

## Lecturer Bios – Technology and the Future of Medicine course – LABMP 590

**Kim Solez, M.D.** - Rumored to be “interested in everything”, Kim Solez is the physician, futurist, and poet who founded the Banff Classification of Transplant Pathology 30 years ago, has run the biennial Banff Transplant Pathology meetings setting the worldwide standards ever since, and founded the Technology and Future of Medicine course LABMP 590 ten years ago. He helped found a unique new medical school in Kathmandu Nepal devoted to rural health. He has over 1400 videos on YouTube and is a major medical presence on social media.

**David Wood, D.Sc.**, is Chair of the London Futurists, perhaps the most successful futurist organization in the world right now. David Wood, D.Sc., was one of the pioneers of the smartphone industry, and is now a renowned futurist commentator.

David spent 25 years envisioning, architecting, designing, implementing, and avidly using smart mobile devices. He co-founded Symbian, the creator of the world’s first successful smartphone operating system. His software for UI frameworks and application architecture has been included on 500 million smartphones from companies such as Nokia, Motorola, Sony Ericsson, Sharp, Fujitsu, and Samsung.

From 2010 to 2013, David was Technology Planning Lead (CTO) of Accenture Mobility. He also co-led Accenture’s “Mobility Health” business initiative. He now acts as independent futurist, consultant, and writer, at Delta Wisdom.

As chair of London Futurists, David has organized regular meetings in London since March 2008 on futurist and technoprogressive topics. Membership of London Futurists now exceeds 8,000.

David’s most recent book (published January 2020) is [RAFT 2035](#). His previous books include [Smartphones and Beyond](#), [The Abolition of Aging](#), [Sustainable Superabundance](#), and [Transcending Politics](#). He was also the lead editor of the volume [Anticipating 2025](#). David has a triple first class mathematics degree from Cambridge, and undertook doctoral research in the Philosophy of Science. In 2009 he was included in T3’s list of “100 most influential people in technology”. He is co-founder of [Transhumanist UK](#) and [H+Pedia](#), Executive Director of [Transpolitica](#), a Fellow of the [Royal Society of Arts](#) (FRSA), and sits on the Board of the [IEET](#) (Institute for Ethics and Emerging Technologies).

**Dr. Shawna Pandya** is a scientist-astronaut candidate with Project [PoSSUM](#), physician, aquanaut, speaker, martial artist, advanced diver, skydiver, pilot-in-training, VP Immersive Medicine with [Luxsonic Technologies](#) and Fellow of the [Explorers’ Club](#). She is also Director of the International Institute of Astronautical Sciences (IIAS)/PoSSUM [Space Medicine Group](#), Chief Instructor of the IIAS/PoSSUM Operational Space Medicine course, Chair of Strategic Directives for the [PoSSUM13](#), clinical lecturer at the University of Alberta, a newly appointed podcast host with the World Extreme Medicine’s [WEMCast](#) series, Primary Investigator (PI) for the [Shad Canada-Blue Origin student microgravity competition](#), session organizer for [ASCEND](#)

2020, Life Sciences Team Lead for the [Association of Spaceflight Professionals](#), and serves as medical advisor to several space companies, including [Orbital Assembly Construction](#) and [Mission: Space Food](#). Dr. Pandya holds degrees in neuroscience (BSc Hons. Neuroscience, University of Alberta), space (MSc Space Studies, International Space University), and medicine (MD, University of Alberta), and a certification in entrepreneurship (Graduate Studies Program, Singularity University). She is currently completing a fellowship in Wilderness Medicine (Academy of Wilderness Medicine), and was named one of the [Women's Executive Network's Top 100 Most Powerful Women](#) in Canada in 2020.

