

# PRODUCTION TECHNOLOGY SEMINAR

AN EBU EVENT

Pioneering tomorrow's media tech, today

## PROGRAMME

TUESDAY 30 JANUARY 2024

### OPENING



**Antonio Arcidiacono** is Director of Technology & Innovation at the European Broadcasting Union where he manages a team of international experts to stimulate and support the Innovation and R&D activities of EBU Members. He is at the origin of the development of several AI-based media products from EuroVOX, an open toolbox for language management (<https://tech.ebu.ch/eurovox>), to the News Pilot combining news from 28 EBU Members supported by EuroVOX and PEACH recommendation tools (<https://peach.ebu.io/>)

Antonio is Chair of the 5G Media Action Group ([www.5G-MAG.com](http://www.5G-MAG.com)), a global organization representing the interests of the media in the 5G and 3GPP fields, as well as Chair of the Joint Technical Committee ETSI, CENELEC and EBU.

As a founding member of DVB and member of the Board since its creation in 1993, he has worked on the development of new satellite systems and services in both the technical and commercial sectors developing the first satellite IOT services platform and the first satellite OTT services. He has participated in the development of the first GSM services and was responsible for the development and launch of the first digital TV services in Europe.

He began his career working for Telespazio and Selenia Spazio. Inventor/co-inventor of 19 international patents, author of many technical articles, he is also the editor of Tech-i, a magazine dedicated to innovation in the world of Media.

### KEYNOTE SESSION

Moderated by **Hans Hoffmann (EBU)**



**Hans Hoffmann (PhD)** is EBU Senior Manager and head of unit on media fundamentals and production technologies in the EBU Technology and Innovation department. He has been for 9 years with the Institut fuer Rundfunktechnik (IRT) as research staff in new television technologies until moving to the EBU in 2000. In the EBU he has been leading many activities on media integration, production technologies, technology evaluations, and he established the EBU HDTV testing lab, and work with EBU Members on IT based digital workflows and open innovation strategies. More recently he and his team looked at emerging technologies such as immersive media (UHD, NGA), AI-Data, EU 5G projects, IP and cloud-based media. Hans is the current president of the SMPTE for 2021-22 ("the global home for media professionals, technologist and engineers"). He has been author of many EBU Technical documents; IEEE papers and is a standing speaker and contributor to international conferences and recipient of the 2020 Richard

Theile Medal.

---

10:30 – 11:00 **How do we produce media in the future?**

Will broadcast industry survive or will it be a new industry adopted to user needs instead of business/industry needs?



**Adde Granberg (CTO, SVT)**

Adde Granberg has worked in the television industry since 1991. He started out his career at Swedish youth channel ZTV as a sound engineer, which gave him the perfect grounding in TV production and the opportunity to gain hands-on experience about broadcast production and post-production operations.

From 1994 until 2010 he ran his own broadcast consultancy, where he began to specialise in live events - managing the broadcast operations and director for high-profile sporting events such as the UEFA Champions League, the World Ice Hockey Championships and World Athletics Championships.

In 2007, he joined HDR, a leading Swedish outside broadcast company that constructed and rented out OB trucks. And in 2010 he joined Swedish Television (SVT) with a remit to improve the technical infrastructure and workflow at the station. He was responsible for managing the remote TV production for the 2012 London Olympic Games and the 2014 FIFA World Cup in Brazil, and is currently moving SVT towards an IP and cloud-based future.

Adde have moved inside SVT and are now CTO including production for SVT, it involves around 700 persons that working with production and technology all over Sweden for SVT.

2019 Adde where executive producer and for what SVT believes are world largest remoteproduction, on the biggest event 2019. Alpine World Championship in Åre and Biathlon in Östersund. Over 80 cameras for over 1 billion viewers.

<http://www.svt.se/aboutsvt/>

---

11:00 – 11:30 **Transformative technologies and impact**



**Cristina Gomila** joined Sky in 2019 as Managing Director Content Technology and Innovation, where she is responsible for all of Sky's Content Supply Chain and Broadcast services. That same year, Cristina was honoured as the first woman to receive the prestigious Progress Medal from SMPTE, recognizing her outstanding technical contributions to motion picture and television.

Prior to her role at Sky, Cristina worked with Technicolor where she enjoyed a successful career culminating in her 2016 appointment as Group Chief Technology Officer and member of Technicolor's Executive Committee.

Cristina holds an MS degree in Telecom Engineering from the UPC (Spain) and a PhD in Mathematics from Mines ParisTech (France). She has authored more than 70 granted patents, contributed to video coding standards, and

published numerous articles.

# PRODUCTION TECHNOLOGY SEMINAR

AN EBU EVENT

## Pioneering tomorrow's media tech, today

### 11:30 – 12:00 AI and media

I will describe what AI is (both predictive and Generative AI). I will then analyze the benefits and risks of AI for the media sector.



**Françoise Soulié Fogelman** has over 40 years' experience in AI both in academia and industry. A former graduate from École Normale Supérieure, she holds a PhD from University of Grenoble. She was Professor at the University of Paris 11-Orsay, where she was advisor to 20 PhDs. She then moved to industry. She is now Scientific Advisor for Hub France IA. She was a member of the AI High Level Experts group for the European Commission and co-chair of the working group "innovation & commercialization" for the GPAI (Global Partnership on AI).

