

the IMMORTALISTS

— PRESS KIT —



Sunday, Apr 27
7:00PM
Hart House Theatre

Tuesday, Apr 29
3:30PM
ROM Theatre

Friday, May 2
9:30PM
Fox Theatre

Sunday, May 4
9:30PM
TIFF Bell Lightbox 1

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MOTTO:

live forever... or die trying.

LOGLINE:

Two eccentric scientists struggle to create eternal youth in a world they call “blind to the tragedy of old age.” As they battle their own aging and suffer the loss of loved ones, their scientific quest ultimately becomes personal.

SYNOPSIS:

The Immortalists is the story of two eccentric scientists struggling to create eternal youth with medical breakthroughs in a world they call “blind to the tragedy of old age.” Bill Andrews is a lab biologist and famed long-distance runner racing against the ultimate clock. Aubrey de Grey is a genius theoretical biologist who conducts his research with a beer in hand. They differ in style and substance, but are united in their common crusade: cure aging or die trying. They publicly brawl with the old guard of biology who argue that curing aging is neither possible nor desirable. As Andrews and de Grey battle their own aging and suffer the losses of loved ones, their journeys toward life without end ultimately become personal.

DIRECTORS' STATEMENT

What would the world look like if human beings didn't grow old? How would being 'forever young' alter the human condition, economy, environment and religion? Is it possible, and if it is, is it desirable? As co-directors, we first started thinking about these questions in the basement of Stanford's CCRMA (computer music center), where we were hired as editors to work on an experimental music performance immediately after finishing graduate school.

As we talked together, the film was born out of a mutual love of science, philosophy and strange new ideas (not to mention a shared passion for putting hot sauce on everything, including oatmeal). David was intrigued with the scientific veracity of these eccentric scientists and Jason was interested in the politics and science-fiction style ideas that they espoused.

Human lifespan has more than doubled since the 19th century. Biology and technology are merging and the results are entirely new fields of study, alongside novel medical devices and therapies that could extend life beyond the current limit of around 120. This is a reality that we should be talking about and preparing for-- radical human longevity.

We set out stumbling blindly into the dark finding compelling characters and exploring the form. After a false start trying to film in 3D, we quickly dumped it for the cheaper, lighter Canon 7D DSLR camera. We operated as a two-person team, with David doing some of the most significant and beautifully shot scenes entirely on his own.

The idea from the beginning was to pair the intimate observational footage with interviews shot on a black backdrop, which became a space where we could animate the scientific ideas being discussed. We were fortunate to have incredible (and patient) collaborators. The great animations of Kinda Akash and Toros Kose, paired with the brilliant sound design of Peter Albrechtsen, and beautiful score by Eric Kuhn, bring everything to life.

We filmed with Aubrey de Grey, Bill Andrews and a handful of other subjects. Our philosophy was to center the narrative around our two subjects of focus, only filming with people directly associated with them. We wanted to articulate their shared mission while highlighting their differing scientific approaches to biological 'immortality.' More importantly, we also wanted to show the personal lives of these two brilliant scientists living unconventional lives. They are both larger-than-life figures: Bill Andrews being an ultramarathoner racing against the biological clock, and Aubrey with his long red beard punting down the river with a beer in hand.

We are lucky that they shared two years of their lives with us. This film is a record of what happened to them and what we learned during that time. In making it, we hope Bill Andrews and Aubrey de Grey become immortalized.

“The Crusader:” Aubrey de Grey Ph.D.

Dr. Aubrey de Grey is a scientist with a two-foot-long red beard and bottomless appetite for beer and thorny scientific problems. Aubrey de Grey thinks we should eat whatever we want, live like hedonists, allow aging to occur, and then use therapies to clean up the damage and junk in our cells that leads to the disabilities and diseases of old age. His ideas about reengineering the aging process have made him one of the most famous figures in his field of “anti-aging research.” He is the founder and Chief Scientific Officer of SENS Foundation, a non-profit research facility dedicated to finding medical breakthroughs to cure aging. In all of his endeavors, Aubrey passionately maintains that curing aging is the most urgent humanitarian crisis ever.

“The Marathon Man:” William H. Andrews, Ph.D.

Dr. Bill Andrews is an accomplished molecular biologist and a 61-year-old ultra-marathon runner. Every month, Bill runs at least one 100 mile race. It’s a practice he calls “longevity running,” because he is convinced that it makes his telomeres longer. Bill is researching telomeres, which are the caps at the end of chromosomes that wither away as we age, and telomerase, an enzyme that reverses the effects of cellular aging, at his biotech company, Sierra Sciences. Bill is searching for a drug to unlock even more of the enzyme in our bodies. He thinks that in the next three years, he can create a pill that would make our cells immortal.

“The Good Doctor:” Terry Grossman, M.D.

Dr. Grossman is an anti-aging physician and the medical director of Grossman Wellness Center in Denver, Colorado. He is the doctor “patients want to visit when they don’t ever want to die.” Dr. Grossman believes that there are three bridges to immortality. His clinic is a “Bridge One Clinic,” meaning his job is to keep people alive long enough, using traditional medicine, so that they may one day take advantage of future therapies like stem cell rejuvenation, nanobots and mind-uploading.

“The Old Guard:” Colin Blakemore Ph.D.

