

A UAL PRODUCTIONS PRESENTATION

# **EMILY @ THE EDGE OF CHAOS**

# PRODUCED & DIRECTED BY WENDY APPLE

# STARRING & WRITTEN BY EMILY LEVINE

**Including:** John Lithgow, Lily Tomlin, Leonard Nimoy, Richard Lewis, Matt Groening & more

U.S. | 1:85:1 | English | Run Time: 61 Minutes

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#### LOGLINE:

Science saved brainiac comedian Emily Levine and Emily uses science - and jokes! - to save the world.

#### **SHORT SYNOPSIS:**

EMILY @THE EDGE OF CHAOS interweaves Emily Levine's live performance with animation, appearances by scientists, and animated characters (John Lithgow as Sir Isaac Newton, Lily Tomlin as Ayn Rand, Leonard Nimoy as Sigmund Freud, Richard Lewis as Aristotle, Matt Groening as Aldo Leopold). The film uses physics – which explains how the universe works – to explain our metaphysics – the story of our values, our institutions, our interactions. Using her own experience and a custom blend of insight and humor, provocation and inspiration, personal story and social commentary, Emily takes her audience through its own paradigm shift: from the Fear of Change to the Edge of Chaos.

Emily Levine, like her film, was one-of-a-kind. She was a television writer, a stand-up performer, and an out-of-the box-thinker, whose brilliant TED talks have been seen by millions. She made this film with Wendy Apple, who produced and directed it. Wendy died in 2017 and Emily continued working on the film until she also passed away in 2019.

#### LONG SYNOPSIS:

Since Sir Isaac Newton's time, western culture has looked to science to explain how the universe works. America's founding fathers used Newton's cosmic model as a template for our institutions, our values, how we relate to each other as individuals and as a society.

But since Isaac Newton's time, relativity, quantum physics, chaos and complexity theory have radically altered our picture of the universe. No wonder our social model is in flux, our core values are shifting, and the country has lost faith in its institutions. If only we had a movie that explains these Big Ideas to the people whose lives are affected, that makes science accessible, relevant and exciting, that inspires us with a vision of the future.

Oh, wait, we do.

"Emily @ the Edge of Chaos" is a 61-minute film that interweaves Emily Levine's live performance with animation, documentary montages, appearances by scientists, animated characters (John Lithgow as Sir Isaac Newton, Lily Tomlin as Ayn Rand, Richard Lewis as Aristotle, et.al.) and innovative visual effects to tell the story of Emily Levine's own paradigm shift: *from Emily 2.0 to Emily 3.0.* 

Emily 2.0 is a successful stand-up comic and television writer, firmly aligned with Sir Isaac Newton's rational, predictable, law-and-orderly universe. Then she falls into a black hole. A rare and long-undiagnosed tumor in her pituitary gland makes her produce too much human growth hormone. This results in a host of debilitating symptoms, including the signature big head, big hands and big feet for which her condition, "Acromegaly" (literally "large extremities") is named.

Brain surgery to remove the tumor puts Emily on the path back to physical fitness, but it's science that transforms her. During her recovery, Emily reads up on quantum physics and chaos theory to find out that the whole universe is going through a paradigm shift: *From Newton's Universe to Emily's Universe*. The more she aligns herself with Emily's Universe, the healthier she gets.

Now Emily wants to upgrade an America which is exhibiting the same symptoms from which she suffered:

A compulsion to grow beyond one's natural limits has resulted in the triumph of Wall Street over Main Street.

Large extremities have turned the United States into the Divided States.

Americans have lost their sense of balance, their confidence and reason.

Using her own experience as guide and inspiration, Emily takes her audience - and America - through its own paradigm shift: from the Fear of Change to the Edge of Chaos.

Physicists describe the Edge of Chaos as the most creative, innovative and transformational place in the universe. Here is where we need to be to collectively reinvent ourselves as a vibrant, interactive society capable of a new kind of growth: growing *up* 

But to get us there, Emily herself has to undergo one final – and painful – change. In a startlingly revealing moment that prompts tears as well as laughter, she forever transforms our understanding of our universe, our world, and ourselves.