### 12:00 – 12:25 How do media consumption and trends change



**Dr Florence Hartmann** is Head of the Media Intelligence Service (MIS) of the European Broadcasting Union (EBU). As the market research unit of the EBU, the MIS aims to provide reliable data, trustworthy analysis and relevant arguments to build the case for public service media. Her own research and publications focus on media market trends and the economics of audiovisual markets. [www.linkedin.com/in/florence-hartmann-mis](https://www.linkedin.com/in/florence-hartmann-mis)

## SESSION 2: TRANSFORMATIVE TECHNOLOGIES & BUSINESS TRANSFORMATION PART 1

Moderated by [Hans Hoffmann \(EBU\)](#)

### 14:00 – 15:00 Show & Talk

#### EBU leaders in conversation about transformative technologies

How to differentiate from the wave of youtubers and Tik-Tokers, enabled by AI, in the future?



**Annsofi Eriksson**, CIO, Sveriges Radio M.Sc. Eng. Royal Institute of Technology, Stockholm Annsofi Eriksson has more than 20 years of experience from IT-leadership within large national and multinational companies within IT-, Engineering-, Telecom-, -Finance, and Media Industry. Since February 2022, she is CIO & Director of Technology at Swedish Radio, which aim to provide enriching programs for all Swedes, regardless of their location, age, gender, and cultural background. [www.linkedin.com/in/annsofi-eriksson-40612bb](https://www.linkedin.com/in/annsofi-eriksson-40612bb)

**Ms Dominique Hoffmann**, born in 1981, has been CTO at Westdeutscher Rundfunk (WDR/ARD) in Cologne, Germany, since August 2023. After obtaining her Graduate Engineer degree as well as her M.Sc. degree in the field of Communication and Media Engineering at the University of Applied Sciences in Offenburg, she started her professional career at Südwestrundfunk (SWR/ARD) in Baden-Baden in mid-2006. There, she held various positions, starting out as a systems and project engineer. From 2012 to 2017, she worked as Counsel to the CTO before being appointed first Head of Production Systems (2017 to 2020), then Head of the Distribution and Development Dept.



**Willem Roskam** (CTO, NPO) Driven by a passion for technology and innovation. Making technology practically applicable and accessible in order to achieve better results, a more stable operation or a unique consumer experience. I am at my best at the interface between strategy, creativity and execution. I enjoy working with a motivated team of specialists to achieve maximum results. In recent years I established bridges between traditional broadcast and the digital domain. Bringing together the stability from a broadcast environment in combination with the agile way of working from a scalable digital world, as a contribution to the digital transition. <https://www.linkedin.com/in/willem-roskam-31560353/>

**Stefan Kollinger** is an experienced professional in the field of media technology and digitalization, currently serving as the Innovation Officer at ORF. In this role Stefan focuses on leading strategic initiatives from AI to Smart Producing to promote technological innovations and integrate digital solutions into the company's existing operational processes. His work involves close collaboration with various departments to ensure that ORF remains at the forefront of digital transformation and efficiently uses the latest technologies to enhance program quality and reach. <https://www.linkedin.com/in/stefan-kollinger/>



### SESSION 3: TRANSFORMATIVE TECHNOLOGIES & BUSINESS TRANSFORMATION PART 2

Moderated by **Stephan Heimbecher (SWR)**



**Stephan Heimbecher** (born 1967) has joined SWR Südwestrundfunk in November 2021 and is leading the new ARD Competence Center Production & Infrastructure. Since June 2021 he also acts as the chairman of the EBU Strategic Programme Smart Media Production. Previously, Stephan Heimbecher was Founder & Managing Director of his own consultancy firm, Heimbecher – In media's res. Before that he was at Imagine Communications as Senior Director Advisory Services EMEA & APAC looking after Imagine Advisory Services, which stand by broadcast clients as a partner during technical and non-technical business transitions – e.g. in the context of IP Migration. From 2002 to 2018 he was working at Sky Deutschland (formerly Premiere) as Director Innovations & Standards in Technology, where he took care of representing Sky on national and international committees, technical work with major Hollywood

studios plus technical innovation management tasks within Sky Deutschland. At Sky Stephan Heimbecher has significantly been involved in the launch of some technical innovations including Sky+ (PVR), Sky HD, Sky 3D and at last Sky UHD. The electrical engineering graduate began his career as research associate at the Institut für Rundfunktechnik (IRT) where he worked on audio coding. Since 1997 he has dedicated his work at IRT to the standardisation of Digital TV before joining Top5 MediaConnection in 2001 (a company of the former KirchGruppe) as manager within the consulting department. In the course of his career Stephan Heimbecher was active in different Industry Groups and Standards Bodies and also chaired various working groups, amongst others DVB (Member of the Steering Board), German TV Platform (Member of the Board, working group chairman), FAME (Co-chairman) and UHD Alliance (Chairman of the Broadcast Group).  
<https://www.linkedin.com/in/sheimbecher/>

15:00 – 15:20

#### BBC Innovation Hubs



**Eleni Sharp** is the Innovation Head of Product in BBC R&D working with cutting edge technology, blending product expertise and research discipline to set strategies, drive organisational change and create experiences audiences love. Eleni will be talking about how the newly launched Innovation Labs and how her team intend to bring a range of new functions, features or formats across the online services, creating fantastic audience experience's and optimising the BBC for the future.

15:20 – 15:40

#### Multifunctional studio

A led wall studio in anticipation of the new VRT building.



