

The Wired Smart List 2013

By **WIRED**
09 Dec 2013



Credit: **Craig Redman**

This article was taken from the December 2013 issue of Wired magazine. Be the first to read Wired's articles in print before they're posted online, and get your hands on loads of additional content by [subscribing online](#).

Welcome to the second wired Smart List. To discover who will shape our future, we asked the people who shape our present. Fifty of the world's brightest minds -- from Peter Gabriel to Jane Goodall -- tell us about one emerging talent whose ideas or influence they think will soon be part of our lives.

1. Bill Gates chairman, Microsoft, selects: Margarida Matsinhe -- field officer, VillageReach

After a century of brutal colonial rule and decades of civil war, Mozambique in 1992 was a country in need of good news. That's when Margarida Matsinhe chose to dedicate her life's work to saving children's lives by restarting her country's immunisation programme. Her team at an organisation called [VillageReach](#) trains workers who make sure vaccines travel "the last mile" through remote areas with treacherous roads and little infrastructure, and end up at health centres where children can get them. Before the improved distribution system, nobody knew how many people lived in the communities and what the demand was for vaccines. Now, her team tracks demographic information. These figures are then used to forecast the number of vaccines needed in each health centre, ensuring that the correct ones arrive where and when they're needed. The alternative would be sending away children and pregnant mothers who walked up to 15 kilometres to get there. As a result of her work, the percentage of children receiving vaccines has risen from 68 to 95, getting ever closer to her goal of 100 percent.



Martha Lane Fox selects Leila Janah, founder of Samasource

Credit **Josh Bryan**

2. Martha Lane Fox, entrepreneur and philanthropist, selects: Leila Janah -- founder, Samasource

Leila is defying poverty by [deploying technology](#) in one of the most powerful ways that I have

ever seen. She is turning the developed-developing world relationship upside-down by investing in local people (mainly women) to learn digital skills that can be sold to their own or other markets. The applications are many: after the Haitian disaster, young Haitians were paid to translate emergency

texts from Creole into English, and in Kenya virtual assistants were set up for CEOs in Silicon Valley. I love the imagination with which she has approached complex problems, using technology for what I find most inspiring: eroding the geographical and structural barriers between people.

3. Iris van Herpen, fashion designer, selects: Martin Hanczyc -- chemist

Martin is a chemist exploring the line between life and non-life. He says: "Over the last 150 years or so, science has kind of blurred the distinction between non-living and living systems, and now we consider that there may be a kind of continuum." His research inspires a future where biology and technology will merge into "living technology". He inspires architects for "living architecture", and even for fashion it can mean an important next step towards self-repairing, metabolic, size-fit-changing materials. In a TED talk in 2011 he made the point that we can't discover life beyond Earth if we don't recognise other forms of life than the forms of "life" we know today on Earth. Martin shows us the future of creation: where people are able to create forms of life, technology comes alive and new forms of biology are created.

As a designer I find the concept of life and creation coming closer and closer together both hugely exciting and frightening.

ADVERTISEMENT

4. Elaine Mardis codirector, the Genome Institute, selects: Malachi and Obi Griffith -- researchers, Washington University

Malachi and Obi Griffith are identical twins who lost their mother to cancer just as they were graduating high school. They're set to change the world of cancer genomics. The powerful combination of commitment, incredible intellect and a sharp focus is shared by this duo as they decode the secrets of individual cancer cases and try to identify the best-targeted therapies to treat advanced-stage disease. The vision of these two young bioinformatics wizards has helped build a pipeline for data analysis and interpretation that is set to change our approach to cancer into an "N of 1" [an individualised] focus that will deliver precision diagnoses to each patient.

5. Siddhartha Mukherjee author and physician, Columbia University, selects: John Dick -- senior scientist, Ontario Cancer Institute

largely, now, laboratories around the world are exploring these parallels between normal stem cells and cancer stem cells in the hope of creating new medicines that attack these cells. It is a parallel that has both medical and philosophical consequences: could cancer -- a disease often described as "degenerative" -- actually instead be a disease of uncontrolled regeneration?

