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Copernicus Space Corporation Announces Distinguished and Visionary Strategic & Scientific Advisory Board

CAMBRIDGE, Massachusetts – December 5, 2022: Copernicus Space Corporation is pleased to announce its Strategic & Scientific Advisory Board (SSAB), including the following distinguished, visionary and pro-active SSAB members:

- **Dimitar Sasselov**, Professor of Astronomy at Harvard University; Founding Director of the Harvard Origins of Life Initiative; initial Chair of the Copernicus SSAB
- **George Church**, Professor of Genetics at Harvard Medical School; Faculty Wyss Institute; Professor of Health Sciences and Technology at Harvard and MIT; prolific company founder
- **France Córdova**, President of the Science Philanthropy Alliance; former Director of NSF
- **Paul Davies**, Professor and Director of the Beyond Center for Fundamental Concepts in Science at Arizona State University
- **Giovanni Fazio**, Senior Physicist, Center for Astrophysics | Harvard & Smithsonian, and Faculty Emeritus, International Space University, Strasbourg
- **Zac Manchester**, Assistant Professor of Robotics at Carnegie Mellon University; pioneer of gram-scale *ChipSat* spacecraft as founder of KickSat project
- **Garry Nolan**, Professor in Pathology at Stanford University School of Medicine; pioneer in spatial biology; co-founder of numerous LST & DX companies with successful IPOs/exits
- **Cumrun Vafa**, Professor in the Harvard Physics Department; world-leading authority in string theory and its applications to astrophysics
- **Chris Voigt, JD**, senior marketing executive, former VP of Marketing Development for International Olympic Committee (IOC) and SVP for Strategic Partnerships at Whoop, Inc.
- **Stephen Wolfram**, Creator of Mathematica, Wolfram|Alpha and Wolfram Language; author of *A New Kind of Science*; originator of Wolfram Physics Project; CEO of Wolfram Research

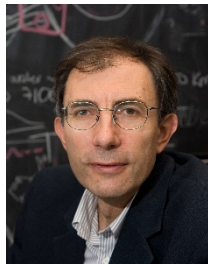
Copernicus co-founders Drs. Avi Loeb and Frank Laukien, as well as Copernicus directors Dr. Pete Worden and Rich Stein enthusiastically welcome these renowned and highly regarded astrophysics, astrobiology, space exploration, mathematics and technology business experts to the Copernicus SSAB. Each brings exceptional expertise, wisdom and vision to Copernicus, and will contribute to optimized scientific, technological and business model strategies for Copernicus.



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The Strategic & Scientific Advisory Board will be instrumental in guiding and accelerating Copernicus in its mission of (i) developing a platform that disrupts the space exploration paradigm with easy to deploy swarms of thousands, and eventually millions of miniaturized craft with sensors and communications capabilities, by (ii) developing and deploying nanotechnological and synthetic biology-based multiplexed and scalable *Chipsat*, nanoprobe and bioprobe technologies and networked platforms, including localized positioning, navigation, timing (PNT), as well as measurement and communications capabilities, and (iii) advancing the search for extraterrestrial life in our solar system and galactic neighborhood, and (iv) eventually expanding the reach of terrestrial life, humanity and our scientific and technological legacy throughout the galaxy in ‘the next Copernican Revolution’.

The newly appointed Copernicus SSAB chair and members each shared their relevant background and perspective:



Dimitar Sasselov is the Phillips Professor of Astronomy at Harvard University and the founding director of the Harvard Origins of Life Initiative. He also co-founded and directed the Simons Collaboration on the Origins of Life in 2013 (Simons Foundation). In 1988, Dimitar Sasselov earned a PhD in Physics from Sofia University (Bulgaria), followed by a PhD in Astronomy from University of Toronto. In 1999, Sasselov became an Alfred P. Sloan Fellow, and he has received numerous awards, including two NASA Achievement awards for the Kepler mission. In 2010-2013 he served on the Global Agenda Council on Space Security (World Economic Forum). His book “The Life of Super-Earths” (Basic Books, 2012) describes the renewed search for life on other planets.