**Willem Vermost** serves as head of Media Production Facilities at VRT. Prior to this role, he was the topic lead on the transition to IP-based studios at the European Broadcasting Union (EBU). He received a master's degree in electronic engineering and in applied computer science. With over two decades of experience in broadcasting, he has worked on various projects, including the multiple award-winning VRT Live IP proof of concepts, the Joint Task Force on Networked Media (JT-NM) Tested Program, and started the open-source project EBU Live IP Software Toolkit (LIST). He acted as a deputy on the JT-NM admin board and the AWMA board of directors. Willem is the co-chair of several EBU strategic groups and is an active member of SMPTE and a SMPTE Fellow. As a faculty member of the EBU Academy, he provides training on the transition to live-IP-based media facilities. Recent efforts at VRT focus on On-Set Virtual Productions and new workflows using the concept of "Dynamic Media Facilities". Founder of CURIO.

<https://www.linkedin.com/in/vermost/>

15:40 – 16:00

#### Full cloud production with 5G/Starlink connections

The objective was to set up a mode of production which outlines future uses, which allows people to travel as close as possible to events, in hyper mobility. It is the implementation of a complete production process in the cloud which made it possible to adapt to these particular conditions and to avoid the movement of trucks for production equipment.



**Amy Rajaonson** used to work in the defense industry as an antenna engineer for 5 years before joining France Télévisions 3 years ago. She works in the Exchange Engineering Departement that deals with all the communication systems through the company : CTR, workflow automation, support, satellite and 4G/5G transmissions. The last field is of course her favorite playground.



**Romuald Rath** was in charge of the technical news and production department for 8 years. Since September, Romuald has led France Télévisions' TechLab with the aim of industrializing technological innovations.  
<http://linkedin.com/in/romuald-rat>

### SESSION 4: GETTING IT RIGHT - STORIES FROM MEMBERS

Moderated by [Jouni Frilander \(Yle\)](#)

---

#### 16:30 – 16:50 **A Twitch in Time**

How do you travel back in time to the year 2000 on the Twitch platform? With the help of open source software, old hardware and as much user interaction as possible!



**Philipp Jacobs** has been working as an innovation strategist at SWR in Baden-Baden since 2020 and is part of the requirements management for new innovative and digital formats. He is responsible for the conception, piloting and implementation of new format-appropriate technology, workflows and strategies, which primarily advance and professionalize formats on digital distribution channels. [www.linkedin.com/in/philipp-jacobs-17854a1b4](https://www.linkedin.com/in/philipp-jacobs-17854a1b4)

---

#### 16:50 – 17:10 **NRK's journey towards HDR**

How we got there and what we learnt.



**Odd Erling Høgberg**, Head of Video Equipment in NRK. Responsible for NRK's camera and video monitors in addition to production equipment used in recorded production. Initiator and prime mover of NRK's HDR production and distribution workflows development, promoting collaboration and enhancing competencies across different fields of expertise in NRK. [linkedin.com/in/odd-erling-hogberg](https://www.linkedin.com/in/odd-erling-hogberg)

---

#### 17:10 – 17:30 **The wave of open-source AI is coming: how to surf it?**



**Alexandre Rouxel (EBU)** is Senior Project Manager for Data and AI at the EBU, where he manages the AI and metadata community, AIM, and coordinates collaborative working groups on metadata, AI and cloud computing. At T&I, he leads the development of the EBU AI-HUB, a cloud-hosted platform to showcase, evaluate and share AI applications for media designed by and for Members, including: facial recognition for TV programmes, AI to enrich radio programmes and a fake news analyser.

---

#### 17:30 – 17:50 **LLM in the Newsroom : automatized categorization of news programs**

Thabet Chaaouri (France TV)

---

*End of day 1*

---

## PROGRAMME

WEDNESDAY 31 JANUARY 2024

### SESSION 5: VISIONS ON THE ROAD TO CLOUD-BASED PRODUCTION

Moderated by [Ruth Kühn \(DW\)](#) and Hans Hoffmann (EBU)

09:00 – 09:25

#### This Just In: The Latest in Live Production and Distribution



[Evan Statton](#) (AWS, Chief Technologist – Media and Entertainment)

09:25 – 09:50

#### Navigating the future of entertainment



**Anshul Kapoor** is a seasoned media professional with a deep understanding of the intersection between technology and content. As a leader at Google Cloud, he plays a crucial role in guiding media companies through their digital transformation journeys. Anshul empowers businesses to embrace the new age of AI and leverage the cloud, helping them create captivating video experiences that resonate with their audiences. [www.linkedin.com/in/iamanshul](https://www.linkedin.com/in/iamanshul)

09:50 – 10:15

#### Leveraging AI in Content Creation and Curation

Discuss the role of AI in content creation, including its use in scriptwriting, editing, and post-production. Delve into how AI algorithms can assist in curating personalized content for viewers, enhancing engagement and viewer satisfaction.



**Andy Beach** is the CTO for Media and Entertainment Industry at Microsoft. In this capacity he is responsible for the technical strategy for our three clouds -Azure, Dynamics, and Office 365 as they relate the M+E industry. He collaborates closely with product groups and account teams to help customers and partners in developing their media related technology solutions and reference architectures that address their rapidly changing needs. He has extensive experience in combining technology, creativity, and business strategy in the media industry. Andy has published books on video compression and streaming media and is a recognized expert on topics spanning the media creation and distribution pipelines. <https://www.linkedin.com/in/andrewbeach/>

10:15 – 10:45

#### Panel: What did we learn - what are the themes we jointly need to address to make the transition to the cloud a success for our industry?

