The theme of this SMPTE conference is to examine and understand the impact of technology on the art of storytelling with the web as a key focus. The expansion of connectivity, bandwidth, and service options are redefining entertainment distribution to the living room, mobile, and beyond. Broadband, Wi-Fi, and Mobile networks are now beginning to leapfrog traditional distribution mechanisms, because of the rapid pace of innovation and performance improvements, flexibility of consumer options, and the ability to upgrade with a software download. Disruptive technologies such as artificial intelligence could well revolutionize how, and by whom, stories get told. Join technical and creative experts for this 2-day event at the brand new Google Event Center in Sunnyvale, CA. Learn from the experts who are developing, driving, and deploying the next generation of storytelling to gain actionable understanding via parallel technology and strategy tracks. A must-attend for engineers, creatives, researchers, and management engaged in the future of the technology of storytelling.

The ET@2018 Technology Track is meant for practitioners interested in technical implementation details with joint sessions with the Strategy Track where technology themes overlap. The joint sessions will be in the Valley Oak room and the Technology Track-only sessions will be in the Coast Live Oak room. Note all sessions on day 1 are joint strategy/technology sessions in Valley Oak room.

8:30a  Morning Coffee/Registration

9:45a-10a  Opening Remarks (Joint Session with Strategy Track)
Pat Griffis, Conference Chair and SMPTE Executive Vice President; Vice President Technology, Office of the CTO, Dolby Laboratories
Keith Graham, SMPTE San Francisco Section Chair

10a-11a  Masses of Media - Solving the Challenges of Security, Contracting and Distribution at Scale
Room: Valley Oak (Joint Session with Strategy Track)
Moderator: Patrick Griffis
Speaker: Michelle Munson, Co-Founder and CEO, Eluvio

The media industry has experienced dramatic growth in OTT services and transformation of the direct-to-consumer business with a backdrop of massive innovation in cloud infrastructure, decentralized ledgers, and machine learning. Yet in spite of this renaissance, for over twenty years the media industry has largely relied on an ad hoc supply chain and contracting, disparate storage, and costly distribution. This talk from one of the visionaries in large file delivery at scale aims to introduce the key technical challenges that have stood in the way and new technology platform solutions to help address these problems in the future.

11a-12p  From Broadcast to IP: A Perspective on the Transition
Room: Valley Oak (Joint Session)
Moderator: Patrick Griffis
Speaker: Matthew Goldman, President, SMPTE; SVP Technology, Ericsson

A technical perspective and timeline on the reinvention of broadcast in the age of the Internet from an industry veteran and the new generation of SMPTE Standards such as ST-2110 that are enabling the transition.

Noon-1:30p  Networking Lunch
Enjoy conversation with colleagues over lunch.

1:30p-2:00p  Keynote: A.I. and Imaging: What's The Future of the Technology?
Room: Valley Oak (Joint Session)
Speaker: Rajen Sheth, Director of Product Management, Cloud AI, Google

In this keynote, Rajen Sheth discusses how new advances in machine learning will reshape the entertainment industry—from content creation to delivery. The media industry is inundated with data, providing a unique opportunity to distill that information
and empower customers with new capabilities for content discovery, curation and personalization. At the same time, machine learning-powered insights can assist content creators to innovate and create new experiences tailored to the taste of their customers or engage entirely new audiences.

**2:00p-3:00p**  
**“Art”-ificial Intelligence – Can It Improve Storytelling?**  
Room: Valley Oak (Joint Session)  
**Moderator:** Michael Zink, VP Technology, Warner Bros.  
**Speakers:**  
Rajen Sheth, Director of Product Management, Cloud AI, Google  
Jonathan Taplin, Director Emeritus, USC Annenberg Innovation Lab  
Shawnna M. Hoffman, Global Co-Leader, IBM Cognitive Legal Practice  
Dazza Greenwood, MIT Media Lab  
Doug Lenat, CEO, CycCorp (Remote Dial-in)

Looking at the creative side of the business, could machine learning be applied to storytelling to assist writers or create some other forms of art? There’s plenty of debate about whether or not creating art can be performed by machines or requires human touch. This panel examines the possibilities of A.I. in the creative context, so don’t miss this interesting debate!