Through her involvement with Project PoSSUM, Dr. Pandya was part of the first crew to test a commercial spacesuit in microgravity. She has also completed centrifuge studies, emergency spacecraft egress and sea survival training, and wilderness medicine training. Her publications include book chapters on space spin-offs for medical benefit, psychological resilience in long-duration spaceflight, and reproduction and sexuality in long-duration spaceflight. She previously interned at ESA's European Astronaut Center and NASA's Johnson Space Center. Dr. Pandya earned her aquanaut designation during the 2019 NEPTUNE (Nautical Experiments in Physiology, Technology and Underwater Exploration) mission. She previously served as Commander during a 2020 tour at the Mars Desert Research Station. She is an accomplished speaker, having given talks at [TEDxUAlberta](#), [TEDxEdmonton](#), [TEDxISU](#) and the University of Alberta's [Peter Lougheed Leadership College](#) at the invitation of former Prime Minister Rt. Hon. Kim Campbell. Dr. Pandya is a passionate STEM advocate, and a frequent speaker at schools, universities, scientific conferences and science centers. She is represented by the [National Speakers' Bureau](#). Dr. Pandya also holds certifications in solo sky-diving, advance, open water, Nitrox and rescue diving, and is working towards her private pilot's license. Dr. Pandya is fluent in English, French, Gujarati, and speaks introductory Spanish and Russian. She also sings, plays the piano and holds a black belt in Taekwondo and has trained annually at Muay Thai fight camps in Thailand from 2015 to 2017, entering and winning her first amateur fight in 2017.

[shawnapandya.com](http://shawnapandya.com)

Social Media - IG/Twitter: @shawnapandya / Facebook/LinkedIn - Dr. Shawna Pandya

**Insoo Hyun, PhD.** is a faculty member of the Center for Bioethics and senior lecturer on Global Health and Social Medicine at Harvard Medical School and professor of bioethics and philosophy at Case Western Reserve University School of Medicine and As a Fulbright Scholar and **Hastings Center Fellow**, Dr. Hyun's interests include ethical and policy issues in stem cell research and new biotechnologies.

Currently, Dr. Hyun is the Principal Investigator of a BRAIN Initiative-funded project exploring the ethical issues surrounding human brain organoid research, in collaboration with leading scientists at Harvard and Stanford. He is the Co-Principal Investigator, along with colleagues at the Hastings Center, of an NIH grant identifying ways to improve the oversight of stem cell-based human-animal chimera research. And he is the Principal Investigator of a Greenwall Foundation project seeking to formulate a new bioengineering ethics framework for research involving the use of multi-cellular engineered living systems derived from human cells. This

Greenwall project is in collaboration with scientists at Harvard, MIT, and the University of Michigan.

Dr. Hyun has been involved for many years with the ISSCR (International Society for Stem Cell Research), for which he has helped draft all of the ISSCR's international research guidelines and has served as their Chair of the Ethics and Public Policy Committee. He now serves as a member of the Neuroethics Subgroup of the BRAIN 2.0 Working Group of Advisory Committee to the Director, NIH.

Dr. Hyun received his BA and MA in Philosophy with Honors from Stanford University and his PhD in Philosophy from Brown University. He has been interviewed frequently on National Public Radio and has served on national commissions for the Institute of Medicine and the National Academy of Sciences in Washington D.C. Dr. Hyun is a regular contributor to Nature, Science, Cell Stem Cell, The Hastings Center Report, among many other journals. His book Bioethics and the Future of Stem Cell Research was published by Cambridge University Press in 2013. He was recently named one of **Cleveland's Most Interesting People of 2019**.

Wax On, Wax Off: About four times a week, you can find the professor training in mixed martial arts at Vanyo Martial Arts in Strongsville. Hyun practices Thai kickboxing and Brazilian jiu-jitsu, and he was California State Champion in Kenpo Karate Fighting when he attended Stanford University. Hyun approaches his work in a similar way to how he approaches mixed martial arts. "I'll learn from many different approaches. I'll keep what works, throw away whatever doesn't work."

'Stang Man: A classic car enthusiast, Hyun drives a white Ford Mustang GT with blue racing stripes. "It's funny because I'll pick up visiting professors at the airport, and they're like, 'Who's car is this?' "

Interesting Fact: Hyun holds three black belts, and in 2017, he received his black band, the equivalent of a black belt, in muay thai.