### SESSION 6: ARE DATASPACES IN THE FUTURE OF MEDIA?

Moderated by [Lucille Verbaere \(EBU\)](#)



Lucille joined EBU as Senior Project Manager, coordinating Media Cybersecurity activities. She has 20y-experience in Cybersecurity, Telecommunications, Air Transport and Semiconductor industries: she started as an R&D engineer at ST Microelectronics, doing research on wireless telecom systems (Today's IoT domain). Then Lucille joined SITA as program and product manager for infrastructure and cloud-based data management services to airports and airlines worldwide. In her last position at ID Quantique in Geneva, Lucille was responsible for a portfolio of cybersecurity products, based on quantum physics.

11:00 – 11:20

#### Why every PSM needs a Data strategy

Because in a multimedia, digital media world, nothing works without data. The somewhat longer answer is: the challenge is to orchestrate the complex interrelationships seen through the lens of data. All with the aim of being able to produce more content for highly fragmented target groups with the same or even fewer resources, without sacrificing PSM quality and reach. And: a data strategy is by no means just about technical issues. It is also crucially about governance.

# PRODUCTION TECHNOLOGY SEMINAR

AN EBU EVENT

## Pioneering tomorrow's media tech, today



**Dr. Christian Vogg** started his professional career as a print journalist, then worked for radio, TV and online for 20 years at public broadcaster Westdeutscher Rundfunk (WDR) in Cologne. As senior advisor to the CEO he was involved in the digital strategy. Later he and his team developed the WDR Mediathek (AV-streaming portal). After overseeing metadata management at WDR he joined the European Broadcasting Union EBU and served as Head of Radio and Music, managing the world's biggest music exchange as well as being active in radio and cross media strategies throughout Europe. In 2016 he joined Swiss Radio and TV (SRF) in Zürich and served as head of archives as well as SRF data manager improving data driven workflows. He also launched the first AI team at SRF. In his current position as Chief Data Officer of SRG, he coordinates on a

national level all data related topics to develop SRG as a data driven media company. <https://www.linkedin.com/in/dr-christian-vogg-1a096941/>

### 11:20 – 11:40 **Media Data Spaces Demystified**

Examples of what could bring the use of data spaces to media workflows



**Véronique Demilly** (female) is a graduate engineer in telecommunications (ENST Bretagne). She's a senior project manager for France Televisions' CIO and leads the Cultural and Creative Industries working group within the French Gaia-X hub. She was previously involved in DTT, satellite and distribution networks management at France Télévisions. She successfully managed the analog switch off and digital switch over project of the French terrestrial television network at the Conseil supérieur de l'Audiovisuel (french audiovisual regulator) after 8 years of expertise in digital television and project management in the industry (Philips). [www.linkedin.com/in/veronique-demilly-8159253](http://www.linkedin.com/in/veronique-demilly-8159253)

### 11:40 – 12:00 **From zero to cloud-native content control in 8 months at Bild**

Witness how a data collaboration workflow unified editors, journalists and engineers to launch a linear TV channel in record time. Join us as we explore cutting-edge technologies, delve into AI's impact, and share our secrets to strategic decision-making.



**Felipe Iasi** (Axel Springer), Broadcast expert with 20 years' experience, involved in Olympics, World Cups, F1, and CNN projects. Now in Germany, leading a product and innovation team, establishing a TV network in the country's largest newspaper publisher. <https://www.linkedin.com/in/felipe-iasi/>

**André Torsvik** has spent nearly two decades in the media and media tech industry working in television production, integrating systems and for software vendors including TV 2 Norway, Mosart, Vizrt and Mimir across both production, deployment and marketing. Passionate about putting complex issues into the right context, he writes and talks about all things media tech, SaaS and AI. [www.linkedin.com/in/andretorsvik](http://www.linkedin.com/in/andretorsvik)



## SESSION 7: THE CRYSTAL BALL SESSION – TECH FOR CREATIVES TOWARDS 2030

Moderated by Paola Sunna (EBU)



**Paola** joined the Centre for Research & Technology Innovation of RAI, the Italian public broadcaster, in 1997 after getting her degree in Electronic Engineering at Politecnico di Torino. She has worked on a wide variety of video projects over the years spent at RAI, including: image processing, video coding, next generation video formats, multimodal user-interfaces, hybrid broadcast and broadband middleware, second screens apps, standards (DVB, MPEG, etc) and 3D computer graphics. She got a MBA in 2005.

In March 2017, she moved to the EBU Technology and Innovation Department as Senior Project Manager. At the EBU she was involved in the activities related to VR (Virtual reality) and AR (Augmented Reality). Currently she is focusing on virtual productions, newsroom workflows, 5G for professional media content production and next generation audio

services.

### 13:00 – 13:30 **Mind over matter - from imagination to fictional content creation**

This insightful presentation delves into the remarkable advancements in artificial intelligence over the past year, focusing on its transformative impact on fictional content creation. It offers an in-depth look at the latest AI breakthroughs, illustrating how these technologies have evolved and expanded the realm of what's possible in storytelling and creative writing. The talk will also cast a forward-looking gaze, speculating on future trends and potential developments in AI-driven fictional content creation. Attendees can expect to gain a comprehensive understanding of the current state of AI in the creative industry and a glimpse into the exciting possibilities that lie ahead.



