Fund the science of the future.



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Since our founding in 1986 with a vision of guiding powerful technologies, we have evolved into a multi-disciplinary organization, pioneering fields of science and technology too ambitious for legacy institutions to take on. In light of recent breakthroughs and escalating risks, the urgency in our focus areas has never been greater.

Foresight Institute actively coordinates collaboration and development across our six key areas through events, fellowships, grants, and prizes, addressing the critical need for innovation and safety in these rapidly advancing fields.

"Opportunities for bright futures enabled by bio, nano, and Al are now within our reach. Nobody can tell from our current positions on the board where this game will ultimately end. This is a feature; after all, why play if you know the outcome? What we can do is set up the board so our descendants and our future selves can discover these wonders for themselves."

– Allison Duettmann, President & CEO, in her book Gaming the Future



















Oversight













<u>n-Barnes</u> Events Coordinator







Our Foous Areas

Nanobech: Molecular Machines

Neurobech: Improving Cognition

Biobech: Health Extension

Computation: Intelligent Cooperation





Envision Aspirational Futures

Our Events

We host technical groups, workshops, and seminars where we connect scientists, entrepreneurs, and institutional allies who cooperate to advance the respective technologies. Currently, we hold meetings every month, and we organize in-person workshops annually. In 2023, applications to join our seminar groups grew 200%, and our top seminar exceeded 50K views.



Workshops



Seminars



Vision Weekend Europe



Global Meetups



Vision Weekend USA



Collaborations





Nanoteoh: Molecular Machines

Focusing on the transformative potential of nanotechnology, the Foresight Institute's <u>Molecular Machines workshop</u> emphasizes the critical importance of molecular machines. These intricate systems are key to realizing the full promise of nanotechnology, enabling precise atomic-level manipulations and innovations across various scientific domains.

Now in its eighth year, the workshop was chaired by Ben Reinhardt from SpecTech, and Adam Marbleston from Convergent Research. We gathered sixty junior and senior researchers, entrepreneurs, and funders in the molecular machines field to advance progress on the original vision of nanotechnology—creating reprogrammable tools that can create individually specified chemical bonds at scale. An intro session on potential molecular 3D printing architectures was followed by rapid keynotes discussing existing systems that could function as building blocks.

In 2023, we have hosted 10 <u>seminars</u>, including Simon Duerr on Designing Stable Metalloproteins using Deep Learning, Basille Vicky on Designing De Novo Interactomes for Biomolecular Computations, and Hendrik Dietz on Virus Traps and Other Molecular Machines of The Future.





Neurotech: Improving Cognition

In our commitment to exploring the frontiers of brain science and technology, the Foresight Institute's inaugural 2023 <u>Whole Brain Emulation workshop</u> marks a significant step. This workshop aligns with our goal to not only understand but also enhance cognitive processes, with a special emphasis on applications in AI safety and Whole Brain Emulations. The goals of this workshop were to log state-of-the-art WBE-related technology, outline plausible development paths for full WBE, and determine areas for speeding up WBE development.

We hosted 10 <u>seminars</u>, including Brett Kargan from Cortical Labs on brain cells in a dish for computing, Thomas Macrina on AI for Whole Brain Circuit Mapping, and Chris Eliasmith on how to build a brain.





Biobech: Health Extension

Advancing progress in undervalued longevity areas is at the heart of our mission, and our efforts are growing rapidly: from a stark increase in fellowship applications, to promising longevity workshop project collaborations, a new longevity prize, and virtual seminars.

Our 2023 Longevity Frontiers workshop gathered fifty junior and senior researchers, entrepreneurs, and funders in longevity to advance progress in undervalued longevity areas. Leading researchers, such as Greg Fahy from Intervene Immune, Steve Horvath from Altos Labs, and Michael Snyder from Stanford highlighted potential areas for progress which were taken on by working groups to explore how to advance this area. Top project proposals were awarded a development grant to continue their work post workshop. Highlights included an industry-wide effort to promote aging biomarkers in clinical trials, determine master regulators for epigenetic reprogramming, and issue constructive criticism for sub-optimal longevity approaches.





Oomputation: Intelligent Cooperation

In the field of Computation, Foresight Institute focuses on the vital role of Intelligent Cooperation, especially where cryptography, security, and artificial intelligence intersect. Our goal is to use these technologies to enhance human collaboration, protect against major risks, and guide the development of Advanced General Intelligence (AGI) in a responsible way.

Our second <u>Cryptography, Security, AI workshop</u> gathered fifty researchers, entrepreneurs, and funders to advance progress at this critical intersection. Leading researchers presented, such as:

- Mark S. Miller, computer security pioneer
- Jan Leike, Head of the Superalignment Program at OpenAl
- Kipply Chen, AI researcher at Anthropic

Working groups then went on to explore potential areas to advance. Project proposals included leveraging cryptographic techniques to prevent collusion amongst Als, preventing backdoors in ML models, and improving hardware security.

This year, we have hosted 10 seminars, including Hyrum Anderson on Securing ML, Kevin Esvelt on Securing Global DNA Synthesis, and Natalie Dullerud on Confidential and Private Collaborative Learning.