<https://bioethics.hms.harvard.edu/faculty-staff/insoo-hyun>

**Michael van Manen, MD, FRCPC, PhD** is a neonatal intensivist at the University of Alberta & Stollery Children's Hospitals, Assistant Professor in the Department of Pediatrics and Director of the John Dossetor Health Ethics Centre, University of Alberta.

**David Pearce** is co-founder of the World Transhumanist Association, currently rebranded and incorporated as **Humanity+, Inc.**, and a prominent figure within the **transhumanism** movement.<sup>[2][3]</sup> He approaches ethical issues from a lexical **negative utilitarian** perspective.<sup>[4]</sup>

Based in **Brighton**, England, Pearce maintains a series of websites devoted to transhumanist topics and what he calls the "hedonistic imperative", a moral obligation to work towards

the [abolition of suffering](#) in all [sentient life](#).<sup>[5][6]</sup> His self-published internet manifesto, *The Hedonistic Imperative* (1995), outlines how [pharmacology](#), [genetic engineering](#), [nanotechnology](#) and [neurosurgery](#) could [converge](#) to eliminate all forms of unpleasant experience from human and non-human life, replacing suffering with "gradients of bliss".<sup>[7][8]</sup> Pearce calls this the "abolitionist project".<sup>[9]</sup>

In 1995, Pearce set up [BLTC Research](#), a network of websites publishing texts about transhumanism and related topics in [pharmacology](#) and [biopsychiatry](#).<sup>[10]</sup> He published *The Hedonistic Imperative* that year, arguing that "[o]ur post-human successors will rewrite the vertebrate genome, redesign the global ecosystem, and abolish suffering throughout the living world."<sup>[11]</sup>

Pearce's ideas inspired an abolitionist school of transhumanism, or "hedonistic transhumanism", based on his idea of "paradise engineering" and his argument that the abolition of suffering—which he calls the "abolitionist project"—is a moral imperative.<sup>[9][12][13]</sup> He defends a version of negative utilitarianism.

He outlines how drugs and technologies, including [intracranial self-stimulation](#) ("[wireheading](#)"), [designer drugs](#) and genetic engineering could end suffering for all sentient life.<sup>[9]</sup> Mental suffering will be a relic of the past, just as physical suffering during surgery was eliminated by [anaesthesia](#).<sup>[5]</sup> The function of pain will be provided by some other signal, without the unpleasant experience.<sup>[9]</sup>

A [vegan](#), Pearce argues that humans have a responsibility not only to avoid [cruelty to animals](#) within human society but also to redesign the global ecosystem so that [animals do not suffer in the wild](#).<sup>[14]</sup> He has argued in favour of a "cross-species global analogue of the [welfare state](#)",<sup>[15]</sup> suggesting that humanity might eventually "reprogram predators" to limit [predation](#), reducing the suffering of prey animals.<sup>[16]</sup> [Fertility regulation](#) could maintain herbivore populations at sustainable levels, "a more civilised and compassionate policy option than famine, predation, and disease".<sup>[17]</sup> The increasing number of vegans and vegetarians in the transhumanism movement has been attributed in part to Pearce's influence.<sup>[18]</sup>

In 1998, Pearce co-founded the World Transhumanist Association, known from 2008 as [Humanity+](#), with [Nick Bostrom](#).<sup>[7]</sup> Pearce is a member of the board of advisors.<sup>[19]</sup>

Pearce is also a fellow of the [Institute for Ethics and Emerging Technologies](#),<sup>[20]</sup> and sits on the futurist advisory board of the [Lifeboat Foundation](#).<sup>[21]</sup> Until 2013, he was on the editorial advisory board of the controversial and non-[peer reviewed](#) journal *Medical Hypotheses*.<sup>[22]</sup> He has been interviewed by *Vanity Fair* (Germany) and on [BBC Radio 4's](#) *The Moral Maze*, among others.<sup>[23][24]</sup>

**Osmar Zaiane, Ph.D.** is Scientific Director of the Alberta Machine Intelligence Institute AMII and Professor of Computing Science. He received an MSc in electronics (DEA) from the University of Paris XI, France, in 1989 and an MSc in Computing Science from Laval University, Canada, in 1992. He received his PhD in Computing Science from Simon Fraser University in 1999 specializing in data mining. He is a Professor at the University of Alberta with research interest in novel data mining techniques and currently focuses on e-learning as well as Health

Informatics applications. He regularly serves on the program committees of international conferences in the field of knowledge discovery and data mining and was the program co-chair for the IEEE international conference on data mining ICDM'2007. He is the editor-in-chief of ACM SIGKDD Explorations and Associate Editor of Knowledge and Information Systems. Osmar has been the Scientific Director of the Alberta Machine Intelligence Institute since 2009.