Dr. Blakemore is a neurobiologist and former Chief Executive of the British Medical Research Council, an equivalent of the United States’ NIH. He thinks that the quest to “Defeat Aging” is neither possible nor wise. Furthermore, he believes that if it were possible it would be “a disaster for humanity and the planet.” Dr. Blakemore spars with Aubrey in the hallowed, brick halls of Cambridge University, winning a highly publicized “Debate of the Ages” about life extension.

“The Forefather:” Leonard Hayflick Ph.D.

Dr. Leonard Hayflick is known for discovering that human cells can only divide a limited number of times before they must die -- a finding now known as the Hayflick Limit. He is a professor of medicine at UCSF and the author of the book “How and Why We Age.” Dr. Hayflick has studied the cell biology of aging his entire professional career and believes that any attempt to slow or reverse aging is as futile as it is ridiculous. While he is a personal friend of Aubrey’s, he thinks Bill Andrew’s idea of turning on the telomerase gene is scientifically misguided and socially reckless.

“The Alchemist:” John Anderson

John Anderson is vitamin and supplement maker, who refers to himself as a “Master Formulator of Nutritional Supplements.” He and Bill Andrews developed the “Telomere Support Supplement” called Product B, which uses natural extracts to stimulate the telomerase enzyme. John has invested money into Bill’s company, allowing Sierra Sciences to stay afloat after the loss of key investors.

Adelaide Carpenter, Ph.D

Dr. Carpenter is a geneticist at the University of Cambridge. Early in her career, she made a breakthrough discovery in understanding how genes transfer during meiosis. She is married to Aubrey de Grey, who says she is the inspiration for his changing careers from a computer scientist to a biogerontologist.

Molly Sheridan

An ultramarathoner and adventurer, Molly became the first American woman to finish a 138-mile, high-altitude ultramarathon in the Himalayas called “La Ultra.” Bill Andrews ran the same race two years later, and he and Molly were married in a temple in the mountains nearby.

Randy Lee

Randy Lee works at Bill’s biotech company in the IT department. He and Bill are long time friends-- they met in high school in 1972. Randy has had a persistent cough and just learned he has stage-four lung cancer. His diagnosis is grim, but he wants to fight-- he isn’t ready to give up on his dream of living forever yet.

FILMMAKER BIOS

David Alvarado is a New York based filmmaker interested in science, philosophy and future of civilization. He was born the son of a Mexican immigrant in Dallas, Texas where he spent his teen years running amuck with punk rockers on a mission of anarchy. After dropping out of high school and developing an accomplished career in criminal mischief, he switched career paths after realizing the power of film. He soon earned his G.E.D., moved up the ranks of community college and finally reached a university film school where he began to focus on documentary. Finally, in 2010 he completed his Masters of Fine Arts from Stanford University in Documentary Film and Video Production. David's dream is to inspire audiences with emotionally driven stories about people who are at the intersection of where science meets society. At the spry young age of 29 years old, and soon to begin the aging process at his 30th birthday in March at SXSW, he is now ready to get to work.

Jason Sussberg is a documentary filmmaker focused on BIG ideas on human progress and social justice. He started his career working in sports television for the San Francisco Giants and the Golden State Warriors. After receiving his MFA at Stanford University in film, he co-founded Dogpatch Films in San Francisco. He is a digital dabbler (with a past life in motion graphics) who trains his lens on social and political topics ranging from jailed journalists, justice system reform to futurism. When he's not in the classroom teaching or co-directing The Immortalists, he is running marathons, making hot sauce from scratch, or yelling at drivers about the legal rights of cyclists. He lives in San Francisco with wife Kate McLean, who is also a filmmaker.

Directed by David Alvarado & Jason Sussberg

Executive Producer Chuck Braverman

Cinematography David Alvarado

Producers David Alvarado
Kate McLean
Jason Sussberg

Sound Jason Sussberg

Original Score Eric Andrew Kuhn

Sound Designer Peter Albrechtsen, MPSE

Editor Annukka Lilja

Main Title Designer Kinda Akash

Animation Toros Kose

SCIENCE FACT SHEET:

- Dr. Aubrey de Grey wants to cure aging via his SENS Method. SENS is a 7-step plan that stands for “Strategies for Engineered Negligible Senescence.” The SENS plan is to *not* stop the aging process, but to periodically repair and maintain all the age-related damage in the body at the molecular level.

- Aubrey has selected seven known of aging and developed engineered solutions to solve them. The types of aging damage are: cancer-causing nuclear mutations/epimutations, mitochondrial mutations, intracellular junk, extracellular junk, cell loss and atrophy, cell senescence, and extracellular crosslinks.

- Dr. Bill Andrews believes the cause of aging resides in the small caps at the end of chromosomes called telomeres. Every time cells divide the caps lose a bit of information and the telomeres become shorter. This is the telomere theory of aging. Bill believes this is the cause of all the age-related diseases, like heart disease and Alzheimers.

- The solution, according to Bill, is an enzyme called telomerase which elongates telomeres. Bill believes that he can find a small molecule that will trigger a gene in the body to produce telomerase, thus stopping and possibly reversing the aging process.

- Harvard engineered genetically modified [mice with short telomeres](#), and when telomerase was added, they showed significant signs of age reversal.

- Aubrey and Bill fundamentally disagree about telomerase. Aubrey proposes an intervention called WILT (Whole Body Interdiction of Lengthening Telomeres) which would delete the telomerase gene in the body so as to avoid some cancers. Bill’s research is fundamentally the opposite, as he is trying to trigger the gene in cells to produce telomerase.