**Jouni Frilander** studied computer science at the Commercial Institute of Helsinki and graduated in 1994. He has developed media related IT systems since early 1990's and his experience includes metadata management, information retrieval, digital archiving, computer aided radio, workflow automation, video production, artificial intelligence, extended reality and innovation. Jouni has worked in various roles and currently works as Innovation Lead at Yle Innovations department. Jouni has founded Yle Sandbox, the accelerator for innovation at Yle, and leads its operations. [www.linkedin.com/in/jouni-frilander](http://www.linkedin.com/in/jouni-frilander)

# PRODUCTION TECHNOLOGY SEMINAR

AN EBU EVENT

## Pioneering tomorrow's media tech, today

**Matthew Blakemore** (CEO, Ala prominent thought leader in AI, has made significant contributions to the field over the past decade, particularly in the creative sector. His expertise in AI solutions has been instrumental in several groundbreaking projects. He has co-authored the globally approved ISO/IEC AI Data Lifecycle standard and crafted a patented AI method for age-rating video content in multiple territories. In 2023, Matthew's innovative vision and impactful work in technology were recognised with the UK Business Award for Tech Visionary. Additionally, he plays a crucial role as a member of the Innovate UK Bridge AI Program Advisory Group, where he lends his expertise to guide and shape the future of AI in the UK. <https://www.linkedin.com/in/matthewblakemore/>



13:30 – 14:00

### Shaping the future of media production with help from the EBU

EBU member organisations invited Sony to take part in several cutting-edge proof-of-concept tests since PTS 2023. This presentation will take a closer look and will examine how these are helping shape the future of media production in areas such as 5G and Virtual Production.



**Peter Sykes** has worked in the media technology industry for over 35 years. As Strategic Technology Development Manager in Sony's Media Solutions team, he is involved in the introduction of key technologies for media professionals including cloud, IP, 5G, Ultra HD and HDR. Peter also represents Sony on the members boards of IABM and the AMWA.

14:00 – 14:30

### Fostering Creativity Through the power of AI

Finding the right footage for media stories can be challenging and time-consuming. Artificial Intelligence can help by analysing scripts and media to recommend relevant content based on semantics. Avid developers are creating a recommendation engine that can do this and more. This can enhance efficiency and creativity in the media industry.



**Régis André**, Senior Director Product Management Régis continues to be a driver in the creation of major industry products around production asset management for sports, studio, and news, as well as workflow automation systems. Régis started his career at Avid in the mid-90s as a workflow specialist and eventually headed up the design of what is now Interplay Production, among other products. After that Régis moved to Grass Valley, to take charge of product management and UI/UX teams for their software products. After 10 years, he rejoined Avid in 2016. In 2017, Régis successfully brought to market MediaCentral | Cloud UX, a major step forward in next generation user interface design, which marked a major milestone in Avid's platform and Cloud Strategy. Currently Régis is overseeing Research and productization of AI services and next generation knowledge Management platforms.

14:30 – 15:00

### How to Edit, 2030 Edition

This session offers an overview of how creative workflows are changing, with a special focus on video editing. It begins by exploring the historical progression from the early days of deep learning to today's advanced generative AI technologies. The talk delves into how these developments have already changed creative workflows, and how creativity will fundamentally change by 2030. Attendees will gain insights into the practical applications of AI in the near future, illustrated through exclusive demonstrations. These examples not only showcase the power of AI in enhancing creativity but also provide a glimpse into the future possibilities of AI-augmented video production. The session aims to enlighten and inspire, revealing how Adobe's cutting-edge AI technologies are shaping the future of video editing and creative expression.



**Dr. Nico Becherer** is a Principal Scientist in Adobe's Digital Video & Audio Group. He leads the teams that build AI & Machine Learning based features for the Adobe Pro Video Apps. Over the past 10 years, Nico worked on a plentitude of features that make an editor's life easier. <https://de.linkedin.com/in/nicobecherer>

**Teresa Demel**, Principal Product Manager at Adobe, plays a pivotal role in advancing AI features in Premiere Pro. Her expertise, shaped by an MBA from the University of Washington and a certificate in Design Thinking from Nielsen Norman, and rooted in authenticity and continuous learning, has driven her success across Adobe platforms, including After Effects and the InDesign Digital Publishing Suite. Prior to Adobe, Teresa developed a "holodeck" virtual reality product for Vulcan Innovation Lab which received accolades from Geekwire and The Seattle Times. Under her leadership, her team at Adobe was honored with the Hollywood Professional Association (HPA) award for engineering excellence, recognizing their groundbreaking work in Text-Based Editing for Premiere Pro. Teresa's commitment to rapid iteration and prototyping, informed by direct customer feedback, continually fuels her pursuit of groundbreaking AI advancements in the realm of video editing. <https://www.linkedin.com/in/teresademel/>