# CAST:

**EMILY LEVINE** 

VOICE OVER ACTORS
JOHN LITHGOW as Sir Isaac Newton
LILY TOMLIN as Ayn Rand
LEONARD NIMOY as Sigmund Freud
RICHARD LEWIS as Aristotle
MATT GROENING as Aldo Leopold

## **Emily Levine's Artistic Statement:**

Emily @ the Edge of Chaos was inspired by three insights:

Broadway, the Milky Way, it's the same thing: Physics – which explain how the universe works – has a great deal to do with our metaphysics – the story of our values, our institutions, our interactions. When our physics and metaphysics are aligned, it's called a paradigm – our reigning version of reality.

The paradigm is shifting: Our social model – secular democracy - is grounded in Newton's Universe – the physics used by Sir Isaac Newton to describe the universe. But since Newton's time, major breakthroughs in physics have radically altered our understanding of the universe. For example, Newton's Universe uses Either/Or logic: of two things only one can be true. Quantum physics introduces And-And logic: of two things both may be true. Understanding these new Big Ideas of physics could help us figure out how to make ourselves and the country in this new universe's image: From my way to our way. From the Divided States to the United States. From "e pluribus" to "unum".

Humor is the best way to explain Big Ideas. The best jokes provoke shock-of-recognition laughter. They allow us to short circuit our normal train of association to make fresh connections. They also connect the mind and the body so that we literally re-cognize, or re-wire – our consciousness. Studies show that subjects primed with humor have a more immediate and profound understanding of the Aha moments we call Big Ideas.

But in *Emily* @ the Edge of Chaos, Emily does more than engage the mind and the funny-bone: she engages our hearts. To enhance the film's appeal, the movie tells the story of Emily's own paradigm shift, the result of a rare and long-undiagnosed medical condition. This story allows the audience to connect on an emotional level. At a time when many individuals are suffering their own kind of meltdown, the proof that recovery is possible offers solace and inspiration.

At the same time, the film addresses the need for a collective story of recovery. To paraphrase Abraham Lincoln, a country divided against itself cannot stand itself. Emily makes convincing – and hilarious - connections between her own experience and what America is going through. The movie not only shows how the Divided States could remake itself as a truly United States, it identifies the skills we'll need to do so.

Finally, the film addresses the need to restore science to health. America's ranking in science literacy lags woefully behind that of other developed countries. The whole enterprise of science is under attack by those for whom "fact-based evidence" represents a threat. But science is crucial to our economy and polity both. Understanding the larger reality of which we are all a part informs our individual and collective choices. Making that science accessible to people who are confused and alienated is key to the transformation necessary for a healthy and vibrant society.

#### **KEY CREW BIOS:**

#### **WENDY APPLE** (Director/Producer)

As an Award-winning Producer/Director/Editor, Wendy Apple's credits include the critically acclaimed feature length documentary "The Cutting Edge: The Magic of Movie Editing"; "Hard Rain" (NBC), starring Bob Dylan; two comedy specials starring Lily Tomlin: "Appearing Nightly" (HBO) and "Lily for President" (CBS); a documentary about legendary comedy producer/director Garry Marshall: "Sitcom: The Adventures of Garry Marshall" (KCET), as well as feature documentaries "South Central Los Angeles: Inside Voices" (ZDF/ARTE/Showtime) and "Fallen Angels" (Fox Lorber/Winstar). Wendy died in 2017 soon after she locked this picture.

### **EMILY LEVINE** (Principal Cast/Writer/Executive Producer)

Emily Levine was a successful television writer/producer as well as a comedian. Her credits include "Designing Women," "Love and War," "Dangerous Minds," et.al., numerous pilots created for CBS, NBC, ABC, FOX TV and HBO in association with Universal Studios, The Walt Disney Company, et.al., and film scripts for Warner Brothers and MGM. As a comedian, she has received accolades from the press ("One of the new Queens of Comedy"/NEWSWEEK) from the scientific community ("Emily @ the Edge of Chaos" is a brilliant mix of art and science"/BRIAN GREENE and TRACY DAY, co-producers of the World Science Festival) and her peers ("If you don't get Emily Levine's smart comedy, you're an idiot"/MATT GROENING, creator of "The Simpsons".) At TED Talks, where she was voted one of the 100 top speakers, her 2002 talk has over 2 million hits.