Space: Expanding Outward

Aligning with our mission to push the boundaries of human potential, the Foresight Institute's space initiative is dedicated to accelerating space exploration through innovative and undervalued approaches. Our inaugural 2023 <u>Space Tech Frontiers Workshop</u>, chaired by Creon Levit from Planet Labs, gathered fifty junior and senior researchers, engineers, and funders working in the space domain. Leading researchers, such as Steve Butow from the US Department of DefenseDOD, Mike Grace from LongShot, and Carol Stoker from NASA highlighted potential areas for progress which were taken on by working groups to explore how to advance this area. Project proposals included a new technology institute focused on Mars, an effort to liberalize launch locations, and proposal to make in-orbit assembly radically cheaper.

So far, we have hosted 10 <u>seminars</u>, including Mike Safyan on SmallSat Launch Opportunities, Eric Salwan on Firefly Aerospace, and Tanya Harrison on Mars robots.



EXISTENTIAL HOPE

Our Existential Hope initiative serves as a platform for generating forward-thinking scenarios, encouraging creative and solution-oriented thinking about our collective future. In February 2023, we celebrated our first <u>Existential Hope Day</u>. Inspired by panelists such as <u>Toby Ord, Robin</u> <u>Hanson</u>, and <u>Gaia Dempsey</u>, participants generated their own future scenarios, like <u>multigenerational habitats in space</u>, <u>AI enabled personal flourishing</u>, an <u>epistemic revolution</u>, or a <u>human/AI</u> <u>paretotopia</u>.

We are also thrilled to report a 30% surge in listeners and readers of the <u>Existential Hope podcast</u> and <u>Hope Drops</u> (our much-loved positive future art pieces)! This year's episodes have featured great thinkers like <u>David Deutsch</u>, <u>Liv Boeree</u> and <u>Kevin Kelly</u> on how we can build positive tomorrows.

In 2024, with your help, we plan to found an online Existential Hope course to attract STEM talent to work on positive applications of their technology of choice. The aim is to deepen participants' understanding of potential future scenarios, enabling them to make informed choices and effectively steer their careers away from risks and toward positive futures.

Furthermore, we invite you to take a handson approach to foster innovation and safety in AI through a specialized hackathon. This event aims to prototype new institutions and frameworks specifically designed to address realworld challenges in TAI development.

Vision Weekends

Our <u>Vision Weekends</u> are the annual end-of-year festivals of Foresight Institute. Held over two weekends, at Chateau du Feÿ in Paris and across three iconic Bay Area locations, we invite our fellows, prize winners, funders, and core community to burst their tech silos, and plan for flourishing futures. In addition to our conference, we offer mentorship hours, lab visits, satellite gatherings, cyberfuture dinners, prize awards, and surprise experiences to explore our core areas.



We hope you join us!

Vision Weekend Lestimonials:

"As a newcomer, I was impressed by the caliber of the Vision Weekends. The diversity of participants, quality of discussions, and smooth organization made it a unique and really enriching experience."

"What stood out at the Vision Weekends was the quality of interactions. The mix of panels, workshops, and informal conversations created a vibrant atmosphere for sharing ideas and forging new connections."

"Seeing and hearing about all the cutting-edge research was really inspiring. And spending time with so many like-minded people was really a highlight."



Our Fellowship

The Foresight Fellowship is a one-year program committed to giving change-makers the support to accelerate their bold ideas into the future. Our mission is to catalyze collaboration among leading young scientists, engineers, and innovators who work to advance technologies for the benefit of life.

Our fellows benefit from 1-1 meetings with selected mentors and funders, travel-paid conference invitations to present their work, and career counseling across fellowship cohorts. Many of our fellows are now collaborating with us to build out our <u>Tech</u> <u>Trees</u> to help orient new talent and funders joining these spaces by mapping existing projects and outstanding bottlenecks.

We are currently in the 6th year of our fellowship. Our 2023 fellowship supported 76 fellows working to overcome crucial scientific bottlenecks across our different focus tracks.

Highlights include:

Longevity: <u>*Rico Meinl's*</u> work on ML for modeling aging systems, <u>*Guido Putignano's*</u> synthetic biology approach to longevity therapeutics, and <u>*Raiany Romanni's*</u> efforts to improve longevity journalism.

Neurotech: <u>Logan Thrasher Collin's</u> work on emulating insect brains, <u>Renaud Jolivet's</u> work on neural engineering and computation, and <u>Andy Matuschak's</u> work on tools to improve thought and deliberation.

Intelligent Cooperation: <u>Lewis Hammond's</u> work on cooperative Als, <u>Ghada Almashaqbeh's</u> work on using unclonable polymers for encryption, and <u>Morgan</u> <u>Livingston's</u> work to improve cyber and Al policy.

Space: <u>Tomas Gesino's</u> new space payload launching system powered by rail guns, <u>Nathan Johnson's</u> work to improve space policy, and <u>Jordan Baechle's</u> efforts to improve longevity in space.

