

Mental And Physical Disability Or Impairment At Work



Kurt Driscoll. Photo: Aaron Mayberry/Faurecia

Why Hire Engineers With Disabilities? They're Practiced Problem Solvers

Excerpt from IEEE Spectrum by THERESA SULLIVAN BARGER, December 26, 2016

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Disabled engineers make great contributors—if they can get past the interview

After graduating, mechanical engineer Kurt Driscoll endured more than 100 interviews over 10 months before he was finally hired. A quadriplegic, he encountered some who told him that he couldn't do the job, while others simply claimed to be "going in a different direction."

He finally got hired by an engineering firm through a family connection. He worked there for three years until the company went bankrupt in 2001. His next job hunt was nine months long. "I tried the most direct, in-your-face approach I could think of," says Driscoll. To demonstrate his ability to do the job, he videotaped himself working at his desk. Finally, one interviewer at Faurecia's automotive seating group seemed more intrigued than put off by his disability. (He drives his wheelchair with his chin.)

"I told [the interviewer] I know how to solve problems. I know how to look for solutions. Despite what you're looking at, I'm a go-getter. If I don't know how to do it, I'll learn it and I'll get it done," he says. Faurecia made an offer, and Driscoll is still there.

People with disabilities are underrepresented in STEM (science, technology, engineering, and mathematics) jobs compared with their numbers in the overall population, according to the Bureau of Labor Statistics and the U.S. Census Bureau. But those who succeed share qualities of acceptance, tenacity, and resilience. By necessity, these engineers and coders have well-honed problem-solving skills.

Mental And Physical Disability Or Impairment At Work



Maggie Hauser. Photo: Sean Hauser

Maggie Hauser, who works in data and information management for the London-based HSBC Bank, says that when she first graduated in 1992, information technology work was mostly solitary. "You went and coded it all in your cube," says the applied computer science major, who is hearing-impaired and reads sign language. "It made communication easier."

Fortunately for Hauser, as workplaces became more global and conference calls and videoconferencing routine, technological advances that aid the hearing-impaired kept pace. Today, she conducts her conference calls through a relay system, where an interpreter listens to the call and signs what people

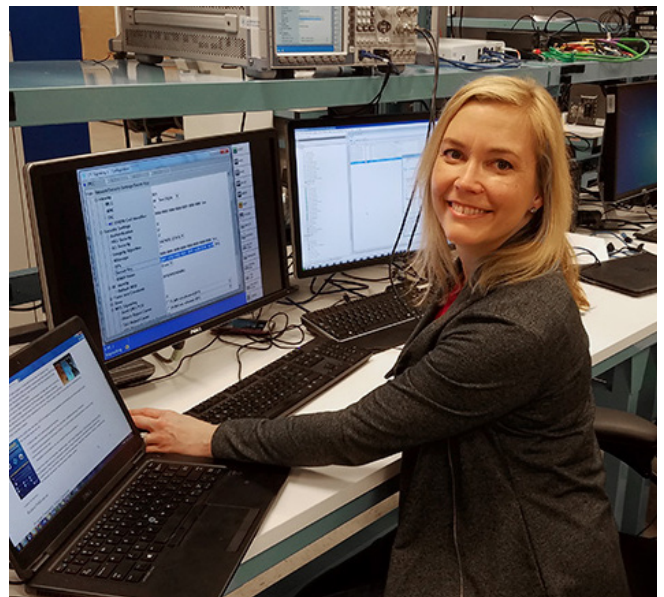
are saying to Hauser via a video connection on her laptop. In the United States, this service is free, paid for by a surcharge of a few cents on everyone's monthly phone bills.

Hauser had to convince her employer that this system wouldn't compromise company security and confidentiality. She used a separate laptop at work to access the internet via public Wi-Fi to reach the interpreter, keeping the bank's data inaccessible to the service.

Colleagues were skeptical at first. "I have to come up with the ideas," she says. "Once you show them, they're like, 'That's great.' " Sometimes multiple people speak at once on conference calls. Hauser has to walk a fine line between being able to participate while not being perceived as weak. Often, others on the call will speak up when people are interrupting because they can't hear either.

To prevent miscommunication, she says, "I ask them to send me an email just so I know we're on the same page."