6. Eric Topol, cardiologist and geneticist, selects: Stephen Quake -- professor of bioengineering at Stanford

Stephen is the founder of a technology to sequence the whole genome of a foetus. He also invented a biological equivalent of an integrated circuit, as well as the first single-molecule DNA-sequencing tech. Much of his work has already changed medicine.

7. Jeremy Farrar, director of the Wellcome Trust, selects: Cameron Simmons -- professor of infectious diseases

Based in Vietnam, Cam is leading important research on dengue fever, which infects 400 million people a year and is one of the few infectious diseases for which there's no vaccine or treatment.

Cam's work encompasses epidemiology, genomics, bioinformatics, trials, entomology, immunology and virology.

8. Natalie Jeremijenko, artist and engineer; director, Environmental Health Clinic, selects: Caroline Woolard cofounder, ourgoods.org and trade school

Caroline has set up two successful web companies, [OurGoods](#) and Trade School, that have transformed the lives of creatives. Trade School creates educational experiences and operates in 47 cities internationally.

In addition to the classes, it creates the professional communities and social relationships required to use new knowledge meaningfully. I now only look at a CV that has at least one Trade School course (preferably 20). OurGoods is a formal barter network for the creative community, formalising with contracts and making explicit and accountable the activity that drives new urban economies. Small, real exchanges build innovative communities, and Caroline understands the social nature of exchange -- that things worth doing are not done for the money; that the formal economy is an impoverished representation of what we actually do and why.

9. David Southwood, president, British Astronomical Society, selects: Helen Jane Fraser, physicist

Helen is a dynamo. She and I spar on the council of the Royal Astronomical Society. She epitomises everything astronomy and space science wasn't when my career started 40 years ago. Then, no one talked about life elsewhere in the cosmos and not too much about how life came to our planet. Astronomy has moved on and now these are central issues. Helen, who has moved from chemistry to astrochemistry and then to astrobiology, is part of that change and is always moving on.

Recently, she's been active in getting Britain into using the science that can now be conducted on the International Space Station and in tying that to Tim Peake's selection as the first British European Space Agency astronaut.

Everything she does she communicates -- and she communicates to anyone who will listen. One day, humans will move off into the galaxy. My guess is something that Helen has done, or will do, will help that happen.



10. Martin Sorrell CEO, WPP, selects: Lei Jun -- founder, Xiaomi Tech

Lei Jun is the founder of [Xiaomi](#), the crowdsourced Chinese smartphone, and he also has an --internet-TV box currently in test. He's a serial entrepreneur on his third creation, and is taking on Apple and Samsung. Arguably, you could call him the Steve Jobs of China. He proves that the Chinese are extremely innovative, brand-conscious and internationally focused.

Chris Hadfield selects Darlene Lim, research scientist at SETI

Credit **Melvin Galapon**

11. Chris Hadfield, Canadian Space Agency and Nasa colonel, selects: Darlene Lim -- research scientist, Seti Institute

[Deep under a Canadian lake](#), microbialites (whose fossil remains date from more than 3.5 billion years ago) still form. Darlene Lim is the geobiologist, submarine pilot and exploration -- activist leading the team to understand them, and help to explain the history of life on Earth.

12. Jacob Appelbaum, computer-security researcher, selects: Osman Kibar -- journalist

In the past few years Osman has become one of the best in-depth investigative journalists specialising on the topic of surveillance. His work is often ground-breaking and very lengthy.

The infographics in his publications create a general understanding that is unmatched when explaining complex topics relating to surveillance.

13. Scott Belsky founder and CEO, Behance, selects: Ben Blumenfeld and Enrique Allen -- codirectors, Designer Fund

Apple and other companies have proved design is a competitive advantage. However, the VC/finance world still doesn't fully value the advantage. Ben (formerly at Facebook) and Enrique created the

[Designer Fund](#) to support design-founded business. They're making waves.

14. Cynthia Breazeal Director, MIT Media Lab's Personal Robots Group, selects: Rana el Kaliouby -- research scientist, MIT Media Lab

Rana is a brilliant scientist and entrepreneur who's doing incredibly exciting work in enabling computers to measure emotions.

