

ENGINEERING, SCIENCE & TECHNOLOGY

# EMANGSNESS HOSTED BY KIRSTEN VANGSNESS

# **MESSAGE FROM THE CHAIRMAN & CEO**



WELCOME TO THE  $74^{TH}$  ENGINEERING, SCIENCE & TECHNOLOGY EMMY AWARDS!

The Emmy statuette depicts the winged muse of art holding an atom representing science and technology. It's a bond as inextricable today as it was when the golden icon was designed more than seventy years ago.

Since its earliest days, television has been fueled by innovation, and tonight we honor a group of innovators whose vision and expertise have advanced our medium in extraordinary ways. Their contributions include profound breakthroughs in audio, video, cameras, computer graphics, visual effects, remote production processes and much more.

Across all of today's platforms – broadcast, basic cable, premium cable and streaming – there has never been so much content, so much *quality* content and so much choice in ways to consume it.

And much of the programming audiences around the world love

to watch in this Platinum Age of Television would not be possible without the contributions of brilliant individuals and companies like those receiving accolades tonight.

They include Dr. Paul E. Debevec, recipient of the Charles F. Jenkins Lifetime Achievement Award, whose work has expanded the possibilities of VFX and virtual production. In addition, we are pleased to present the Philo T. Farnsworth Corporate Achievement Award to one of the most recognized brands in our industry, ARRI, which has been at the forefront of camera and lighting systems for more than a century.

As always, there are many people to thank for their contributions to our show, beginning with the Engineering, Science & Technology Awards Committee, led by chair John Leverence and co-chairs Wendy Aylsworth and Barry Zegel. We are also delighted to welcome back our wonderful host, Kirsten Vangsness, whose energy, creativity and love for all things tech make her an ideal fit for our community and for this ceremony.

For us, it's not just a pleasure but a privilege to bring the Emmys to you. Now, I invite you to sit back and enjoy the show.

#### FRANK SCHERMA

Chairman & CEO Television Academy

# **MESSAGE FROM THE PRESIDENT & COO**



IT'S GREAT TO BE TOGETHER AT THE ENGINEERING, SCIENCE & TECHNOLOGY EMMYS!

The Television Academy is a community of more than 20,000 members representing virtually every facet of our industry — including, of course, the boundary-pushing visionaries of the Science & Technology peer group, many of whom are in attendance tonight.

Together, we seek to advance the highest standards in our respective professions. These standards are exemplified by the Emmy – the most prestigious symbol of excellence in television.

The annual Creative Arts Emmy Awards and Emmy Awards telecast honor crafts and performances in an array of programming. Here, at the Engineering, Science & Technology Emmys, we celebrate – and marvel at – the tech wizardry without which much of that programming would not be possible.

Television is one of the greatest storytelling mediums ever invented. And, in a sense, each innovation that advances the

capabilities of television is itself a story, just as surely as those in the scripts that serve as the blueprint for every production.

In broad strokes: an individual or group has an idea – perhaps even an idea that seems preposterous at the time – commits to it passionately, works at it diligently, faces setbacks but refuses to give up and ultimately makes it happen.

Just as the Academy is devoted to both the arts and sciences of television, the narrative of inspiration, perseverance and triumph that shapes tech breakthroughs also expands the scope of what's possible for writers, directors and producers, whether their stories unfold in medieval kingdoms, modern cities or the surface of Mars.

How's that for a hero's journey?

So, to all this year's honorees, well-deserved congratulations. And, on behalf of TV viewers around the world, thank you to the entire sci-tech community for your amazing work.

#### **MAURY MCINTYRE**

President & COO Television Academy

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# TONIGHT'S HOST KIRSTEN VANGSNESS



KIRSTEN VANGSNESS IS BEST KNOWN FOR PLAYING TECH-KITTEN PENELOPE GARCIA ON THE 15 SEASONS OF THE CBS CRIME DRAMA CRIMINAL MINDS, FOR WHICH SHE ALSO CO-WROTE FIVE EPISODES, INCLUDING THE SERIES FINALE. She will reprise her role when a new version of the show — titled Criminal Minds: Evolution — returns for a sixteenth season on Paramount+.

Kirsten is on the Artistic & Management Committee at Hollywood's Theatre of NOTE, where she has acted in and created many plays, including Mess (which author Neil Gaiman called his "favorite one-person show"), and her feminist time-travel

musical Cleo Theo & Wu. In 2019, Kirsten took both productions to the Edinburgh Festival Fringe, where she and her fellow NOTE actors played to sold-out houses for a blissful month.

In addition, Kirsten was the star and executive producer of the film-noir spoof *Kill Me, Deadly*; she wrote, directed and starred in the animated film festival darling *Curtains*; and she can be heard as Nico, the lovable lesbian-fox-alien in the last two seasons of the improv podcast *Voyage to the Stars*.