**3:00p-3:30p**  
**Networking Coffee Break**

**3:30p- 4:30p**  
**A.I. in Your Eye: Can Machine Learning Improve Picture Quality?**  
Room: Valley Oak (Joint Session)  
**Moderators:**  
Kip Schauer, Global Head of Media and Entertainment, Google Cloud  
Mike Zink, VP Technology, Warner Bros.  
**Speakers:**  
Michelle Munson, CEO, Eluvio  
Anush Moorthy, Sr. Software Engineer, Video Research and Algorithms, Netflix  
Andrew Page, Product Manager, NVIDIA  
Art Raymond, CEO, Levels Beyond  
Hui Fang, Software Engineer, Google AI

Application of machine learning to entertainment is an interesting topic. Can deep learning technology improve compression, supply chain efficiencies or perhaps be applied to quality control? There are many, many applications for machine learning in our industry. Join this panel of experts on some of the ways A.I could be applied to the production side of the business.

**4:30p- 5:30p**  
**AI and Copyright: Whose Story Is It Anyway?**  
Room: Valley Oak (Joint Session)  
**Moderator:** Jim Burger, Esq., Thompson Coburn, LLP  
**Speakers:**  
Jim Burger, Esq., Thompson Coburn, LLP  
Brian Kuhn, Esq, Founder and Co-leader of IBM Watson Legal, IBM  
Pamela Samuelson, Richard M. Sherman Distinguished Professor of Law and Information at the University of California, Berkeley  
Kristina Ringland, Esq., Copyright Attorney, Microsoft
Artificial intelligence (A.I.) has evolved to enable a machine to produce a coherent novel or script. This raises at least three significant issues: First, is it an original work entitled to copyright; if so who owns that copyright? We know a monkey can’t own a selfie copyright, but can a computer own a copyright? Second, in creating the knowledge database has there been infringement? In order for the AI to create the script, it will most likely have to ingest a huge number of copyrighted works. In the Google Books decision, the courts held copying 20 million books was fair use in those specific circumstances. Is it fair use here? Finally, is the A.I. script infringing? Has it “copied” the expression of any of the works it ingested? The panel’s intellectual property experts will discuss these provocative but increasingly relevant issues.

Trust In Storytelling: Can Content Creators Ever Win?

Room: Valley Oak (Joint Session)

Moderators:
Jim Helman, CTO, Movielabs
Allan McLennan, Chief Executive, CMT/PADEM Media Group

Speakers:
Ivan Verbesselt, SVP Mktg/Tech, NAGRA SA, Switzerland
John Canning, VP, Producer’s Guild of America
Michael D. Smith, Professor of IT & Marketing, CMU Heinz College

Akin to the classic predator/prey evolution cycle- as protection technologies improve, pirates find new ways to defeat them. What is the state of the art and is there an end in sight? Two sides to the issue: enforcement and prevention. What alternative technical strategies are emerging for fighting infringement?

Recap, Reception with HPA Young Entertainment Professionals, and Evening Event

Sponsored by Google

Cocktails and Snacks with colleagues from the Hollywood Professional Association’s “Young Entertainment Professionals” followed by a movie screening on Sony’s state of the art, 1000 Nit, 29 foot diagonal, direct view CLED display.

We are pleased to present a special 20th Anniversary event.
The Fifth Element

New York cab driver Korben Dallas didn't mean to be a hero, but he just picked up the kind of fare that only comes along every five thousand years: A perfect beauty, a perfect being, a perfect weapon. Together, they must save the world. Bruce Willis, Milla Jovovich, and Gary Oldman star in acclaimed director Luc Besson’s outrageous sci-fi adventure, an extravagantly styled tale of good against evil set in an unbelievable twenty-third century world. Now presented in full 4K resolution on Sony’s new CLED display technology. Experience this dynamic action favorite like never before.

Starring Bruce Willis, Chris Tucker, Gary Oldman, Milla Jovovich, Ian Holm

Sponsored by Sony Pictures with special thanks to Grover Crisp

4K Playback courtesy of VideoClarity.
The ET@2018 technology track is meant for practitioners interested in technical implementation details with joint sessions with the strategy track where technology themes overlap. The joint sessions will be in the Valley Oak room and the Technology Track-only sessions will be in the Coast Live Oak room.

