration	Run Times	Proposed Speaker	Notes
	Breakfast	60m	8:00 – 9:00		
	Welcome Remarks		9:00 – 9:10	Tracey Warson Citi Private Bank	
	Expectations/Goal Setting	15m	9:10 - 9:25	Jeffrey Rogers	
Core xTech	**Digital Biology**	80m	9:25 - 10:45	Raymond McCauley	45 minutes speech + 35 minutes Q&A and discussion
	Break	30m	10:45 - 11:15		
Core xTech	**Exonomics**	80m	11:15 - 12:35	Amin Toufani	45 minutes speech + 35 minutes Q&A and discussion
	Morning Debrief	15m	12:35 - 12:50	Jeffrey Rogers	
	Lunch	60m	12:50 - 13:50		
Core xTech	**Bitcoin**	80m	13:50 - 15:10	Amin Toufani	45 minutes speech + 35 minutes Q&A and discussion
	Break	30m	15:10 - 15:40		
	Innovative Approaches to Family Legacy	70m	15:40 - 16:50	Martin Jenkins of Oxford Place	
	Recap: Find themes and sort ideas	20m	16:50 - 17:10	Jeffrey Rogers	
	Transfer to dinner venue	30m	17:10 – 17:40		
	Cocktails and dinner at Dio Deka		17:45 – 21:30		

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DAY THREE (THURSDAY, 25 MAY)

Domain	Topic	Duration	Run Times	Proposed Speaker	Notes
	Breakfast	30m	8:00 – 8:30		
	Expectations/Goal Setting	15m	8:30 - 8:45	Jeffrey Rogers	
Tools	**Law, Privacy, Identity: the Future of our Hyper-Connected World**	80m	8:45 - 10:05	Nathana O'Brien	45 minutes speech + 35 minutes Q&A and discussion
	Break	30m	10:05 - 10:35		
Application	**Collaborative Innovation**	55m	10:35:11:30	Pascal Finette	
	Exponential Organizations	60m	11:30 - 12:30	Carin Watson	
	Lunch	60m	12:30 - 13:30		
Workshop	**Expanding your Exponential Mindset**	60m	13:30 - 14:30		
	Break	30m	14:30 - 15:00		
	Investing in Innovation	60m	15:00 - 16:00	Steven Wieting and Phil Watson Citi Private Bank	
	Synthesis	20m	16:00 - 16:20	Jeffrey Rogers	
	Diploma Presentation Ceremony	40m	16:20 - 17:00		
	Farewell Cocktails and Canapés	60m	17:00 – 18:00		
	End of Program		18:00		

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Topic Descriptions

Domain	Topic	Description
Foundations	Introduction to Exponentials and Abundance	Singularity University was founded on the idea that there is a confluence of exponentially accelerating technologies that will fundamentally change business, society and us in the coming decades. In this talk we will introduce: - Frameworks for understanding what exponential growth really means and the different mindset required for thinking exponentially; The range of technologies for which exponential advancement holds true and the implications this has on industry
Core xTech	Law, Privacy, Identity: the Future of our Hyper-Connected World	The talk explores the legal implications of connected devices, big data and machine learning, particularly in light of the European Union's radical changes in regulations around data privacy and security.
Core xTech	Artificial Intelligence	Artificial intelligence is not just a future possibility, it is here now, and in use all around us. This talk covers what AI is, current research results in AI, AI applications and businesses, future directions of the technology, and its business, technical, and ethical implications.
Application	Disruptive Innovation and Global Impact	A fast-paced, dramatic overview of the impact and opportunities of exponential technology and disruptive innovation. Clear lucid examples to help the audience understand difficult concepts in disruptive innovation theory and acquire an exponential, versus linear, mindset. Covers breathtaking emerging technology examples from 3D printing, electric and autonomous cars, drones, artificial intelligence, virtualization, exponential medicine, and synthetic biology. Concludes with an inspiring and moving argument for how technology can have global impact and create an abundant world -- if the right action is taken.
Core xTech	Digital Biology	Biotechnology is an exploding field and this session would talk about how since the completion of the human genome project in 2001, genetics has been transformed into a digital information technology, becoming faster, easier, and cheaper to do year over year. These advances are expected to accelerate for decades to come, and to deliver a sustained wave of bio-based innovations to medicine, agriculture, energy, and more, with potentially world-changing ramifications. This session will review the advances and shifting dynamics in the biotech space today that involve genomic technologies, synthetic biology, systems biology, and personalized

