



EMERGING INSIGHTS

05

SCIENCE & TECHNOLOGY

The Rise of the Social Scipreneur

Global Issues

How can science and technology help us to solve the world's most pressing social issues? It is evident, at least, that future of jobs will be increasingly reliant on science and technology literacies. Children entering primary school today will grow up to engage in careers that do not yet exist, and these will be driven by ubiquitous high-speed mobile internet, artificial intelligence, widespread adoption of big data analytics, and cloud technology.²⁶ How do we enable educators, employers and the general public to acknowledge and prepare for a technological future at scale while recognizing that these skills must help to solve pressing global issues? Science education needs to evolve to produce students who can learn to iterate, problem-solve, and adapt to our changing world.



It can sometimes feel that support for science is at risk as a distrust of academic institutions and big data abound. In the face of this, the World Economic Forum has called for a renewed push to “stand up for science.”²⁷ And numerous institutions and organizations are calling for scientists to integrate their scientific focus on practical solutions. Scientists are already taking up the charge — moving beyond their labs to engage in the public debate to advocate for truth in the age of disinformation, but even more are needed to ensure that scientific evidence remains the foundation on which we build knowledge.

26. Leopold, T.A., Ratcheva, V.S. and S. Zahidi. (2018) The Future of Jobs Report 2018. World Economic Forum.

27. Bourguignon, J. (2018) Scientists can lead the fight against fake news. World Economic Forum. Retrieved from <https://www.weforum.org/agenda/2018/09/scientists-can-lead-the-fight-against-fake-news/>

The Headlines

Mexico wants internet access for all. Getting everyone online could reduce poverty, too

The Conversation, 11/26/18

The Digital Gap Between Rich and Poor Kids Is Not What We Expected

New York Times 10/26/18

Disadvantaged girls change their communities by learning to code

CNN 9/13/18

Here's How Scientists Can Become More Politically Engaged

Scientific American 4/25/18



New Ideas

Science has a great potential to contribute to solutions for today's social challenges, but barriers still prevent scientific research to be deliberately and efficiently leveraged. In France, **Melanie Marcel** is building the framework and standards to make impact-driven research a recognized, easily accessible and attractive field through her organization SoScience. In a world where a reality for many researchers is that their work is often determined by an availability of funding provided by outside institutions and companies, Mélanie is creating a bridge between science and its social application by creatively curating a process that integrates both scientists and social entrepreneurs. Her campaign, Science for Good, highlights scientists working at the intersection of science, social impact, and business to spotlight great initiatives that are assessed by a team of experts from different sectors.

This emergence of science for social impact can be seen in several examples from our recently elected Fellows who are helping to create new science literacies and designing tools and resources that improve lives.

Science as a literacy

While Melanie is working to bring scientists to the social sector globally, **Theo Anagnostopoulos** is focused on helping the public distinguish between science, pseudoscience, and antiscience in Greece. His organization, SciCo, from Science Communication, began as a theater company with a goal to popularize and increase the science literacy of the public. SciCo has reached over 30,000 children with Science Theater and has integrated tools for science communication, like an annual Science Festival, into standards set by the Greek Ministry of Education. But Theo has also moved beyond institutions to the street – his program Mind the Lab is driven by scientists, teachers, and students who set up science labs in metro stations and use interactive, entertaining ways to engage the public in STEM related topics.

Making science accessible for meaningful futures

Science education and promotion is at the core of **Melina Masnatta's** work in Argentina. Her organization Chicas en Tecnología is focused on making technology careers a possibility for girls. Her initiative, Programming for a Better World, rests on the premise that experiential learning through technology not only encourages the adoption of technology as a course of study but also builds complementary skills like teamwork, logical reasoning, and communication. Young women, between the ages of 13 and 17 are encouraged to solve a problem in their communities by building technology tools together. Outside the core program, Chicas en Tecnología offers clubs, where members meet weekly to identify problems and receive training on how to solve them. Alumni of the program are also supported through scholarships and other opportunities. In just two years, 50 clubs have

formed in partnership with local education ministries and companies. Melina joins Fellows globally who find innovative and practical purposes for technology while preparing youth for the future.

To reform the education of math and science in Thailand, **Tanin Tingtong** focuses on instant feedback. He combines virtual teaching on computers with adaptive curriculum in the classroom. His organization, Learn Education, has built a service for resource-strapped schools to improve the quality of teaching by reducing the burden of manually evaluating student work. Instead, students learn in the classroom but are tested on the computer. Their results are immediate – they are encouraged to review materials they missed or move



forward in their learning. This blended learning platform enables students to learn at their own pace and frees up teachers to spend more time on individual coaching. The platform has been introduced in 150 schools in 45 provinces with a cost of just \$50 a student per year. Tanin is already working on alternative financing models to ensure the program is able to reach all children in Thai schools.