### INTERACTIVE TUTORIALS

<p>16:00 – 17:00</p> <p><b>Room</b> <b>Montreux</b></p> <p>This tutorial will be covered as part of the main stream.</p>	<p><b>Transformation to IP, Cloud and Hybrid and open software-based workflows</b></p> <p>Interactive tutorial - What is the vision &amp; mission and how can the industry get there?</p> <ol style="list-style-type: none"><li>1. What is the vision and mission?</li><li>2. Towards a cross industry forum?</li></ol> <div data-bbox="312 539 491 763"></div> <p><b>Phil Tudor</b> is head of infrastructure research at BBC R&amp;D, leading teams of researchers delivering innovation in media, IP facilities, media ecosystems and cloud computing.</p> <div data-bbox="1267 712 1453 898"></div> <p>facilitated by Ievgen Kostiukevych (EBU T&amp;I)</p> <p><b>Ievgen Kostiukevych</b> is a member of the EBU Technology &amp; Innovation team. He has gained more than a decade of experience in the broadcasting and sound production industry, including experience in change management, solutions architecture and AoIP integration. He is working on topics of IP networks, media over IP, PTP, networks programmability and automation, etc. Ievgen is a member of SMPTE and AES.</p>
<p>16:00 – 17:00</p> <p><b>Room</b> <b>Geneva</b></p> <p>This tutorial will not be streamed; an edited summary will be provided after the event.</p>	<p><b>Making HDR shine</b></p> <p><b>Video levels demystified</b></p> <p><b>A practical demo of video signal levels and how to test your video signal chain.</b></p> <ol style="list-style-type: none"><li>1. Latest UHD/HDR production experiences</li><li>2. Video levels demystified</li></ol> <div data-bbox="300 1151 497 1350"></div> <p><b>Thomas Berglund</b> (NRK) Video post-production systems specialist and problem solver. <a href="https://www.linkedin.com/in/thomasberglund/">https://www.linkedin.com/in/thomasberglund/</a></p> <div data-bbox="1254 1379 1445 1615"></div> <p><b>Simon Thompson</b> is a Senior R&amp;D Engineer with the British Broadcasting Corporation (BBC) having joined via the graduate scheme 20 years ago. Whilst initially working on diverse projects including RF spectrum management, advanced radio cameras, video codec testing and additional services for DVB broadcasts; he has worked for the past 8 years on production workflows for UHD programmes. He has worked with colleagues on a range of large productions including the Coronation of HM King Charles III, the FIFA World Cup, Wimbledon tennis and UEFA European Championships. Simon chairs the European Broadcasting Union Video Systems and Workflows group and is a member of the International Telecommunication Union Rapporteurs' Group 24, World Wide Web Consortium colour on the web groups, Digital Television Group's Production technology group and the SMPTE Board of Editors. With the EBU he has worked with colleagues on test events including the European Championships in Berlin and München, undertook codec testing, led, produced guidelines for monitors and cameras and worked with partners across the industry to formulate a common workflow. Simon has a Master of Engineering degree from the University of Southampton and is registered as Chartered Engineer with the UK Engineering Council.</p> <p>facilitated by Frans de Jong (EBU T&amp;I)</p> <div data-bbox="300 1783 464 2024"></div> <p>Frans de Jong (1974) holds a Master's Degree in Information Theory from Delft Technical University (The Netherlands). He has worked in the media industry all his life, both in hands-on (radio engineer, video editor, broadcast engineer) and in development roles (system architect, technical consultant).</p> <p>Since 2003 Frans works at the European Broadcasting Union's Technology and Innovation department as a Senior Engineer. He focusses on Production Technology topics, such as UHDTV and Quality Control. Frans has had the honor to be the coordinator of the EBU Loudness group (PLOUD) – chaired by Florian Camerer (ORF), which created the highly successful EBU R 128 Loudness Recommendation.</p> <p>Currently, Frans is coordinator of several EBU Groups, including the Strategic Programme on Smart Media Production, and the Video Systems group – chaired by Simon Thompson (BBC R&amp;D).</p> <p>Frans lives with his wife and two boys in Geneva, Switzerland. He has a passion for cable cars.</p>

17:10 – 18:10

**Room  
Geneva**

This tutorial will be covered as part of the main stream.

### 2024 Subtitles technology requirements

#### Accessibility

Most EBU members have subtitle systems primarily designed for broadcast use, often based on Teletext.

In this workshop we will gather the present day requirements for subtitle provision in the context of remote authoring, broadcast and online delivery, and cloud-based technology provision.

The Timed Text group hopes to use the output of this workshop to produce a generalised architecture diagram showing the key components involved in subtitle authoring, exchange, encoding, distribution and playback with the goal of helping clients and suppliers of components and systems involved in subtitling to communicate more easily.



**Nigel Megitt** is the BBC's Executive Product Manager with responsibility for the engineering strategy for Access Services for both broadcast and online distribution. He has been active in the Access Services sector for around 12 years, and has contributed to various standards groups. He co-chairs both the W3C Timed Text Working Group and the EBU Timed Text group. Previously Nigel worked in enterprise architecture and at BBC Research & Development where he led a team of developers working on EPG schedule data systems.

**Philip Klenk** is Head of Access Services at the German public broadcaster SWR and co-chairs the EBU's Timed Text Group. The focus of SWR's current innovation projects lies on the development of new, AI-supported subtitling workflows for SWR and the ARD network.



Facilitated by HeminiMehta (EBU T&I)



**Hemini Mehta** (EBU) Experienced Technical Professional in all things digital (video on demand, live streams, websites, mobiles, TV, STB & games consoles) with an angle on Sustainability. Capable to bridge business with technology. Intrapreneurial/entrepreneurial spirit. Presence in academia, from lecturing, examining to mentoring PhD candidates.

17:10 – 18:10

**Room  
Montreux**

This tutorial will be covered as part of the main stream.

### The needs of wireless connectivity in production

Content production increasingly relies on wireless connectivity. Beyond cameras and microphones, a range of new wireless devices are used such as sensors and remote controlled equipment. Some of them are static, others are mobile and even airborne e.g. mounted on a drone. This expands creative freedom and operational flexibility.