Molecular: <u>Erik Benson's</u> work on Nanoscale Machinery from DNA, <u>Xinru Wang's</u> work to design receptorbinding proteins, and Michael Matthies' work to improve the current nucleic acid nanotechnology software environment.

Fellow testimonials:

"I was new to the field, Foresight provided me with a community of people excited about advancing health span. I listened to many amazing talks, interacted with amazing people."

"I love the Foresight mission and it is a privilege to be a part of the community. The opportunities Foresight provides to interact with brilliant minds are invaluable!"

"[I joined because I] love the people/org/mission and recognized the incredible network that would become available to me."

"I was delighted - I think very highly of Allison and the rest of the team, and I love how the Foresight Institute doesn't shy away from big, important ideas, even if they are not mainstream. The multidisciplinary approach is quite unique."

"The network and prestige has helped a lot with fundraising and partnership development."

Our Grants

To further our commitment to ensuring a safe and beneficial future with AI, the Foresight Institute has initiated an ambitious <u>grant program</u> in AI Safety. Launched in August 2023, this program is dedicated to funding innovative projects in several underexplored yet crucial areas:





Neurotechnology, Whole Brain Emulation, and Lo-fi uploading for Al safety Cryptography and Security approaches for Infosec and AI security



Safe Multipolar Al scenarios and Multi-Agent games

By investing a minimum of \$1 million annually, we aim to support groundbreaking work that promises to significantly advance AI safety and security. By supporting this grant, you can help us award more deserving projects that have potential for significant positive impact on the future of AI safety.









We've been awarding prizes to outstanding projects across our cause areas for over three decades.

Feynman Prizes

Awarded since 1993, and named after nanotechnology pioneer Richard Feynman, our Feynman Prizes recognize outstanding achievements that contribute meaningfully to progress in advanced molecular nanotechnology. The Prizes have become known for spotting talent early. Nine years after we awarded Sir J. Fraser Stoddart the Feyman Prize in Experiment, he was co-awarded the Nobel Prize in Chemistry for the design and synthesis of molecular machines.

Norm Hardy Prize for Usable Security

Foresight's newest prize is named after Norm Hardy, a computer scientist most widely known for identifying the confused deputy vulnerability. The long term goal of the Norm Hardy Prize is to create a set of design principles and tools that encourage developers to make interaction designs easy for people to use secure systems securely.

The Longevity Prize

In 2023, we launched The Longevity Prize, a new collaborative prize platform in collaboration with VitaDAO, Methuselah, and Lifespan.io. We awarded the first prize for new hypotheses about longevity approaches that are currently overlooked. Carlos Galicia, Buck Institute, won first place for his proposal to study rejuvenation during embryogenesis as a way to combat age-related decline. Our next funded prize is the Biomarker Assessment Prize for building a comprehensive expandible database of biomarkers that can compare and evaluate the legitimacy of past and new longevity.

Space Lander Challenge

We are proud to partner with 2023 Foresight Fellow Patrick Finley to launch the Space Lander Challenge. Patrick is a pioneer in the space community, and hopes this project will push for real progress and encourage the next generation of space enthusiasts to get involved with selflanding rockets.

Please get in touch with us at Foresight Institute if you would like to propose and back a future prize with us.

Donate & Join

Your support is a vital contribution to our community of leading scientists and technologists at the Foresight Institute. As a 501(c)(3) non-profit, your donation is tax-deductible in the US and directly enhances our ability to pioneer research at the edge of human capability.

With your help, we're not just exploring new frontiers in science and technology; we're shaping a future where these advancements lead to tangible improvements in human life and well-being. Your investment in our mission is an investment in a future driven by groundbreaking discoveries and innovative solutions.

Associate - \$240 Annual Donation

You are invited to:

- Collaborate with our community on Discord
- Join our monthly seminars in one of the technical groups of your choice; Molecular Machines, Longevity, Neurotech, Computing, and Space

Patron - \$10K+ Annual Donation

You are invited to:

- Collaborate with our community on Discord
- Join our monthly seminars
- Join one of our 7 annual in-person workshops to advance the beneficial development of Molecular Machines, Longevity, Neurotech, Computing, and Space
- Join our patron-only <u>personal longevity group</u> to explore how you can extend your own lifespan

Sponsor - \$30K+ Annual Donation

You are invited to:

- Collaborate with our community on Discord
- Join our monthly seminars
- Join one of our 7 annual in-person workshops to advance the beneficial development of Molecular Machines, Longevity, Neurotech, Computing, and Space
- Join our patron-only <u>personal longevity group</u> to explore how you can extend your own lifespan
- Join regular meetings with Foresight's core team to co-design our program, explore boutique projects of your choosing, and discover novel opportunities for shaping our path toward beautiful futures
- Email <u>a@foresight.org</u> to learn more.

"New technologies will nurture new arts, and new arts will bring new standards. The world of brute matter offers room for great but limited growth. The world of mind and pattern, though, holds room for endless evolution and change. The possible seems room enough."

-Eric Drexler, co-founder