A major disadvantage in science and technology education is access. In Chile, Mexico, and the United States, **Komal Dadlani** is working to change how science is taught by employing smartphone technology. In doing so, she partners with resource stricken schools to provide students with virtual laboratory tools, enabling all to engage in real-life experiments, develop critical thinking skills, and see new potential careers. Her team has developed an app, Lab4U, which uses the built-in sensors of a smartphone and offers lesson plans and instructional videos for teachers to connect to other science instructors through a forum. The app does not require wifi, so students can use the application in school, public places, and at home. The app has been downloaded over 128,000 times, is used in schools in Chile and the United States, and is being piloted for expansion into Mexico.

Spotlight on:

Solar Technology and Finance Solutions

Two Fellows from this year's 2018 cohort have found opportunities to combine solar solutions and innovative financing to increase access to communities:

In Bangladesh, **Sebastian Groh** is transforming how energy is being delivered and consumed through a peer-to-peer solar energy trading platform.

How it works:

1. Individuals in a community each buy a SOLbox which is a power meter, a solar charger, and a communications enabled device that serves as an individual node on the energy network.
2. They consume energy as needed and trade surplus energy with each other.
3. As more people buy SOLboxes and connect to the network, more and more users can trade and sell energy to the grid.
4. A big SOLShare network can connect to the national grid and draw power when it is available and metered at a single location.

This last-mile power distribution infrastructure enables communities to construct their own power grids while enabling them to adapt. So far, SOLshare has impacted 15,000 lives, trained 2,750 field staff and estimates to reduce 25,000 metric tons of CO₂ by 2019.

In Colombia, **Camilo Herrera**, is using technology to connect people who live in rural areas and territories affected by conflict. He places intelligent energy posts that provide both lighting for the community as well as internet access. The idea is that the light posts serve as routers for which members will pay a small fee to access. The contributions also develop a community fund to use on local projects. With Google, Camilo is refining the design and production to offer the posts as a "light post" in a box – an easy to assemble, do-it-yourself solution that will integrate wifi, public light, and electrical outlets, all based off solar power. The model has already reached 16 cities in Colombia and is being spread to eight countries on three continents.

The Opportunity:

A scipreneurship ecosystem

How can we promote the promise of technology while protecting against its harm?

For more scipreneurs to emerge and thrive, we need to build effective coalitions of leading social entrepreneurs and scientists to achieve ambitious social and environmental goals. We also need to empower more young people to be problem-solvers equipped with the power of science and technology for the benefit of all. Public commitments from like-minded universities, school districts, and philanthropists to empower the next generation of such changemakers can be an important starting point. Transformative alliances between tech businesses and social entrepreneurs to leverage market dynamics for large-scale social change are another important avenue.

We also see an urgent imperative to find and support Fellows working at the intersection of technology, science and social change. We have seen that technological solutions can radically democratize access to basic needs and help communities leapfrog innovations. But in building a movement to find and support new technologies, we are also interested in entrepreneurs who are addressing the risks and mitigating the social isolation that technology has created. This is an area of opportunity of which we are only beginning to understand the implications.

About Ashoka

Ashoka believes the most powerful force for change in the world is a new idea in the hands of the right person. With this conviction, we pioneered the field of social entrepreneurship 38 years ago. Ever since, we've bet on the optimists and the adventurous among us who see the world not as it is but as it should be. Year after year, they forge new pathways to get us there, growing unexpected ideas into transformative social progress.

Leading social entrepreneurs are not heroes working in isolation. Their success depends on creating roles for ordinary people – parents, refugees, computer scientists, farmers, and young people – to play an important part in the solution. With each new leading social entrepreneur we nurture, therefore, Ashoka is creating a different kind of future: one where each of us looks inside ourselves and sees a changemaker.



Methods

Ashoka's approach to supporting tomorrow's social innovations

After 38 years of electing the world's leading systems changing social entrepreneurs, Ashoka knows how to find new ideas. For this analysis of our 2018 Fellows we tapped into the resources of our Ashoka process to mine the reports, interview notes, reflections, and writings of our teams across the globe who are expert innovation spotters and who have deeply examined the work of potential Fellows. The learnings, patterns, and insights we cull during the rich Fellow selection process provided the baseline data for this report.

Partner with us

We are always looking for new partners to help us find and support Ashoka Fellows around the world to advance systemic change in new and growing fields. please contact Maria Clara Pinheiro mpinheiro@ashoka.org for more information on how you or your organization can help us continue to grow the largest global network of social entrepreneurs.

Donate to Ashoka's Global Venture Fund

Global Venture Fund is a pool of philanthropic funds dedicated to finding and electing new Ashoka Fellows. The Fund prioritizes supporting the search and selection of social entrepreneurs in emerging or underrepresented areas of innovation, and under-resourced geographies. Please visit ashoka.org/donate and indicate Global Venture Fund in your donation.

Recommend a candidate

Do you know a systems-changing social entrepreneur who could benefit from the financial and network support of the Ashoka Fellowship? Nominate them at ashoka.org/engage/recommend/fellow.



Everyone a Changemaker



ASHOKA

Ashoka, 1700 North Moore St, Suite 2000, Arlington, VA 22209 USA

www.ashoka.org