#### **BOB BALABAN** (Executive Producer)

Best known for his roles in the Christopher Guest movies, "Waiting for Guffman, "Best in Show", "A Mighty Wind", Bob is also an acclaimed producer ("Gosford Park") and director, "The Exonerated" for HBO; "Bernard and Doris" for HBO; and "Georgia O'Keeffe" for Lifetime (the last two of which he also executive produced). Bob also wrote, directed and produced "Hopeless Pictures", an animated series for the Independent Film Channel.

#### **THEA KERMAN** (Executive Producer)

Thea Kerman has over 30 years of experience as an entertainment lawyer. She has provided legal services for narrative films such as *Donnie Brasco*, *The Fisher King*, *Hook*, *Hairspray*, *Warriors of Virtue*, *Bats* and *Black Dynamite*, documentary films such as *The Cutting Edge: The Magic of Film Editing* and *Queen of Hearts: Audrey Flack* and worked with clients and talent such as Akiro Kurasawa, Barry Levinson, Sidney Lumet, Bruce Willis, Richard Gere, Al Pacino, Whitney Houston and Kiss. Prior to establishing her own law firm in 1990 in Los Angeles, Ms. Kerman was the Senior Production Counsel for Tri-Star Pictures and served as General Counsel for the Marvel Comics Group.. She was a co-producer on *Dukhtar*, a U.S./Pakistani/Norwegian/Indian narrative co-production which had its world premiere at the Toronto Film Festival and was the official Pakistani nominee for Best Foreign Language Film at the 87th annual Academy Awards. She was an executive producer of *Doctors of the Dark Side*, a

feature length documentary, and co-producer of *Yellow Rose*, an American-Fillipino musical drama.

# MIRIAM CUTLER (Composer)

Three time Emmy nominated composer, Miriam Cutler, is passionate about documentaries. Her work includes HBO, CNN, PBS, Sundance, Emmy, and Oscar nominated films: RBG, Love Gilda, Til Kingdom Come, Dilemma of Desire, Flannery, Dark Money, The Hunting Ground, Ethel, Lost in La Mancha, Thin, Poster Girl, Vito, KingsPoint, Ghosts of Abu Ghraib, A Plastic Ocean, and many more. She co-produced and scored Dark Money and One Lucky Elephant. Advisor/ Sundance Documentary Composers Lab, doc juror for Sundance FF, Spirit Awards, AFI, and more. AMPAS Documentary Exec Committee Branch member, Film Expert/USC Cinema/US State Department's American Film Showcase. Current TV Academy Music Branch Exec committee member, Long-time former SCL Board Member and Co-Founder Alliance for Women Film Composers, Co-produced live jazz albums including Joe Williams, Nina Simone, Shirley Horn, Marlena Shaw.

## **PHILIP D SCHWARTZ** (Director of Photography)

Philip D. Schwartz has been a Director of Photography since 1988. His credits include 15 independent features, several pilots, 30 Second Units for features and television, and more than 100 shorts, commercials, videos, documentaries and industrials. He was a camera operator on many studio features, including "Journey to the Center of the Earth 3-D," "Twister," "The Net," "Zeus and Roxanne" and "Toys." Since 1999, he has also been heavily involved in all aspects of digital cinematography. He shot one of the first independent 24p HD features, "Lost Lake," in 2000. Many of his digital projects have won recognition at film festivals worldwide. Additionally, he has worked as a High Def consultant and Digital Imaging Technician on various television projects, features and commercials. 3 of his features were written up in American Cinematographer magazine, and one of his shorts was honored at the 1996 International Cinematographers Guild Emerging Cinematographers competition.

#### WENDY FREEDMAN (Scientist)

Wendy Freedman is the John and Marion Sullivan University Professor in Astronomy and Astrophysics in the Department of Astronomy and Astrophysics at the University of Chicago. She was the co-leader of the international team of astronomers to carry out the Hubble Space Telescope Key Project, a program aiming to establish the distance scale of the Universe and measure the expansion rate, a quantity known as the Hubble constant. She initiated the Giant Magellan Telescope Project and served as Chair of the Board of Directors at the Carnegie Institution for Science's Las Campanas Observatory in Chile.