**Dr. Patrick M. Pilarski** is a Canada Research Chair in Machine Intelligence for Rehabilitation at the University of Alberta, and an Associate Professor in the Division of Physical Medicine and Rehabilitation, Department of Medicine. Dr. Pilarski is a Fellow of the Alberta Machine Intelligence Institute (Amii) and principal investigator with the Reinforcement Learning and Artificial Intelligence Laboratory (RLAI). Dr. Pilarski received the B.ASc. in Electrical Engineering from the University of British Columbia in 2004, the Ph.D. in Electrical and Computer Engineering from the University of Alberta in 2009, and completed his postdoctoral training in computing science with Dr. Richard S. Sutton at the University of Alberta. Dr. Pilarski's research interests include reinforcement learning, real-time machine learning, human-machine interaction, rehabilitation technology, and assistive robotics. He leads the Amii Adaptive Prosthetics Program—an interdisciplinary initiative focused on creating intelligent artificial limbs to restore and extend abilities for people with amputations. As part of this research, Dr. Pilarski explores new machine learning techniques for sensorimotor control and prediction, including methods for human-device interaction and communication, long-term control adaptation, and patient-specific device optimization. He has also pioneered techniques for rapid cancer and pathogen screening through work on biomedical pattern recognition, robotic micro-manipulation of medical samples, and hand-held diagnostic devices. Dr. Pilarski is the author or co-author of more than 90 peer-reviewed articles, a Senior Member of the IEEE, and has been supported by provincial, national, and international research grants.

<https://www.amii.ca/about/our-people/patrick-m-pilarski/>

**Taryn Stokowski** is a Graduate Student in Laboratory Medicine and Pathology working with Dr. Linda Chui. She was one of the top students in the LABMP 590 course in the Fall of 2020. She distinguished herself by giving a final presentation and paper on Human Flourishing that provided none of the usual background, but just assumed that everyone already knew the historical background of Transhumanism and the Hedonistic Imperative and moved on from there. No one had ever given a presentation like that in the history of the course. In her presentation the ratio of ideas of the student to ideas of others was almost infinite! She plans to make real changes in the world, and soon! She is one of the two teaching assistants for LABMP 590 in 2021.

**Simon Wu** is a graduate student in Neuroscience at the University of Alberta who was the top student in the LABMP 590 course in Winter 2019. He showed a particular talent for quantum biology and has become the main person teaching that subject in the course even though Professor of Physics Dr. Jack Tuszynski still grades the quantum biology portion of the course mid-term exam. Simon has also shown outstanding talent for video production, and has been

the main person responsible for Dr. Solez's green screen videos since fall of 2019. It has been a very co-equal collaboration, and while it is true that the ideas presented in the videos are Dr. Solez's, the creativity in the video presentations is entirely Simon's, and impressive to behold.

**Ishita Moghe** is a graduate student in Neuroscience at the University of Calgary. She was the top student in the LABMP 590 course in the Fall of 2017 while at the University of Alberta. She worked with Dr. Solez as the first ever "nephrology immersion" student in 2018 and 2019. During that time, they did many educational videos together and the subscription rate on Dr. Solez's YouTube channel increased 7-fold. Their videos lodged complaints about inaccurate statements online about digital pathology and artificial intelligence. These videos were remarkably successful. Every statement they complained about was removed or corrected, even statements by the Finnish Government and famous tech author Yuval Noah Harari. Ishita has continued to teach in LABMP 590 and to present with Dr. Solez at international meetings while at the University of Calgary. She is one of the two teaching assistants for LABMP 590 in 2021.