The ability for computers to sense and respond to people in a socially and emotionally intelligent manner is transformative.

15. Martin Varsavsky, Entrepreneur, selects: Hans-Christian Boos -- CEO, Arago

**16. Peter Molyneux, video-game designer, selects:
Demis Hassabis -- research fellow, UCL**

Demis is an extraordinary polymath, able to find unexpected and profound connections between very disparate subjects. He combines these interdisciplinary skills with an exceptional ability to assemble and inspire talented teams to tackle innovative ideas. His prolific and diverse accomplishments range from -- when he was just 17 -- programming the artificial intelligence for the multimillion-selling simulation game Theme Park, to winning the world games championship a record five times, to pioneering neuroscience research connecting memory and imagination, which was listed by Science as one of the top ten scientific breakthroughs of 2007. Uniting his eclectic interests is a lifelong passion for advancing AI. His new work fusing the latest progress in systems neuroscience with cutting-edge machine learning looks set to revolutionise the field.

**17. Thor Halvorssen President, Human Rights Foundation, selects: Jan Tore Sanner --
Norwegian parliamentarian**

For 20 years Jan Tore has used his position as an elected representative to focus Norway on global human-rights issues.

Quietly and implacably, he has taken on governments across the world for human-rights violations. When the Norwegian government balked at criticising Cuba, he revealed solidarity with persecuted dissidents by nominating them for the Nobel Peace Prize -- a privilege of Norwegian parliamentarians. His recent targets include Belarus and Vietnam. Norway's potential to support liberal democracy and strengthen civil-society movements around the world is unique given its reputation for even-handedness, the world's largest sovereign wealth fund, and a commitment to dialogue and fairness. The phrase "human-rights superpower" is used in Oslo as an aspirational description for this nation.

18. Juan Enriquez Author, life scientist, selects: Alex Fattal -- anthropologist

Alex does not yet have his PhD in anthropology and critical media practices. But his thesis, Guerrilla Marketing, Information War and Demobilisation of FARC Rebels, is already making waves. By bringing together big data, Facebook, YouTube, public relations, military strategy, PTSD, national and international politics, he has already changed minds and strategies in many fields. His work ranges fearlessly across disciplines, continents and cultures, covering the innards of Facebook -- where he did a separate ethnographic study of that odd tribe -- through Colombian exiles using YouTube in Sweden to influence Colombian politics. He spent two years in some of the more "interesting" parts of Colombia, interviewing rebels on their dreams, fears, traumas. Many were filmed inside a truck that functioned as a giant camera obscura, projecting the rebels' villages as a backdrop. In the middle of his PhD he experienced a forced two-year sabbatical: hikers, including his brother, were arrested and held hostage by Iran. Alex organised a campaign, mobilised and pressured the White House and 40 countries to free them. His understanding of social media and partnerships with figures such as Muhammad Ali, Desmond Tutu and many others resulted in a release of all the hostages and established new parameters for diplomacy. Who knows where he will end up after collecting his doctorate.

19. Stefan Sagmeister, Graphic designer and typographer, selects: David Rinman -- graphic designer

David has a lot of joy and merriment mixed in with his clearly rigorous work ethic, and it shows: his graduation project in Stockholm lights up a ping-pong table in wonderfully diverse and gorgeous ways. His poster for the Swedish Screen & Special Printers Association lets the viewers display their perspectives on the future. He is equally comfortably at home in analogue and digital worlds.

20. Peter Gabriel, musician and activist; founder, Real World Records, selects: J Philipp Schmidt -- cofounder and executive director, Peer 2 Peer University

The old model of further education belongs to a time when universities were essentially for the wealthy. In terms of access and cost, our universities can never hope to satisfy people's needs, either in traditional economies or those of the booming young populations in transitional economies. Philipp's team is well on the way to providing a model that might be the basis of the next generation of university education. [P2PU](#) is a wonderful idea that not only ensures a lot of education is available online free (or freemium), but emphasises the power of group learning and mentoring. The goal is also to transform the accreditation system, and to make further education incremental and flexible.