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		medicine. Tools once restricted to biotechnology professionals are democratizing, becoming more like personal computers and smartphones, and appearing everywhere. What does this mean for our jobs, our families, our lives, and ourselves? And what's coming next?
Core xTech	Exonomics	Exponential technologies have profound effects on how economies function. Exponential Economics - or Exonomics - is the study of this emerging new world and its implications for individuals, businesses and governments. The talk covers unifying themes among disruptive trends in business strategy, financial markets, cryptocurrencies, economic policy, and risk management.
Core xTech	Bitcoin	This is the principle behind the blockchain, a powerful and widely misunderstood invention that could profoundly affect our relationship with the digital world. Most people are vaguely familiar with the blockchain as the technology underpinning bitcoin. Experts in a range of industries are gushing about its potential. Over a year ago, Marc Andreessen, the doyen of Silicon Valley's venture capitalists, listed the blockchain's distributed consensus model as the most important invention since the Internet itself.
Tools	Big Data & Machine Learning	Today, the foundational strategies for a modern company to survive relies on data. That data is bigger and faster than ever before. It is said that if you are not a software company today, you will be beaten by a competitor that is. Exponentially advancing trends in machine intelligence, big compute, data automation, sensors and the Internet of Things is changing every aspect of the opportunities for how we leverage, manage and execute data strategy for our companies today. From data liquidity to centricity, late binding, backcasting and virtuous cycles, the foundations for building data strategies in companies today are more important than ever for surviving in this age of exponentials.
Application	Exponential Organizations	While technologies are maturing exponentially, organizational structures and processes remain stubbornly linear. Yesterday's best-practices -- like the Five-Year-Plan and Innovation Funnel -- aren't sufficient to navigate today's fast-paced, tech-driven world. In this talk, we'll share the latest tools, techniques and organizational models that can help even the largest enterprises thrive in an exponentially changing landscape.

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Speaker Bios

Speaker	Bio
Jeffrey Rogers *Director of Faculty Development, Singularity University*	Jeffrey Rogers is the Director of Faculty Development at Singularity University. He's a facilitator, program designer, and trainer with 10 years of experience building learning and development solutions and a handful of shiny awards recognizing work as an educator and editorial/story consultant. Before joining SU, Jeffrey created scalable train-the-trainer programs for Kaplan Inc., researched digital learning for the University of California system, and delivered experiential youth leadership programs in California and internationally. He holds degrees from UT Austin and UC Berkeley, where his interdisciplinary MA work focused on the history of environment, ideas, and technology.
Neil Jacobstein *Chair, Artificial Intelligence & Robotics, Singularity University* Expertise: Artificial Intelligence Deep Learning Ethics Machine Learning Robotics	Neil Jacobstein chairs the Artificial Intelligence and Robotics Track at Singularity University on the NASA Research Park campus in Mountain View California. Neil is a former President of Singularity University. Jacobstein is a Distinguished Visiting Scholar in the Stanford University Media X Program, where his research focuses on augmented decision systems. He Chaired AAAI's 17th Innovative Applications of Artificial Intelligence Conference, and continues to review technical papers for IAAI.Â In 2016, he became a founding member of the editorial board of AAAS Science Robotics. Neil has served as a technical consultant on AI research and development projects for: DARPA, NSF, NASA, NIH, EPA, DOE, the U.S. Army and Air Force, GM, Ford, Boeing, Applied Materials, NIST, and other agencies. He was CEO of Teknowledge Corporation, a pioneering AI company, where he worked on AI applications systems for industry and government. He worked as a graduate research intern in Alan Kay's Learning Research Group at Xerox's Palo Alto Research Center (PARC), and was a consultant in PARC's Software Concepts Group. Jacobstein is a Henry Crown Fellow at the Aspen Institute. He has moderated Aspen Institute Socrates Programs on the technical and ethical implications of advanced technologies, and he coaches Socrates moderators. Neil is deeply interdisciplinary, and has a keen sense of how the arts and sciences can integrate. Since 1992, he has served as Chairman of the Institute for Molecular Manufacturing, a 501c3 nanotechnology R&D organization. Jacobstein contributed to the 2005 National Academy of Sciences workshop on the feasibility of molecular manufacturing, and the 2007 Foresight Roadmap for Productive Nanosystems. He is the primary author of the Foresight Guidelines for the responsible development of nanotechnology. Neil is in demand as an engaging speaker who can make complex topics clear to diverse audiences. He has given invited talks worldwide on the technical, business, and ethical implications of exponential technologies, such as AI, robotics, and atomically