Electronics engineer Alison Kahn, of Boulder, Colo., doesn't miss a beat when new acquaintances underestimate her because of her limp. Some do a double-take, some stare, and some are extremely cautious and solicitous. "I don't focus on what people think I can't do. If I did that, I wouldn't do anything," says Kahn, who has cerebral palsy and works on the nationwide public-safety broadband network for the National Institute of Standards and Technology. "I focus on knowing what I can do and showing people that. I'm not going to run a marathon, but the brain is there," says Kahn. One of her feet drags behind the other, so she says she's always tripping over her own feet. To put colleagues at ease, she jokes about it, saying, "If you can't laugh at yourself, you're kind of in trouble."



Alison Kahn. Photo: NIST

Mental And Physical Disability Or Impairment At Work

Nothing 'special' about these needs

by The Life of Science team, VANSHIKA SINGH and CM MANASVI

Source: <https://thelifeofscience.com/2020/11/20/disability-stem-education/>

To people with disabilities in India, STEM fields remain largely inaccessible. A glimmer of hope has come in the form of the National Education Policy 2020, but unless some serious gaps are addressed, progress is unlikely.

"I would explain the calculus equations to my scribe as best as I could, only to come back home after the examination and find that the Greek symbol theta had been misrepresented. That would put my entire year's efforts to waste."

– Vidhya Y., Co-founder of Vision Empower

Vidhya Y. is the trustee and one of the co-founders of Vision Empower, a social enterprise incubated at IIIT Bangalore empowering children with visual disabilities to pursue an education in science and mathematics. Herself a visually disabled person, Vidhya's journey in mathematics began in high school when she held up against the tide of the popular opinion that science and mathematics are beyond the reach of people like her. According to her, people with disabilities are often coaxed to pursue subjects such as economics and political science – subjects that are considered to be within the grasp of people with disabilities. It was the love for math that triumphed for Vidhya at last, as in 2009 she became the first visually disabled person to pursue mathematics at the higher secondary level in Karnataka. She also went on to become the first visually disabled undergraduate student to major in computer science at Christ University. Along the way, she has jumped through a slew of administrative hoops.

"Most blind schools back in the day did not offer science and mathematics, let alone have teachers trained in disseminating the intricacies of the subjects through the right media for visually disabled students. Having obtained my education through the Karnataka State Board, I had to move the authorities to allocate an additional hour in the examinations for visually disabled students. Communicating with the scribe takes that much extra effort and time. From next year on, the extra hour became a provision for our student community across the Karnataka State Board."

Scientific temper as an antidote to rote learning

More often than not, innate curiosity can be a more potent motivator of scientific temper than a conventional form of education. Nandakishore, a 16-year-old child with Asperger's syndrome stands testimony to that.

"Although my son's previous CBSE school failed to keep him interested in science, he would explore the world of science through YouTube," Gayathri Sekhar, his mother, remarked. When Nandakishore shifted to a special school for autistic children, he was exposed to coding and picked it up independently. Inspired and self-initiated, he has now built a steering rover model and codes for animations as well. "Make our children do science hands-on, not through memorisation," Gayathri urged.

"Teachers and institutions need to be responsive to disabilities if we want to shift the status quo of the education space in India," suggested Rukmani Krishnaswamy, Director of Spastics Society, a non-governmental organisation for persons with neuromuscular and developmental disabilities. In her opinion, children's curiosity needs to be ignited through small and practical experiments.

Mental And Physical Disability Or Impairment At Work

Kairali Nair, the ex-Principal at the Learner's Centre of the Spastics Society added: "Most students find it difficult to cope with the science taught in the regular textbooks. They opt out of science in high school. However, with the help of assistive technology, a few students with cerebral palsy at our centre have pursued their higher education in science."

However, existing infrastructure remains starkly inadequate. This hinders its access to people with disabilities who can leverage them for personal and community development. Bina Rajan, a tutor for hearing and speech-impaired students, outlined the on-ground challenges of educational infrastructure for the hearing and speech impaired.

"The sign language lacks technical words that are imperative to understanding concepts in STEM (Science, Technology, Engineering and Mathematics). Explaining terms such as radiation, probability and permutations is a futile game of dumb charades."

Additionally, disabled students are expected to write the same exams as their peers who can hear, which may compel them to memorise rather than understand the subject.

P. Priyanka, a hearing-impaired software engineer based in New York, recollected her educational experiences: "Many kindergarten schools rejected me because of my disability. When I joined a mainstream school in Mumbai, I failed in many subjects, including English." It wasn't helpful that Priyanka's school lacked provisions such as real-time captioning and sign-language interpretation. "The teachers were aware of my profound deafness and still failed to accommodate me. They viewed it as a temporary disability that could be fixed by paying attention in class."