Copernicus SSAB chair Dr. Sasselov commented: "I am honored and excited to lead our Copernicus Strategic & Scientific Advisory Board as Copernicus develops and deploys humanity’s next-generation space exploration paradigm for the Solar System and beyond."



George Church is Professor of Genetics at Harvard Medical School and Professor of Health Sciences and Technology at Harvard and MIT. He is Director of the U.S. DoE Technology Center and was Director of three NIH Centers of Excellence in Genomic Science 2004-2020. Dr. Church has received the 2011 Bower Award for Achievement in Science from the Franklin Institute, and he has been elected to the National Academy of Sciences and Engineering. At the Wyss Institute at Harvard, Dr. Church leads Synthetic Biology and oversees the directed evolution of molecules, polymers, and whole genomes to create new tools with applications in regenerative medicine, new materials and imaging. He helped initiate the Human Genome Project in 1984 and the BRAIN Initiative in 2011.



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George invented the broadly applied concepts of molecular multiplexing and barcode tags, nanopores, multiplex genome editing, and array DNA synthesizers. His innovations have been the basis of over 40 biotechnology companies.

Dr. Church said: "I am delighted to join the advisory board of Copernicus, which is merging exponentials in synthetic biology with nanogram-scale space-probe technology for a novel exploration venture."



France Córdova is an American astrophysicist and senior science administrator who was the fourteenth director of the National Science Foundation and the first woman to be NASA's Chief Scientist. She was the eleventh President of Purdue University, chancellor of the University of California at Riverside, vice-chancellor for research at the University of California at Santa Barbara, and department head at Penn State. She is a Kilby Laureate and has been elected to the National Academy of Sciences and the American Academy of Arts and Sciences. She has been inducted into the California Hall of Fame and the Stanford University Multicultural Hall of Fame. She was in the vanguard of researchers using a multi-wavelength approach to investigate close binary star systems using both space-based and ground-based telescopes. She was a co-investigator on a multi-wavelength telescope on the X-ray Multi-Mirror Mission (ESA's XMM-Newton).

Dr. Córdova said: "I'm thrilled to join such a venturesome group, attempting to do novel space science experiments searching for signs of life beyond Earth with great expectations."



Paul Davies is a theoretical physicist, cosmologist, astrobiologist and writer. He is Regents' Professor and Director of the Beyond Center for Fundamental Concepts in Science at Arizona State University. His research interests focus on quantum gravity, big bang cosmology, quantum black holes, the origin of life, the search for extraterrestrial intelligence and the evolutionary roots of cancer. His awards include the Templeton Prize and the Faraday Prize; he also has asteroid named after him. His most recent book is 'What's Eating the Universe?'

Dr. Davies stated: "Whether or not we are alone in the universe is one of the oldest and biggest of the big questions of existence. But if mankind is to comprehensively explore the solar system and beyond, radically new technologies and bold new thinking are urgently required."



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Giovanni G. Fazio is Senior Physicist, Center for Astrophysics | Harvard & Smithsonian, and Faculty Emeritus, International Space University, Strasbourg. He was for many years a Lecturer in the Astronomy Department of Harvard University. Dr. Fazio is an expert in astronomy and space instrumentation, using high-altitude balloon-borne and space telescopes to explore the Universe. He has served as Principal Investigator for three NASA space missions, as well as Principal Investigator for two high-altitude balloon-borne telescope programs for gamma-ray and infrared astronomy. He initiated the 10-meter Cerenkov Telescope for ultra-high gamma-ray astronomy at the F. L. Whipple Observatory in Arizona. He most recently was Principal Investigator for the Infrared Array Camera (IRAC) on the Spitzer Space Telescope, one of NASA's Great Observatories. Dr. Fazio has authored or co-authored more than 365 scientific papers in astronomy and astrophysics, space science, and instrumentation. Dr. Fazio is a Fellow of the American Physical Society and past Chairman of its Astrophysics Division, a Fellow of the AAAS, and of numerous other scientific societies. He has received numerous awards, including the American Astronomical Society's Henry Norris Russell Lecture award. Giovanni G. Fazio holds undergraduate degrees in physics and chemistry from St. Mary's University, Texas, and a PhD in physics from MIT.