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	precise manufacturing. He is a member of AAAS, AAAI, IEEE, and ACM. Neil has served in a variety of executive and technical advisory roles for industry, nonprofit, and government organizations.
Nathana O'Brien *Intellectual Property Associate, Gunderson Dettmer* Expertise: Intellectual Property Law; Security	Nathana O'Brien is a passionate innovator, fascinated by exponential technologies and on a mission to advance our world through law, technology and policy. Nathana is a JD/MBA graduate of the Yale Law School and Yale School of Management and currently works as an Intellectual Property Associate at Gunderson Dettmer, a leading startup and venture capital law firm, focusing on transactional intellectual property work for high growth technology companies and venture capital firms. Nathana has also worked at the Israeli Supreme Court and the Center for Creative Technologies and is a graduate of Singularity University's Graduate Studies Program.
David Roberts *Faculty, Innovation and Disruption, Singularity University* Expertise: AI Alumni Disruptions Drones Entrepreneurship Inspirational Robotics	David Roberts is regarded as one of the world's top experts on disruptive innovation and exponentially advancing technology. His passion is to help transform the lives of a billion suffering people in the world through disruptive innovation. David served as Vice President of Singularity University and two-time Director (and alum) of the Graduate Studies Program. He is an award winning CEO and serial entrepreneur, and has started ventures backed with over $100 million of investment from Kleiner Perkins, Vinod Khosla, Cisco, Oracle, Accenture, In-Q-Tel, and others. He is the recipient of numerous awards and medals and has led the development of some of the most complex, state-of-the art systems ever built, to include satellites, drones, and fusion centers. He also worked as an Investment Banker in the Mergers & Acquisitions Group at Goldman Sachs Headquarters. He received his B.S. in Computer Science & Engineering from M.I.T. was a Distinguished Graduate, and majored in Artificial Intelligence and Bio-Computer Engineering. He holds an M.B.A. from Harvard Business School. David is Chairman at HaloDrop, a revolutionary global drone services company, Chairman at 1QBit the world first software company for quantum computers, and is a formal adviser to Made-In-Space, responsible for manufacturing the first object in Space with a 3D printer on the Space Station. Harvard, Stanford, and Berkeley Business schools have all written and taught case studies on David leadership, management, and decision making. He has been featured on the cover of the Wall Street Journal, and in USA Today, Fortune Magazine, The New York Times, Business Week, CNN, and dozens of others. His startups have received many awards to include Internet World Net Rising Stars, Red Herring Catch, top 50 Private Companies in the World, Red Herring Top 100 Private Companies in the World, USA Today Tech Reviews Best Picks, Internet Outlook Investors Choice Award, Enterprise Outlook Investors Choice, Best of the Web from PC World, and Apple Computer Premier Systems Integrator Award.