Priyanka said that her performance drastically improved after private tutoring. There, the communication was more visual and written rather than auditory, and that helped her learn in a way regular school never did. It was her postgraduate experience in Rochester Institute of Technology, USA, that helped Priyanka believe in true inclusivity. At Rochester, she was provided with captioning access real-time (CART) service where a stenographer uploads real-time captions to the student's laptop. The faculty were also receptive to her needs and would unhesitatingly communicate in writing. "Disability is perceived negatively in India. We have a long way to go in ensuring accessibility for all," Priyanka affirmed.

Abigail Irfan, a queer person with autism, is an undergraduate science researcher who believes that a healthy acknowledgement by professors of an individual's disabilities is the first step towards sensitisation of disability in the academic milieu. Sifting through her mixed experiences, she recalled one professor in particular who had been accommodating of the disabilities that accompanied her scientific intrigue. "In the weekends, I go to the Jawaharlal Nehru Planetarium in Bangalore for their Research Education Advancement Program (REAP). This is a supplementary program in physics and astronomy for students pursuing B.Sc. or B.E. courses. The course gives an exposure to basic sciences with a simultaneous emphasis on problem-solving and aptitude building. There, I met Shashi Thutupalli, who is a biophysicist at the National Centre for Biological Science (NCBS). Whenever I let him know that I require more time for some assignments, he is understanding and accommodating."

However, such experiences have been more of an exception than a rule for Abigail. "When you are neurodivergent, you experience a lot more stressors than a neurotypical person. Expecting them to adhere to the same routines and submit assignments in the same timeframe can force them to drop out. Some of my friends, well into their masters, with exceptional aptitude in science, have had to drop out owing to the lack of flexibility of the academic system they were in. Professors and mentors must establish an open line of communication – this is a prerogative for any realm of knowledge."

Mental And Physical Disability Or Impairment At Work

Autism: The Enigma That Amazingly Saved 14 Million Lives

Excerpt from Autism Parenting Magazine by JANE CARVER, June 1, 2020

Source: <https://www.autismparentingmagazine.com/autism-enigma-amazingly-saved-lives/>

Alan Turing: The man who cracked the 'unbreakable' German Enigma Code in World War II. A gay man convicted of homosexuality in the dark days when it was a crime, but posthumously pardoned by Her Majesty the Queen in 2013.

Until recently, that was about the sum of my knowledge of this brilliant man, but as I watched *The Imitation Game*, the film that tells Turing's story, I learned something more, something very unexpected.

As I saw Turing's character unfold—a socially awkward man; an arrogant, obsessive genius; a 'loner' with few friends and even less of a sense of humor; an 'oddball'—something else became self-evident.

Within minutes of the film, I was reaching for my mobile, a device whose artificial intelligence Turing himself pioneered, and was searching 'Did Alan Turing have autism?' Unsurprisingly, the same question appeared many times in the search results, and with each one the answer was the same: yes.

Of course, Turing lived at a time when autism barely existed as a phenomenon in its own right and was unknown to most of the medical profession, let alone to the rest of the world. At the outbreak of World War II, Hans Asperger and Leo Kanner, who studied and described the condition, were still in the throes of carrying out and documenting their research. It would have been impossible then for Turing to have had a formal diagnosis. Yet, today's experts in the field who have studied his life all reach the same conclusion: Alan Turing had Asperger's syndrome. He had autism.

As I read this and the film played on, I had an unexpected and overwhelming feeling of sadness. Why was it that I had never heard anyone speak of Turing's probable autism? Why did the film, which clearly portrayed him as having the symptoms of autism, make no mention of it, even in the text summary at the film's conclusion?

Why should this make me feel sad? Because autism was a vital aspect of his personality, something to be proud of, something to celebrate, something to shout about, not something to be confined to history's 'bottom drawer.'

For better or worse, autism made Alan Turing the man he was: a scientific genius, the pioneer of artificial intelligence, the father of computing, just as it makes my daughter the complex, challenging, difficult, frustrating, quirky, funny, wonderful woman she is.

His was an astonishing mind, a mind that cracked the Enigma Code and thereby shortened the war by approximately two years, saving an estimated 14 million lives. His was an autistic mind.

Why this aspect of such a brilliant man's life is not acknowledged even today remains an enigma...