21. Jack Horner, curator of paleontology, Museum of the Rockies, Montana State University, selects: Tyler Lyson -- postdoctoral fellow, Smithsonian

Tyler Lyson studies the origin and evolution of turtles, and he has made some very significant recent discoveries. But, because dinosaurs get so much more press than any of the other reptile groups, Tyler's innovative research on turtles is somewhat overshadowed. Tyler also has some interest in dinosaurs, as he excavates them (and turtles) in the badlands of his home state of North Dakota. He seems to have a keen interest in the evolution of North American Mesozoic terrestrial ecosystems, and is utilising turtles to understand better the K-T extinction events.

Tyler is a dynamic young man who thinks out of the box and doesn't mind responding to challenges to his theories. With such a mindset he is likely to be a driving force in paleontology over the next few decades.

22. Steven Pinker Johnstone family professor of psychology, Harvard University selects: Joshua Greene -- associate professor of the social sciences, Harvard University

It's rare to come across a genuinely new idea on the nature of morality, but Josh, a philosopher who uses the methods of cognitive neuroscience and social psychology, has come up with several. He took the old chestnut -- why is it OK to divert a runaway trolley from a track where it will kill five workers to a track where it will kill one, but not OK to slow it down by pushing a fat man in front of it? And he put people in a brain scanner as they pondered it. Ancient circuits for emotion lit up when people pondered killing a man with their hands, perhaps explaining the feeling behind the difference. Although his synthesis of philosophy and biology has made some philosophers hopping mad, it has excited others, grateful for the infusion of new ideas and the cross-talk between the sciences and the humanities.

23. Julie Hanna, chair of the board, Kiva, selects: Ben Rattray -- founder & CEO, Change.org

Be the change you want to see in the world, we're told. Ben enables us to do that: [Change.org](#) lets anyone start a petition. In a few short years, the least empowered people in the world have quietly become the largest collection of unlikely heroes: 45 million people in 196 countries, growing at a rate of three million a month.

24. Paul Jacobs, CEO, Qualcomm selects: Raj Krishnan -- cofounder and CEO, biological dynamics

Raj Krishnan has discovered a new, low-cost, easy way to detect cancer in its earliest stages. He became the CEO of Biological Dynamics (BD), a startup that creates the patents for this groundbreaking technology, while in his twenties. I've been so impressed with Raj and his work that I've invested in BD.

25. Lesley Yellowlees president, Royal Society of Chemistry, selects: Kylie Vincent -- research fellow, University of Oxford

Kylie is an inspirational chemist whose drive and passion have led her to achieve great things early in her career. Her research focuses on enzyme-based technologies that could provide solutions to energy storage and sustainable fuels. Working at the chemistry-biology interface, her research group studies how nature handles these challenges, and how they can apply this knowledge to technologies that can benefit humankind. By studying the enzymes that allow bacteria to live off hydrogen gas and make useful chemicals from carbon dioxide, she has developed and patented a new technology called HydRegen -- a system of graphite beads coated with enzymes that allows chemists to capitalise on nature's methods for producing complex chemicals. She was overall winner of the Royal Society of Chemistry's Emerging Technologies competition in 2013.

26. Bre Pettis cofounder and CEO, MakerBot selects: James Turrell -- artist

I'd like to meet James Turrell, a land and installation artist who creates amazing experiences. He's terraforming a giant piece called The Roden Crater outside Flagstaff, Arizona, that will act as a modern Stonehenge. For his interior work, I particularly like his "cloud rooms", where you enter a room and there is a seamless hole to observe the sky. I'm always inspired to examine the way I see the world when I encounter his art.

