

UN DATA INNOVATION LAB

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Workshop 1

Overview of Speakers & Presentations

1 Karin Tuxen-Bettman, Google GEO

Karin Tuxen-Bettman

Karin has been with Google since 2008 and has worked on the Google Earth Outreach team, helping non-profit and public benefit organisations use Google's mapping tools for their work.

Karin's background includes work in Geographical Information Systems and remote sensing technologies, which she applied to her PhD in environmental sciences, received from Berkeley.

Since joining Google, she has trained numerous non-profits to using the Street View Trekker backpack to collect imagery of the ecosystems they are working to conserve.



Petapixels for All

Using a lot of practical examples drawing on satellite imagery collected over time, Karin explores how Google Earth's maps and animations can help to:

- Understand changes glacier retreats, forestation desertification patterns, sea level rises and urban developments over time;
- Maximise crop yields;
- Develop an early warning system for malaria; and
- Assess land cover changes.

In addition, Karin also shows how to use big data and machine learning to verify whether fisherman are obliging with no-fishing regulations

2 Jake Porway, DataKind

Jake Porway

- Social change organisations are collecting mountains of data, but lacking skills and resources to use them;
- Data scientists are eager to use their skills to accomplish something meaningful, but cut off from channels that would allow them to do so;
- Governments want to make their data open, but are disconnected from people who need it.

For Jake, this is a match waiting to happen and he founded DataKind in the hopes of creating a world in which every social organisation has access to data capacity to better serve humanity.



Data for the Best Intentions

Jake shows how data has allowed us to learn more about ourselves and the world we live in than ever before, but highlights that so far we have mainly used it to “sell people crap”. How can we apply this knowledge for social impact?

Jake shares some examples of how DataKind has connected data scientist with social organisations to use data for the best intentions, including :

- Sourcing food prices from retailers websites to predict crises;
- Impact of a tree pruning programme on “tree emergency” prevention; and
- Predicting the income level and economic status of rural populations using satellite imagery.

He also introduces and discusses *5 Principles for Applying Data Science for Social Good*.

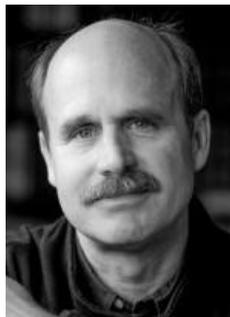
3 Paul Saffo, Singularity University

Paul Saffo

Paul is a Silicon Valley-based forecaster with over three decades experience helping corporate and governmental clients understand and respond to the dynamics of large-scale, long-term change.

He teaches at Stanford, where he is a Consulting Associate Professor in the School of Engineering, and a Distinguished Visiting Scholar in the Stanford Media-X network.

Paul was the founding chair of the Samsung Science Board and a member of the AT&T Technical Advisory Board. His essays have appeared in a wide range of publications incl. The Harvard Business Review, Wired and The New York Times.



Exponential Challenges

Paul argues that we need to use exponential opportunities to solve exponential challenges. Some challenges, like climate change, have grown so big, because we did not start to take them seriously and address them early on.

Paul introduces *The Pacelayer Model* according to which everything that exists today, exists as an intersection of slow and fast processes. Change and revolutions happens when the lower layers, like nature, culture and governance, move more quickly than that higher levels, like infrastructure, commerce and fashion.

As we are looking at solving short-term challenges, which are merely 15 years away, Paul encourages us to develop the foresight to think about what data we will need in the future to enable evidence based decision making to solve challenges we are not aware yet.

4 Rob Nail, Singularity University

Rob Nail

Rob brings a unique entrepreneurial and impact focused approach to growing a non-traditional university as a model for the future and a forum to catalyse a global ecosystem that leverages exponential technologies to help solve humanity's grand challenges.

Prior to Singularity, he co-founded Velocity11 building automation equipment and robotics for cancer research and drug discovery. After being acquired by Agilent Technologies in 2007, he traded the CEO role for a General Manager role attempting to be a catalyst for change at a big company.



Introduction to Exponentials

Rob introduces exponential technologies, which are fundamentally disrupting every part of our life: businesses, industry and societies as a whole. But we are not prepared for it and cannot keep up with it. We still think that we live in a local and linear world, when actually it is rapidly becoming global and exponential.

Computing capacity, mobile phones, solar energy and the internet of things are all on exponential curves – and we keep on missing them and where they could take us. There are (and will be) many more technologies that will diffuse exponentially that we are not even aware of yet.

Rob encourages us to become better at identifying them and become more comfortable with allowing them to change our lives, rather than trying to regulate them.

5 Marc Berger, Pfizer

Marc Berger

Marc is the Vice President for Real World Data and Analytics at Pfizer.

Marc's role is to enhance the efficiency and effectiveness of real world data use across Pfizer to improve patient outcomes as well as value for the healthcare system. Real world evidence highlights the intersection between unmet medical needs and the potential for innovation to meet these needs and will help Pfizer better target what drugs it should develop, how they are developed and how they are brought to the market.



Building a Data Driven Organisation

Marc advocates for using data to understand what and where the biggest problems are in an organisation, inform work and better design projects. While this is being done at times, it is not done systematically every time and everywhere data could be applied, so that organisations can be the most effective we can be.

Marc suggests that we need to make data part of an organisation's DNA so that whenever there is a business or strategic decision, the organisation actively look for data that can be interrogated and used to inform the decision. This is true even when available data is not complete or has some errors.

Drawing on his own experiences, Marc shares his insights from creating a shared data and analysis repository and his challenges in and approach to convincing an (at times reluctant) organisation to collaborate and adopt it.

6 Amen Ra Mashariki, New York Mayor's Office of Data Analytics

Amen Ra Mashariki

Amen is New York City's Chief Analytics Officer and leads the Mayor's Office of Data Analytics (MODA). He is a leader within government, private sector and academia with experience in bringing Big Data processing and analytics for large and complex data management efforts.

He started his professional careers as a software engineer at Motorola working and most recently served as Chief Technology Officer at the U.S. Office of Personnel Management.



Introduction to MODA

Please note that Amen asked to speak off the record and we did therefore not record his presentation.

We are sharing a general introduction to the work of MODA instead.