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	His fascination with technology began In fourth grade after building a hovering electric drone, to carry his younger sister to the bus stop, powered by what was formerly his mother's vacuum cleaner, and fortunately limited by the length of an electric power cord.
Raymond McCauley *Chair, Digital biology, Singularity University* Expertise: Biofuels Biohacking Bioinformatics Biotechnology Biotech Startups Microbiome Startups	Raymond McCauley is a scientist, engineer, and entrepreneur working at the forefront of biotechnology. Raymond explores how applying technology to life ' biology, genetics, medicine, agriculture ' is affecting every one of us. He is known for using storytelling and down-to-earth examples to show how quickly these changes are happening, right now. Raymond is: Chair of the Biotech Track at Singularity University, a Silicon Valley think tank devoted to training leaders about exponential technologies; Co-founder and Chief Architect for BioCurious (http://biocurious.org), the hackerspace for biotech, a not-for-profit where professional scientists, DIYbio hobbyists and entrepreneurs come together to design the next big thing to come out of a Silicon Valley garage; part of the team that developed next generation DNA sequencing at Illumina, where he worked in bioinformatics, cancer sequencing, and personal genomics. Raymond's work and story have been featured in Wired, Forbes, Time, and Nature. Raymond's postgraduate work includes studies at Texas A&M University, Stanford and UC Berkeley in electrical engineering, computer science, biophysics, biochemistry, bioinformatics, and nanotechnology. Past employers are Genomera, Illumina, Ingenuity Systems, TANSTAAFL Media, QIAGEN, Viatel, NASA, and other federal agencies. Raymond develops and advises a variety of companies and organizations, including Genomera (crowd-sourced clinical trials), Vecoy Nanomedicines (synthetic biology anti-virus platform), Androcyte (longevity research), and Nanokit (DNA origami).
Amin Toufani *Vice President, Strategic relations. Singularity University* Expertise: Adaptive Leadership Artificial Intelligence	Amin is the Vice President of Strategic Relations and director of strategy at Singularity University. He brings a unique set of technological, entrepreneurial and policy perspectives to the dialogue of innovation on campus. Before Singularity, Amin founded for-profit and social impact organizations in a range of domains including: artificial intelligence, peer to peer lending, bitcoin, human rights, international development, carbon offsetting, and solar energy. Google Search ranks him as the world's best guitar player - a title he readily rejects. In addition to his work at Singularity, he is building the World's first hedge fund for the poor, as well as Reversopedia - a reverse encyclopedia composed of things we know we don't know. Amin has a degree in

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Blockchain Economics; Exonomics	artificial intelligence from the University of British Columbia, an MBA from Stanford, and an MPA in economic policy from Harvard. He attended Harvard and Stanford concurrently and graduated an Arjay Miller Scholar.
Michael Gillam *Guest Speaker* *Chief Clinical Judge, Qualcomm Tricorder XPrize, XPRIZE* Expertise: Alumni Big Data Healthcare Innovation Medicine Neuroscience Special Presentation	Michael Gillam, MD , FACEP, is CEO of HealthLabs, a discovery automation company for Big Data leveraging Big Compute, and CEO of Athla, a director-to-consumer mobile digital athletics company featured in a recent Apple commercial. He has helped build and sell companies to WebMD and Microsoft. He has served as a partner level executive in Microsoft and advised companies, health ministries and NGOs regarding their healthcare data strategies particularly in China and the Middle East. Dr. Gillam was research director for the big data aggregation solution, Azyxxi, which was acquired by Microsoft in 2006 to become one of their flagship products for healthcare, renamed Amalga. He is a board certified emergency medicine physician who trained, practiced, and taught at Northwestern University in Chicago. He written over fifty papers and abstracts and has eleven patents in healthcare technology. He has served as Chair of Informatics for both the Society for Academic Emergency Medicine and the American College of Emergency Physicians. Dr. Gillam is the chief clinical judge for the Qualcomm Tricorder XPrize and also served as a judge on the Nokia Sensing XPrize. Dr. Gillam founded and ran healthcare innovation labs in Microsoft and in Washington D.C. and led projects spanning: predictive analytics; anomalous event detection; natural language processing (NLP); gesture based interfaces; de-identification; personal health records (PHRs); virtual & augmented reality; and medical robotics.
Pascal Finette *Vice President, Startup Solutions, Singularity University*	Pascal heads up the Startup Program at Singularity University where he grows startups tackling the world's most intractable problems leveraging exponential technologies. He loves technology and believes that the Internet is deeply impacting mankind. He got started on the Net before there was a web browser, founded a couple of technology startups, led eBay's Platform Solutions Group in Europe, launched a consulting firm helping entrepreneurs with their strategy & operations, invested into early-stage tech startups, led Mozilla's Innovation Lab, created Mozilla's accelerator program WebFWD, headed up Mozilla's Office of the Chair and invested into social impact organizations around the globe at Google.org. He also founded the non-profit organizations Mentor for Good, POWERUP and The Coaching Fellowship; the GyShiDo (Get Your S%#& Done) movement and publishes the opinionated The Heretic newsletter.