She also keeps busy with *Kirsten's Agenda*, her YouTube series about art and self-actualization. Her professional accolades include the Human Rights Campaign Visibility Award, the Open Fist Excellence in Arts Award and the L.A. Drama Critics Award for Best Actress, and she has a monkey enclosure named after her at the Wildlife Learning Center in Sylmar.

In her spare time, she leads spirit tastings at Santa Ana's Blinking Owl Distillery, which she co-owns. You can learn more about her goings-on at kirstenvangsness.com.

# 74TH ENGINEERING, SCIENCE & TECHNOLOGY EMMY® AWARDS

Emmys are presented to an individual, company or organization for developments in engineering, science, and technology that are either so extensive an improvement on existing methods or so innovative in nature that they materially affect the production, recording, transmission or reception of television, and thereby have elevated the storytelling process.

This year's recipients are:



#### Cleanfeed Remote Audio Review/Recording System

#### Mark Hills and Marc Bakos

Cleanfeed is a high-fidelity "conference call" software as a service with a focus on audio production. It enables collaboration with audio quality equivalent to all participants being together in the same studio and with low latencies for smooth interaction between talent. Cleanfeed's innovative technology has advanced workflows in the industry, including being accessible to at-home engineers and talent who use a straightforward link in their web browser to enable full-scale TV and film post-production.

Cleanfeed has been instrumental in the creation of soundtracks for television series such as Star Trek: Discovery, The Crown, The Walking Dead, The Queen's Gambit and The Flight Attendant.
For more information, please visit cleanfeed.net.



#### The disguise Platform

#### disguise Technologies Ltd.

The disguise platform is an advancement in image processing that incorporates elements of video playback and real-time technology to improve interaction between computer graphic elements, digital images and environments, physical actors, props and practical sets. The combination of the disguise platform with LED walls and camera tracking enables real lighting information on actors (and real objects), support for reflective and refractive props, more natural shot lineups and a production environment where creative decisions can be made quickly and with improved collaboration. Utilizing real-time 3D visualization-based software and robust hardware, the tools in the disguise platform seamlessly integrate and direct an array of technologies, including camera tracking and real-time content engines that incorporate analog physical space into a virtual digital world.

For more information, please visit disguise.one.



#### **StageCraft Virtual Production Tool Suite**

#### Industrial Light & Magic

ILM StageCraft is an end-to-end virtual production tool suite that bridges the gap between practical physical production methodologies and traditional digital post-production visual effects by providing the ability to design, scout and light environments in advance of the shoot and then capture that vision in-camera during principal photography. StageCraft brings together a real-time engine, a real-time renderer, high-quality color management, physical camera equipment, LED displays, motion capture technologies, synchronization methodologies and tailored on-set user interfaces to digitally create the illusion of 3D backgrounds for live action sets.

StageCraft is a production-hardened offering built upon decades of experience and innovation in virtual production at ILM. Inspired recently by Jon Favreau's ambitious vision for the Emmy Award-winning series *The Mandalorian*. ILM's advanced software now allows for real-time lighting and high-resolution filming of the digital world in one of ILM's five global StageCraft LED volumes or custom installations.

For more information, please visit ilm.com.



#### **Leostream Remote Access Software**

#### Geoffrey Crawshaw and William Brinkley

Leostream's remote access and desktop connection management software enables news and entertainment organizations to create security-conscious remote production environments that are sustainable, performant and cost-effective. Its ability to mix and manage on-premises and cloud-based hosting platforms and support for multiple high-performance display protocols ensures the productivity of editors and production engineers while simplifying IT. The ability to manage disparate technologies from a single management and access platform is a uniquely Leostream construct that enables organizations to advance the state of the art of their entire hosted desktop environment with an eye on integrating new technologies as they come to market.

For more information, please visit leostream.com.

# 74TH ENGINEERING, SCIENCE & TECHNOLOGY EMMY® AWARDS



#### Axient® Digital Wireless Audio System

#### Shure Incorporated

The Shure Axient\* Digital Wireless System equips audio production teams with the wireless capabilities necessary to deliver transparent, true and artifact-free audio for television and television broadcasts, no matter the frequency environment or whether the production is shot on location, at a studio backlot or a sound stage.

Axient Digital Wireless leverages the engineering prowess of Shure's most popular wireless systems to create the company's most advanced platform to date. Catering to evolving customer needs, Axient Digital provides television productions with the highest-performance RF (radio frequency), exceptional audio quality, ShowLink® remote control and the hardware scalability necessary to tell stories seamlessly on the most demanding sets in the world. Axient Digital Wireless has been trusted on the world's biggest stages, including top-tier award shows, sporting events, numerous talk shows, game shows, film sets, serialized television and streaming.

For more information, please visit shure.com.