Nathan Blecharczyk selects "Satoshi Nakamoto", founder of Bitcoin

Credit **Lizzy Thomas**

27. Nathan Blecharczyk, cofounder and CTO, Airbnb, selects: Satoshi Nakamoto -- founder, Bitcoin

I'd love to have dinner with the founder of bitcoin, even if he or she remains unknown. The --distributed nature of bitcoin could make it possible to exchange value between individuals, completely agnostic of country, at near-zero cost. At Airbnb, I was the first engineer and built our first payments platform. Now we have a robust platform to make payments between countries easy, but on the back-end this is very complex and our capabilities vary by country.

The idea of simplifying the process across the globe is really intriguing.

28. Alex Hawkinson founder and CEO, SmartThings, selects: Valentin Heun -- PhD student, MIT Media Lab

I'm inspired by Valentin Heun's work on the Smarter Objects project. As the everyday objects in the world around us become connected as part of the internet of things, it presents an incredible opportunity to bring more intelligence to the everyday world.

29. Chris Anderson curator, TED, selects: Taylor Wilson -- nuclear scientist

At TED, we've had our eye on physics wunderkind Taylor Wilson, who made headlines at 14 by building a nuclear-fusion reactor in his garage. Now 19, he's focused on nuclear fission. He believes he has a winning design for a type of microreactor that is safe and capable of rapid roll-out.

30. Penelope Curtis, director, Tate Britain, selects: Giorgio Sadotti -- artist

I find Giorgio Sadotti and his work amusing, confusing, crystal clear, beautiful and romantic -- by turns or all together. He makes little gestures mean a lot, he packs big themes into small means, he is never heavy or portentous, but neither is he flippant nor cynical.

31. Muhammad Yunus, founder, Grameen Bank and the Yunus Centre; Nobel Peace Prize laureate, selects: Saskia Bruysten cofounder and CEO, Yunus Social Business

Saskia is an amazing young entrepreneur who's pioneering a new way to turn charity money -- as well as business money -- into investment capital and creating and empowering entrepreneurs to address social problems. Within the last three years, she and her team of 30 have built a small empire of social-business incubator funds in Haiti, Albania, Colombia, Brazil, Tunisia and Uganda. She was instrumental in changing policies and opening doors for social businesses at unlikely places -- the traditional multilateral and bilateral donors such as the African Development Bank and USAID.

Saskia has an indomitable energy, inspiring vision and ambitious plans for the next three years. I predict that they won't remain only plans for long. These social businesses will soon be sprouting all over the world. I'm confident about her successes.

32. Ben Goldacre, author and Wellcome research fellow in epidemiology at the London School of Hygiene and Tropical Medicine, selects: Peter Doshi -- postdoctoral fellow, Johns Hopkins University

There's a huge problem in medicine: about half of all clinical trials for the treatments we use today haven't been published.

Peter has been at the forefront of solutions to this problem, documenting the details and helping to devise a project that might at least restore some missing trials to the public record. I know from my own work that many people in medicine

33. David Attenborough, broadcaster, selects: Xu Xing -- paleontologist

I met Xu Xing in China this year while filming a BBC series. He is a professor at the Institute of Vertebrate Paleontology and Paleoanthropology in Beijing, and he instantly struck me as a highly engaging and energetic character (he plays badminton with his colleagues in the institute's entrance hall at lunchtime). He is also an expert decoder of dinosaur fossils and already has a long list of remarkable discoveries to his name. I had the good fortune to get a guided tour around some exquisite specimens that have shed new light on the evolutionary links between dinosaurs and birds. China is the new frontier of fossil discoveries -- finds made there have filled some of the most intriguing gaps in our evolutionary past -- and Xu Xing is a key player in that. So far he is relatively unknown in the west outside paleontology, but I think his name and work will reach a wider audience soon.

34. David Karp, founder and CEO, Tumblr, selects:

Brandon Stanton -- photographer, Humans of New York

Tumblr's mission is to empower people to create something extraordinary, and Brandon is one of the most innovative creators in our community. After losing his job in 2010, he relocated to New York with a vision for creating his art project, [Humans of New York](#): daily portraits of people he'd see on his walks.