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	He frequently speaks and writes about the magic which happens at the intersection of entrepreneurship, technology & global impact. As a trained Co-Active executive coach he works with clients on achieving their full leadership potential. But most of all – Pascal loves to work with entrepreneurs who are making things better and go from zero to one.
Carin Watson *EVP Learning & Innovation, Singularity University*	Carin is responsible for the execution of Singularity University's global product strategy. She oversees most of SU's Learning and Innovation businesses, including Executive Programs, Custom Programs, the Innovation Partnership Program (IPP), Conferences, Summits and SU Labs. Prior to this role, Carin led the development of a corporate innovation partnership program at SU Labs, where she helped small entrepreneurial teams from large organizations leverage SU's unique global community to incubate new ideas and drive transformational innovation. She has almost 20 years of marketing, product development and corporate innovation experience with Fortune 500 companies. Prior to SU, Carin helped drive innovation at Citi by serving as an internal consultant advising leaders and practitioners on critical capabilities, structures and processes. She also helped catalyze the establishment of Citi's global innovation lab network and launched its first digital innovation community. Having worked closely with IDEO and the Stanford d.school, she enjoys facilitating design thinking workshops for professionals, educators and students. She holds a BS in managerial economics from the University of California, San Diego and an MBA from Kellogg's School of Management.
Martin Jenkins *Founder and CEO of Oxford Place*	Martin Jenkins is the Founder and CEO of Oxford Place. His expertise is supporting significant families with the hardest task they face: successfully transitioning wealth to the next generation. Martin is a Founder Board Member of the World Economic Forum's "Families In Business Community", a private group of over 100 of the world's most significant families, who gather to learn how to scenario plan and structure the empowerment of the next generation to successfully manage the challenges of succession. Martin lectures on "Family Wealth Transition" at Columbia University, New York and University of Southern California in Los Angeles. Martin is also an advisor in Beijing to the Tsinghua Kaifeng Family Heritage Center, a group of China's wealthiest families established to learn best-practice in relation to inter-generational wealth transition for closely-held businesses.

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	Martin's expertise is enabling individuals and family groups to understand the key structural and behavioural changes required to pass a closely-held business on successfully. This is done by advising parents and educating heirs to equip the next generation with the structures, skills and competency to preserve and protect the family's control of their business enterprise. Martin helps families align around a shared goal, resolve conflicts, manage opposing ambitions, set up effective governance structures, establish a common dialogue and develop a clear strategy to enable closely-held businesses to run successfully in the interests of all family members. From a financial and investment perspective, Martin also guides families towards operating best-of-breed Family Offices, so that new generations can easily and professionally learn about the successful control of the family's affairs.
Philip Watson *Managing Director* *Head of Global Investment Lab* *Citi Private Bank*	Philip leads our Global Investment Lab, overseeing the creation and delivery of innovative and holistic wealth management strategies, asset allocations and risk management advice to leading high net worth clients and family offices worldwide. A voting member of the Global Investment Committee—which determines the Private Bank's tactical asset allocation policy — Philip is also a member of the Multi-Asset Class Committee that informs decisions on the management of discretionary portfolios at Citi. Prior to joining the Private Bank in 2003, Philip performed various roles within equity derivatives, risk management and warrants trading for Citi's Investment Bank. The Global Investment Lab is a unique team of professionals based in New York, London, Geneva, Hong Kong and Singapore that is dedicated to helping clients construct portfolios, understand risks and formulate investment strategies in a highly customized way.

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Steve Wieting *Managing Director* *Global Chief Investment Strategist* *Citi Private Bank*	Steven heads our global strategy team, formulating our macro investment views across asset classes. He also chairs our Global Investment Committee, which sets our tactical asset allocation positioning. Before joining the Private Bank, Steven was Citi Research's lead economist for its US institutional equities business. He previously worked for Dow Jones and the US Department of Commerce. He was awarded an MS in Quantitative Economics at Baruch College and has also acquired credits towards a PhD in Economics at the City University Graduate Center. Citi Private Bank's investment strategy team is made up of local strategists based in Asia, Europe and the Americas, and is led by the Global Chief Strategist. The team provides insights into key economic, political and market developments, and evaluates the risks and opportunities to help form our tactical investment allocation.

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