### **SUNIL GOLWALA** (Scientist)

Sunil Golwala is a Professor of Physics at Cal Tech. He is also Director of the Caltech Submillimeter Observatory and Deputy Executive Officer for Astrophysics. He works at the intersection of particle physics and cosmology on observations and instrumentation

to understand the nature of the dark matter and dark energy that dominate the evolution of the universe.

# **DANNY HILLIS** (Scientist)

Danny Hillis is an inventor, scientist, author and engineer. While completing his doctorate at MIT, he pioneered the concept of parallel computers that is now the basis for graphics processors and cloud computing. He holds more than 300 patents, covering parallel computers, disk arrays, forgery prevention methods, various electronic and mechanical devices, and the pinch-to-zoom display interface. He has recently been working on problems in medicine as well. He is also the designer of a 10,000-year mechanical clock. He is a TED Talker. Throughout his career, Danny has worked at places like Disney, MIT and Applied Invention, always looking for the next fascinating problem.

# KARY MULLIS (Scientist)

Kary Mullis won the Nobel Prize in chemistry for his invention of the polymerase chain reaction technique. This process is hailed as one of the monumental scientific techniques of the 20<sup>th</sup> century. His patented inventions include the PCR technology and UV sensitive plastic the changes color in response to light.

### **NICHOLAS WARNER** (Scientist)

Nicholas Warner is a professor in the Department of Physics & Astronomy at the University of Southern California. His research areas are field theory and string theory, and their applications ranging from fundamental interactions in particle physics, through critical phenomena to quantum integrable systems. His particular focus has been on the properties of supersymmetric field theories, and his work has frequently involved the solution of problems in one area of physics by methods more traditionally associated with other areas of physics.

# **KEY CREW:**

Directed By Wendy Apple

Produced By Wendy Apple

Writer Emily Levine

Executive Producers Bob Balaban, Lynda Weinman, Bruce Heavin, Thea

Kerman, Emily Levine

Director of Photography Philip D. Schwartz

Editors Tina Hirsch, A.C.E., Wendy Apple, Adam Bonsib,

Pat Fitzgerald, Michael Buck

Music By Miriam Cutler

Sound Design John Warrin

#### **FULL CAST**

Benoit Mandelbrot

**Emily Levine** Emily Sir Isaac Newton John Lithgow Avn Rand Lily Tomlin Sigmund Freud **Leonard Nimoy** Richard Lewis Aristotle Aldo Leopold Matt Groening Werner Heisenberg Richard Blackburn Arnold Schwarzenegger Richard Blackburn Photon Winnie Holzman Muon Paul Dooley Jenny O'Hara Lepton Dr. Sack Victor Bumbalo Bruce Vilanch God David Ruelle Rick Overton Bartleby Rick Overton Edward Lorenz Mike Farrell

Scientists Daniel Hillis, Wendy Freedman, Kary Mullis, Nicholas

Peter Elbling

Warner, Sunil Golwala

#### **KINO LORBER**

With a library of over 4,000 titles, Kino Lorber Inc. has been a leader in independent art house distribution for 35 years, releasing 30 films per year theatrically under its Kino Lorber, Kino Repertory and Alive Mind Cinema banners, garnering seven Academy Award® nominations in nine years. In addition, the company brings over 350 titles yearly to the home entertainment and educational markets through physical and digital media releases. With an expanding family of distributed labels, Kino Lorber handles releases in ancillary media for Zeitgeist Films, Cohen Media Group, Greenwich Entertainment, Artsploitation, Palisades Tartan, Menemsha Films, Raro Video, and others, placing physical titles through all wholesale, retail, and direct to consumer channels, as well as direct digital distribution through over 40 OTT services including all major TVOD and SVOD platforms. In 2019, the company launched its new art house digital channel Kino Now which features over 1000 titles from the acclaimed Kino Lorber library. In response to the COVID-19 pandemic, the Kino Marquee initiative was launched in 2020 pioneering "virtual theatrical" releases of art house films with revenue shares that allows audiences to support almost 400 local independent theaters.