Furthermore, production is moving to IP and cloud based workflows, which requires a reliable connection from the acquisition devices to the cloud.

On the other hand there is always the need to reduce costs.

What wireless technologies can support these trends?

This session will explore the current trends and future needs for wireless connectivity and how can they be met.



**Susanne Rath** works at ARD's Competence Center for Frequency Management. Here she is responsible for issues relating to international frequency regulation. She is active in many national and international technical working groups. Prior to this, she worked for many years at IRT in the areas of audio, radio, online distribution, metadata and accessibility.

**Stefan Hausen** (Sportcast) I am currently working as a Product Owner for Broadcast & Infrastructure at Sportcast GmbH. With over 30 years of experience in broadcast technology, I am passionate about creating innovative solutions. My previous positions include working as a Freelance Broadcast Professional for various national and international clients, Senior Technical Manager at Sportec Solutions GmbH, Technical Director at TrioFilm GmbH & Co KG, and Project Manager for Broadcast and ITK projects. I hold a degree in Communications Engineering (Dipl.-Ing. (FH)) from the University of Applied Sciences in Cologne. [linkedin.com/in/stefan-hausen-3682b922b](https://www.linkedin.com/in/stefan-hausen-3682b922b)



Tim Achberger (Sportcast)

# PRODUCTION TECHNOLOGY SEMINAR

AN EBU EVENT

## Pioneering tomorrow's media tech, today

Facilitated by Darko Ratkaj (EBU T&I)



At the EBU's Technology & Innovation department I am engaged in collaboration amongst EBU Members and with the industry on strategic issues related to the future distribution of public service media content and services. I am also involved in R&D projects, standardisation, interdisciplinary technical and regulatory studies, and radio spectrum management covering both content production and distribution. My current focus is on wireless transmission systems, including mobile technologies such as 4G/LTE and 5G.

## PROGRAMME

### THURSDAY 1 FEBRUARY 2024

#### SESSION 9: KEYNOTE

Moderated by Hans Hoffmann (EBU)

09:10 – 09:30 **Highlights from the tutorials sessions**

09:30 – 10:00 **Plausible audio playback via headphones**

**For a long time there have been proposals for binaural rendering for headphones, trying to achieve perfect immersion. Based on basic research at TU Ilmenau, TH Köln and others, Brandenburg Labs built a proof of concept demo showcasing the comparison of a real loudspeaker setup and headphone based rendering in a given room. It improves on older systems by including room acoustic processing feasible to run in real time.**



**Karlheinz Brandenburg** received the Dipl.-Ing. and Dipl.-Math. degrees in electrical engineering and mathematics and the Dr.-Ing. degree in electrical engineering from the Friedrich-Alexander-Universität, Erlangen-Nürnberg, Germany. He is currently a Senior Professor (emeritus) at Technische Universität Ilmenau, Germany and CEO of Brandenburg Labs GmbH, a startup company specializing in immersive audio technologies. Following times as a Postdoctoral Member of Technical Staff at AT&T Bell Laboratories in Murray Hill, U.S.A. and again Friedrich-Alexander-Universität he joined the Fraunhofer Institute for Integrated Circuits IIS, Erlangen, as head of the Audio and Multimedia Department. He is the founding director of the Fraunhofer Institute for Digital Media Technology IDMT, Ilmenau where he retired in July, 2019. For his pioneering work in digital audio coding (as a main contributor to the mp3 and AAC audio coding standards), perceptual measurement techniques, wave field synthesis,

psychoacoustics, and analysis of audio and video signals he received many awards. Among them are the German Future Award (shared with his colleagues), and the Audio Engineering Society Silver Medal Award and the Digital Processing Medal of the Society of Motion Pictures and Television Engineers. Furthermore, he is a member of the Hall of Fame of the Internet Society and the IEEE Consumer Electronics Association.

#### SESSION 10 : TECHNOLOGIES FOR NEW EXPERIENCES

Moderated by Roberto Iacoviello (RAI)



**Roberto Iacoviello** is a Lead Research Engineer, graduated from the Politecnico di Torino. Since 2007 he has been working at the Rai R&D. His current research focuses on Artificial Intelligence applied to video compression, and Virtual Production in broadcast television. He leads the Video Evaluation Group and co-leads the CG Animation group at European Broadcasting Union (EBU), and actively participates in MPEG (Moving Picture Experts Group) and MPAI (Moving Picture, Audio and Data Coding by Artificial Intelligence) meetings.

10:00 – 10:30 **The Future of Audio**

Describing the future of audio with respect to immersive audio and solutions that reach a large audience



**Dr.-Ing. Renato Sergio Pellegrini** is a Swiss electrical engineer and technology entrepreneur with extensive experience in the immersive audio industry. He is known for his leadership skills and innovative thinking, as well as his commitment to advancing the field of engineering. Pellegrini received his doctorate in electrical engineering from the Ruhr-University of Bochum in Germany, where he specialized in the design and optimization of auditory augmented reality systems. After completing his studies, he held a research and development positions at a leading technology company, Studer Professional Audio ag, where he worked with many subsidiaries of the Harman group. In 2002, Pellegrini founded his own immersive audio startup, Sonic Emotion, which focused on developing high-performance spatial audio solutions for industrial and consumer applications. The company quickly became a market leader in its field and was acquired by Sennheiser in 2017. Following the sale of Sonic Emotion, Pellegrini

continued to work in the 3D-audio industry as a manager at Sennheiser, Neumann, and Merging. He is known for his ability to identify emerging trends and technologies, and for his skill in bringing together diverse teams of experts to develop innovative solutions to complex

technical problems. Overall, Dr.-Ing. Renato Sergio Pellegrini is a highly respected engineer and entrepreneur with a passion for technology and a track record of success in the immersive audio industry.