#### Schonet

Sohonet's ClearView Pivot is a real-time, high-quality remote collaboration tool with added flexibility to pivot endpoints, empowering creatives with the click of a button. ClearView Pivot allows them to stream studio-grade color- and frame-accurate footage in 4K HDR with 12-bit color depth and 4:4:4 chroma sampling in real-time with ultra-low latency enabled by our Sohonet Media Network. Users are then able to connect multiple endpoints from a single web interface, removing the labor- and time-intensive task of setting up new firewall configurations each time and enabling multi-point review sessions between post facilities, screening rooms and even creative executives' homes. This is ideal for remote color grades, final VFX shot reviews, digital intermediates, finishing sessions and screenings.

For more information, please visit sohonet.com.



#### stYpe Camera Tracking Tools

#### Stype Cajic, Andrija Cajic, Daniel Kruselj, Ivica Antolkovic

The stYpe suite of camera tracking tools includes mechanical and optical solutions.

StypeKit has been a graduate work of Stype Cajic, the founder of stYpe. It has become the first widely adopted bolt-on mechanical tracking kit for camera cranes, used to retrofit existing cranes and transform them for use in virtual production. This has resulted in a simplified VR setup process and the implementation of quick lens calibration procedures that have eliminated graphical drift. With the introduction of auto-aiming functionality, this has made VR shots smoother and more attractive. Since its release, StypeKit has popularized live broadcast virtual production worldwide.

Additionally, the now renowned optical tracking system, RedSpy, was developed as a stYpe's team effort in the years to follow. It produces a point cloud marker system used to calculate the position of the camera, which satisfies the most demanding needs of modern-day live production. RedSpy provides unsurpassed tracking results quickly with a seamless blend of real and virtual elements with no user intervention required after the setup.

For more information, please visit stype.tv.

# 74TH ENGINEERING, SCIENCE & TECHNOLOGY EMMY® AWARDS

The Philo T. Farnsworth Corporate Achievement Award honors an agency, company or institution whose contributions over time have significantly impacted television technology and engineering.



ΔRRI

#### Recipient of the Philo T. Farnsworth Corporate Achievement Award

An enterprise started in 1917 by two German cinematographers, ARRI was born out of a passion for creating tools that would allow filmmakers more freedom in their storytelling. Today, with a sales and distribution network that spans the globe, ARRI is still a family-owned business whose equipment and services are the preferred choice of many past and current Emmy-winning and Emmy-nominated shows.

ARRI cameras, lenses, lighting and accessories have been game-changers within the industry for more than a century, enabling filmmakers to capture images close to the action and put audiences right in the center of the scene. From the world's first reflex-mirror shutter camera, the ARRIFLEX 35 in 1937, to more recent innovations such as the ALEXA camera system, the ARRIMAX lamphead and the LED lighting portfolio, ARRI engineers have continuously transformed and modernized what is possible both on set and on location.

Professionals rely on the stability and versatility of ARRI equipment and trust the company's service networks. ARRI Rental provides expertise and customized solutions as well as camera, lighting and grip packages to professional productions around the world. ARRI Solutions is focused on the design, engineering and realization of customized production infrastructures, including innovative mixed-reality environments and state-of-the-art TV studios.

Throughout its history, ARRI has been focused on meeting and exceeding the demands of the industry. By empowering filmmakers, ARRI is dedicated to maintaining its place at the forefront of the development of future technologies for film and television.

For more information, please visit arri.com.

The Charles F. Jenkins Lifetime Achievement Award honors a living individual whose ongoing contributions have significantly affected the state of television technology and engineering.



# Dr. Paul E. Debevec

#### Recipient of the Charles F. Jenkins Lifetime Achievement Award

Paul E. Debevec is awarded the 2022 Charles F. Jenkins Lifetime Achievement Award for his groundbreaking work in high-dynamic range imaging, image-based lighting and photogrammetry, essential techniques used in computer graphics for VFX and virtual production.

Debevec's pioneering work makes it possible to record and reproduce the light of real scenes to illuminate virtual scenes and vice versa.

High-dynamic range imagery is a mainstay of computer graphics, and combined with image-based lighting, it has enabled realistic integration of existing live-action lighting in computer-rendered images. These tools and concepts are now a standard within the VFX industry for rendering. The concepts and the innovative use of LED lighting Debevec

pioneered with the Light Stage have further laid the groundwork for the use of LED lighting in virtual production, which has seen rapid growth as a tool for lighting actors on virtual stages.

Debevec earned Bachelor's degrees in mathematics and computer engineering from the University of Michigan in 1992 and a PhD in computer science from the University of California, Berkeley, in 1996. He is the director of production innovation research at Netflix and an adjunct research professor at the University of Southern California, where he founded the Vision and Graphics Laboratory at USC's Institute for Creative Technologies.

For more information, please visit pauldebevec.com.

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