35. J Craig Venter, founder, chairman and CEO, J Craig Venter Institute, selects: Daniel Gibson -- associate professor, J Craig Venter Institute

He's a scientist who's made [major contributions](#) to DNA synthesis that have resulted in the creation of the first synthetic bacterial cell, and the development of an enabling suite of DNA synthesis and assembly methods, including Gibson Assembly, which is used in laboratories around the world.

36. Rachel Botsman, social innovator, selects:

Won-Soon Park, Mayor of Seoul

Mayor Park and his team are turning Seoul into a "shareable city" by applying technology to unlock the value of existing assets and reimagine the way everything -- from transportation to elderly care -- could work. His office has a greenhouse of rare plants and walls covered with Post-it suggestions from citizens.

37. Andrew Zoll, executive director and chief creative officer, PopTech, selects: Claudia Perlich -- chief scientist, Media6degrees

In an age not just of big data, but of big algorithms, the future will belong to people such as machine-learning expert [Claudia Perlich](#). She has pioneered the development of breakthrough algorithms for everything from pricing advertising to detecting breast cancer and rating movies.

38. Paul Davies, director, Beyond Center for Fundamental Concepts in Science, AZ State University, selects: Sara Walker -- assistant professor, School of Earth and Space Exploration and Beyond Centre

Sara is a 29-year-old astrobiologist who trained as a physicist and cosmologist, and now works mainly on the puzzle of how life began. Much hinges on the answer -- for example, whether or not we are alone in the universe. The mystery requires technical proficiency across a range of disciplines, including chemistry, physics, biology, mathematics and computing. The pathway from non-life to life involves a transition from the realm of molecules and forces to the conceptually completely different realm of information processing, coding, instructions and signals. Sara is one of the few scientists I know who can grasp the problem from both ends and glimpse how to join them in the middle.

39. Marc Andreessen cofounder, Andreessen Horowitz, selects: Balaji Srinivasan -- cofounder and Chief Technology Officer, Counsyl; lecturer, Stanford University

With a voracious mind in an environment that often favours narrow specialists, Balaji is something of a unicorn. He's that rare computer scientist who combines coding prowess with a wide-ranging --knowledge of how the world actually works, whether it's regulation, politics or global markets. That's led him to software that's eating the world in fantastically different domains, from developing cheap genetic testing for pregnant women, to working on the technical underpinnings and policies required for crypto-currencies (such as bitcoin) to become real alternatives to fiat currencies.

At Stanford, he's training the next generation of hackers to take on some of the thorniest problems, but always with an eye on the human aspects that need to be addressed alongside the technical. With him leading the way, technology's relationship with our lives will only get more intimate.

Rachel Armstrong selects William Harries Graham, ecologist and writer

Credit Charles Williams

40. Rachel Armstrong, Sustainability innovator, selects: William Harries Graham -- ecologist and writer

Fourteen-year-old William is one of our next-generation visionaries in sustainable design. He believes that the modern ecological movement has created a dystopian vision of environmental issues. William's pioneering project, the "Luxasphere", proposes that we can live in harmony with the natural world without adopting austere lifestyles. He suggests that emerging new materials and technologies will enable us to use our natural reserves differently by functioning as metabolically active "organs" within our buildings. These systems will help us to use our natural reserves differently and to transform resources into biologically compatible substances that do not kill the planet. He is building support for his idea by enthusiastically raising awareness about the impact of our current generation by establishing think-tank pods as innovation hubs that develop Luxasphere-style solutions.

41. Ken Levine, cofounder and creative director, Irrational Games, selects: Gabe Newell -- cofounder and managing director, Valve Corporation

Gabe has not only led the creation of half a dozen or more top-flight PC games, such as *Half-Life* and *Counter-Strike*, he's forced us to rethink the nature of game development, distribution and retail. With the introduction of the Steam service a decade ago, the [Valve](#) crew were widely mocked for their software: it was buggy, with only a smattering of product and, worst of all, they were doubling down on PC gaming when everyone knew PC gaming was dead. But they became the number-one way people purchased and played PC games, and they introduced concepts such as user-generated (and monetised) content, deep-discount sales and sticky community features -- and most importantly put PC games at the forefront of the technical pack.