Dr. Fazio added: "Of the many space missions I have been associated with, this program is by far the most unique and the most exciting."

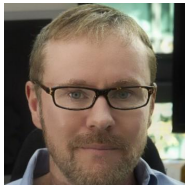


Zac Manchester is an Assistant Professor of Robotics at Carnegie Mellon University. He holds a Bachelor of Science degree in applied physics and a Ph.D. in aerospace engineering, both from Cornell University, and was previously a member of the faculty at Stanford University and a researcher at NASA Ames Research Center. Zac pioneered the development of gram-scale ChipSat spacecraft as founder of the KickSat project and has served as Principal Investigator on multiple NASA-funded small satellite missions. He received a NASA Early Career Faculty Award in 2018 and a Google Faculty Research Award in 2019. His research interests include numerical optimization and control systems, particularly with application to robotic space exploration.

Dr. Manchester commented: "I am extremely excited to be a part of the Copernicus Space Corporation and honored to be in such great company. Copernicus is taking the next step in the great tradition of humanity's reach for the stars."



PRESS RELEASE - FINAL



Garry Nolan is Rachford and Carlota A. Harris Professor in Pathology at Stanford University School of Medicine. Garry has published >350 research articles, is the holder of 50 US patents, and has been honored as a top 25 inventor at Stanford. He cloned and characterized key transcription factors in immune regulation, such as NF-KB p65, and was a creator of the 293T retroviral packaging systems used extensively in clinical human gene therapy. Dr. Nolan was a founder of Rigel Inc. (Nasdaq: RIGL), BINA (genomics computational company sold to Roche Dx), Apprise (sold to Roche Sequencing Solutions), and co-Founder of Ionpath and of Akoya (Nasdaq: AKYA).

Dr. Nolan said: "Humanity's creativity is exemplified in the goals of the Copernicus Space Corporation. I am thrilled to be a part of this superb merging of technology, biotech, and more that will extend human reach beyond our first planetary home."



Cumrun Vafa is the Hollis Professor of Mathematics and Natural Philosophy in the Department of Physics at Harvard University. His primary area of research is string theory, which may provide a framework to unify everything we know about nature, including all particles and the forces between them, in a consistent quantum theory. String theory is at the cross-roads of many fields, including mathematics, particle phenomenology and astrophysics, and Cumrun's research has involved all these aspects. His recent work involves applying these ideas to come up with predictions for the nature of the dark energy and the fate of our universe. He has received numerous prizes and recognitions for his work on theoretical physics including the 2017 Breakthrough Prize in Fundamental Physics, the 2008 Dirac Medal of ICTP and prizes for his work on mathematical physics from the American Mathematical Society, as well as the American Physical Society. Cumrun is a member of National Academy of Sciences as well as of the American Academy of Arts and Sciences.

Dr. Vafa said: "I am delighted to join the advisory board of Copernicus which represents an ambitious but achievable goal of integrating the latest in robotics and space technology and applying it to finding the answer to whether we are alone in the universe, beginning with the solar system."



Christian M. Voigt, JD, LL.M. is an attorney-turned-senior executive with strategic marketing and global commercial expertise in business development and large-scale, multi-year global sponsorship alliances with some of the largest and most prominent corporations in the world. He is a licensed attorney in Germany and New York, has a Master of International and Comparative Law from Chicago-Kent College of Law



PRESS RELEASE - FINAL

(focus IP Law), and a JD from Ludwig-Maximilians University in Munich. Chris was Senior Head of Global Sports Marketing & Licensing at PUMA for nearly a decade. From 2017 to 2021, Chris was Vice President of Marketing Development of the largest sports partnership program in the world at the International Olympic Committee (IOC), and integrated leading technology brands into the Olympic Movement. Most recently, Chris was the Senior VP for Strategic Partnerships at Whoop, Inc. Chris is an author, lecturer and expert panelist, and joined Copernicus Space Corporation as Chief Marketing Officer (CMO) and SVP – Strategic Partnerships in September 2022.