8:30a  Morning Coffee/Registration

9:45a-10a  Opening Remarks
Room: Valley Oak (Joint Session with Strategy Track)
Pat Griffis, Conference Chair and SMPTE Executive Vice President;
Richard Doherty, Technology Track Chair, Dolby Laboratories

10a- Noon  What’s the Web Doing for Me(dia)?
Room: Coast Live Oak
Moderator: Richard Doherty
Session Leaders:
John Pallett, Product Manager, Chrome Media at Google
Chris Wilson, W3C Advisory Board Member and Developer Advocate at Google

In this workshop, we'll provide a practical guide to offering entertainment content on the web - that is, the APIs and technology specifically enabling great media experiences. We will discuss the state of W3C standards for web media playback, browser APIs, as well as advances in web codecs, and then show you how to use them effectively across different devices and form factors.

Noon-1:30p  Networking Lunch
Enjoy conversation with colleagues over a provided lunch.

1:30p-2p  Keynote: While There’s Certainly a Future, Are We Certain What It Is?
Room: Valley Oak (Joint session with Strategy Track)
Moderator: Pat Griffis
Speaker: Nicklas Bergman, Entrepreneur, Investor, Futurist

Nicklas Bergman has published a new book on how to deal with technologies from a business perspective called “Surviving the Tech Storm – Strategy in Times of Technological Uncertainty”. Nicklas will cover these aspects with an eye to entertainment in this equally entertaining keynote. Learn more at www.nicklasbergman.com

2p-3p  The State of the Art for Streaming Media: What is DASH vs HLS vs CMAF vs WAVE and Why Should I Care?
Room: Coast Live Oak
Session Leader: Richard Doherty, Senior Director, Technology Strategy, Dolby
Speakers:
Will Law, Chief Architect, Media Cloud Engineering, Akamai Technologies
John Simmons, Media Platform Architect, Microsoft
Netflix encodes more than 120 different versions of each title to accommodate the vast array of streaming devices they support. The standards community is working to simplify and unify content delivery methods to make it much simpler to encode and package content by standardizing how content is prepared. This workshop will review the current state of the art and the emerging formats designed to target the roadblocks to widespread delivery.

3p-3:30p  Networking Coffee Break

3:30-5:00pm  SMPTE Interoperable Mastering Format (IMF) Technical Deep Dive
Room: Coast Live Oak
Session Leader: John Hurst, Cinecert, LLC, Co-Founder and CTO
Speaker: John Hurst

IMF is a componentized media encoding solution adopted by motion picture studios, OTT providers including Netflix, and, more recently, global television networks, which addresses the complex needs of multi-version content customized for region, audience and codec variants. IMF is based on principles developed for the global digital cinema platform which have allowed the cinema exhibition industry to grow to support hundreds of unique content versions and broad day-and-date release schedules that were impossible with film distribution. The presentation will include detailed discussion of IMF internals, relevant standards, and working code that will demonstrate parsing strategies that take advantage of the recently launched SMPTE Metadata Registers service. Mr. Hurst is one of the developers of the IMF and Cinema (DCP) standards, a Fellow of the Society, and the author of widely used open source tools for IMF and cinema applications. A must attend for software and media engineers interested in applying the bits and bytes of IMF.

5:00-5:30pm  What the Flick? It's all about Time
Room: Coast Live Oak
Session Leader: Bruce Devlin, SMPTE Standards Vice President
Speakers:
SMPTE Expert(s)

Chris Horvath has a lot of experience in storytelling (ex-Pixar, ex-Post House) and realized the current methods of defining time were problematic. That led to his development of a new unit of time called “Flick”. In this session, SMPTE Experts will provide background and the session will end with a round table discussing why we have understood time for hundreds of year but it continues to cause engineering challenges. (http://www.bbc.co.uk/news/technology-42787529, https://github.com/OculusVR/Flicks)

5:30 – 6 pm  Wrap-up (Joint Session)
Room: Valley Oak (Joint session)
Pat Griffis/Conference Chair, Session Chairs, and Attendees

A review of the highlights and key takeaways from the conference with an open dialog with audience on reactions, insights gained, and topics for the future.

6 pm  Adjourn