Gabe understands one thing very clearly: you can't tell the consumer what he wants: you have to build something he wants.

42. Jane Goodall, primatologist; UN Messenger of Peace, selects: Itai Rothman -- anthropologist

I am recommending Itai because I really like the way his mind works. He has an unusual way of thinking about things, extraordinary persistence in finding ways to attain his goals, and deep commitment and passion. I met him when he was fighting to save an endangered toad -- he created a whole new protected area in Israel as a result. His current research is learning about the unknown and intriguing life of cave-dwelling chimpanzees in Mali.

With his usual quick grasp of possibilities, he also began interviews with the local Maninka tribespeople to discover their relationship with the chimps. Already, he has made fascinating discoveries. And, despite lack of funds, he's developed a partnership with the zoo for the betterment of the three chimps there. I think that he will go far in anthropology.

43. Philippe Starck, Product designer, selects: Thibault Damour, physicist

A few years ago, Thibault was kind enough to try to educate me.

We had a wonderful time, even though I understood very little.

Thanks to him, I heard the sound of real human intelligence, of science, the relationship between mathematics, astrophysics and the laws that govern us -- I heard the poetry that we are living every day. Thibault is my reference point for absolute beauty. He's one of the most advanced thinkers of our age. He's an astrophysicist whose ideas extend to philosophy, and it's through philosophy that we find real poetry. I would have liked just to talk about this poetry, which is the only way to understand these subjects. We weren't raised to understand it and we don't have the necessary education, or perhaps even the intelligence level to do so. The sound of such intelligence is extraordinary. Thibault Damour is my role model. He's a kind of Professor Calculus with the elegance of absolute thought.

44. Zach Sims, cofounder, Codecademy, selects: Sam Chaudhary and Liam Don -- founders, ClassDojo

I find the founders of [ClassDojo](#) to be an inspiration in education technology -- they've built a tool that's truly useful for teachers. Doing so has helped them find traction among 15 million teachers. It's notoriously hard for an education company to get adopted in school systems, but building a great product has helped ClassDojo to do so.

and resources to change the world he has done so already.

46. Jim Al-Khalili, professor of physics, University of Surrey, selects: Molly Stevens -- professor of biomedical materials and regenerative medicine, Imperial College London

Molly was one of the very early guests on my Radio 4 programme The Life Scientific and she was quite fascinating. What struck me most is her ability to bring so many different people from diverse disciplines together under one roof.

47. Danah Boyd, senior researcher, Microsoft Research, selects: Janet Vertesi -- sociologist of science and technology, Princeton University

Janet has embedded herself at Nasa to understand how social, cultural and organisational dynamics shape the science and engineering efforts surrounding the Mars Exploration Rover and Cassini Saturn missions. Her brain makes me drool.

48. Martin Rees, cosmologist, astrophysicist and Astronomer Royal, selects: Didier Queloz professor of astrophysics, University of Cambridge and University of Geneva

While still a student, Didier and his adviser were the first to discover a planet orbiting a star similar to the Sun. Now at Cambridge, he's developing special instruments to study Earth-like planets. He may be able to tell us if there's life on them.

49. John Brockman, president, the Edge Foundation, selects: David Moinina Senghe -- PhD candidate, MIT Media Lab (biomechatronics); cofounder and president, Global Minimum Inc

David Senghe, from Sierra Leone, established Innovate Salone, a youth-mentorship programme that gives people the opportunity to innovate, to learn from making, and to solve very tangible problems in their communities.

Ben Silbermann selects Karl Deisseroth, professor of bioengineering and of psychiatry and behavioural sciences, Stanford University

Credit: **Ruben Ireland**

50. Ben Silbermann, cofounder and CEO, Pinterest, selects: Karl Deisseroth -- professor of bioengineering and of psychiatry and behavioural sciences, Stanford University

Karl Deisseroth has made some really tremendous breakthroughs in the development of optogenetic methods for studying the function of neuronal networks' underlying behaviour. He takes risks and encourages others to do the same. He gives people on his team great opportunities and always makes sure to share the credit.