Chris Voigt commented: “I am very excited to support Copernicus in taking a truly innovative approach to space exploration. The fastest and most successful path for business innovation is to begin the journey with disruptive and multi-disciplinary thinking, instead of transforming one’s way to get there.”



Stephen Wolfram is the creator of Mathematica, Wolfram|Alpha and Wolfram Language; author of *A New Kind of Science* and other books; originator of Wolfram Physics Project and Wolfram Institute; Founder and CEO of Wolfram Research. Over the course of more than four decades, he has been a pioneer in the development and application of computational thinking, and has been responsible for many discoveries, inventions and innovations in science, technology and business. Wolfram was educated at Eton and Oxford, and received his PhD in theoretical physics from Caltech by age 20.

For press inquiries and questions, please email: Info@copernicus-initiative.com

About Copernicus Space Corporation

Copernicus Space Corporation (‘Copernicus’) is a novel type of space exploration company, headquartered in Massachusetts, and with a subsidiary in Luxembourg. Copernicus fosters ultralong-range thinking and leverages disruptive technology for new strategies in space exploration in our solar system and later in interstellar space exploration in our galaxy. Copernicus pursues a unique, scalable space exploration platform strategy, developing and deploying multiplexed swarms and networks of thousands, and eventually millions and billions of nanotechnological and synthetic biology-based hybrid space nanoprobes. Copernicus will leverage AI/DL sensors and nanorobots, bioengineering for sensing and replication, as well as synthetic biology ‘panspermia’ ultra-long range, large-scale transmission.

Copernicus regards crewed space exploration as a partially obsolete, decades-old strategy, when instrumentation, computing, communications, AI and synthetic biology were in their infancy or not-yet-



PRESS RELEASE - FINAL

existent. Human biology has evolved with oxygen, under the protection of Earth's atmosphere and magnetic field, and is not suitable for long-term space missions, nor for planetary conditions without oxygen, and with extreme temperatures, vacuum, toxic gases, and inevitable cancer-causing high energy radiation. Human lifetimes of decades limit mission lengths to a few years, and prevent missions requiring decades in our solar system, 100s-1000s of years in our 'galactic neighborhood', or 10s-100s of millions of years to seed our galaxy *Milky Way*.

Copernicus will establish a platform for distributed observation, sensor, communications and positioning infrastructure in our solar system with thousands of nanoprobes, providing essential positioning, navigation, timing and communications exploration infrastructure near key solar systems rocky planets, their major moons, as well as towards the asteroid belt and heliopause.

Copernicus will explore our solar system for novel scientific discoveries and insights, valuable raw materials, traces of extinct or presently co-existing extraterrestrial microbial life, as well as for potential traces of astro-archeological remnants, if any, with distributed swarms of thousands of nanoprobes. In a second interstellar phase, Copernicus also intends to explore our 'galactic neighborhood' within a range of 5-50 light years for conclusive evidence of exoplanet life, using large swarms of millions of nanoprobes with the ability to relay information and results back to Earth after decades and centuries.

Copernicus eventually intends to seed our galaxy with billions of technological nanoprobes, synthetic biology extremophile and hybrid technological/biological nanodevices as interstellar one-way 'messages in a bottle' (MIAB) that carry an ultra-long-term record of the legacy of Earth, terrestrial life and of humankind and its civilization throughout our *Milky Way* over hundreds of millions of years. We believe this deeply humanistic and idealistic endeavor will lead to large-scale sponsorship opportunities.

Copernicus will not invest capital in launch vehicles, propulsion, Earth-orbital spacecraft, or landing capabilities, as Copernicus intends to leverage the advancing private and public space infrastructure.