### 10:30 – 10:50 **Emerging workflows in virtual production: advances in 2.5D, AI and motion capture**

Join Peter Kirkup, Solutions and Innovation Director at disguise, as he explores the recent advances in LED based virtual production workflows and the benefits of using these methods. From traditional video plates and 2.5D workflows, to the latest workflows in markerless motion capture powered by AI. You'll also learn about the latest in AIs for content and image generation, segmentation and upscaling, and how they can enable you to deliver pixel-perfect productions.



**Peter Kirkup** leads the Disguise Solutions team of design experts who assist customers in building virtual production stages across the globe. He has helped bring some of the biggest AV systems in the world to life including Dubai's AI Wasl Plaza and the Illuminarium projects, and has helped deliver U2s concert on the world's biggest indoor LED screen at the Sphere in Las Vegas. While contributing to Disguise's solution developments, Peter is also working to define and execute the company's innovation strategy around AI, web technologies and spatial computing. <https://www.linkedin.com/in/pkirkup/>

### 10:50 – 11:10 **Compact Volumetric TV Studio for 3-D Reconstruction**

The principles of acquiring 3D information including 3D shape and surface light field in Meta Studio, examples of available video expressions using this studio, and assumed workflows for producing 2D, 3D and AR/VR contents, and so on, will be introduced.



**Hirofumi Morioka** joined Science & Technology Research Laboratories, Japan Broadcasting Corporation in 2013, and is currently a Principal Research Engineer. His current research area is compensation for image and video deficiencies and errors using deep learning.

### 11:10 – 11:30 **Audio Description Dip Values**

Entitled 'Investigating a Standardised Approach to Setting Audio Description Dip Values', the report, which was completed in June 2023, summarises overall findings from the multi-stage research project and suggests actions that may be taken by industry practitioners to create more standardised AD production practices and an improved listening experience for vision impaired service users. Funded by Coimisiún na Meán through its Sectoral Learning & Development Diversity programme, the research was conducted by Kieran Lynch from Dundalk Institute of Technology & Dun Laoghaire Institute of Art, Design and Technology and Oran O'Neill from RTÉ, in collaboration with Professor Tomás Ward from the Insight SFI Research Centre for Data Analytics, Dublin City University. The National Council for the Blind of Ireland also played a significant role in enabling the completion of the work. The research was carried out across three stages, comprising: An industry survey among the international AD production community to establish current production trends and duties, to document the technical knowledge of those producing AD, and to explore whether the automation of setting AD Dip Values (DVs) is welcomed. The findings indicated discrepancies within AD production practices, suggesting the need for international guidelines and recommendations for the setting of DVs within audio-described programmes. A set of experiments benchmarking the mixing practice of professional sound engineers when setting DVs. Eight experts from the Irish sound engineering community participated in this in September/October 2022. Arising from this, a range of 'test' AD Dip Values – a set of three DVs for each of the 'Quiet', 'Normal', and 'Loud' programme loudness ranges – was proposed for evaluation by a target audience. Listening tests to assess the proposed DV settings on an audience. These were carried out in February 2023 and involved 35 participants, including AD service users, and listeners from a wider range of groups.



**Kieran Lynch** studied electronic engineering at University College Dublin, Ireland where he received a B.E. in 1994 and an M.Eng.Sc in 1996. After graduating he built a successful career as a professional music producer, collaborating with a growing number of international artists and contributing to numerous high-profile film scores. Kieran has extensive post-production sound credits both in film and broadcast. Since 2014 he has worked as a lecturer in sound at DkIT Dundalk, Ireland and in 2022 joined IADT Dun Laoghaire, Ireland. Recent research focuses on accessibility through audio.

## SESSION 11 : AI IN PRODUCTION WORKFLOWS: CREATING IMPACT AND VALUE

Moderated by [Stephan Heimbecher \(SWR\)](#)

12:00 – 13:30

### Success Stories out of the AI labs from EBU Members



#### The application of AI and automation in archives

The Bayerischer Rundfunk (BR) relies on innovative technologies to improve work processes in the archive. Editing decision lists, containing source and legal information, were previously created manually in Excel. They have now been optimised by an automated editing decision list application. This video fingerprinting process not only improves the quality of metadata by automatically identifying archival material, but also relieves authors of additional workload. At the same time the BR was the first ARD broadcaster to introduce automated face recognition in the archive, which has already proven its worth. The integration of artificial intelligence enabled the archive material to be processed efficiently. We provide an insight into the practical implementation of both technologies and outline our experiences and challenges of these use cases.

**Jasmin Sessler** has a degree in media studies. During her traineeship at Bayerischer Rundfunk (BR), her project on archive marketing was awarded the Marianne-Englert-Preis 2022, a prize for young talent in the field of archives. For the last two years she has worked as an Information Specialist in the BR archive.



#### 25 Years of AI at RAI R&D: Success Stories and Lessons Learnt

The presentation will summarise key achievements of the RAI R&D department in the field of AI, with special focus on latest years and current/future projects.

**Alberto Messina** is managing AI projects at RAI R&D department on a range of application areas, including archive management, automated production, intelligent UAV systems, accessibility, enhanced digital publication services. He has a PhD in Business and Management, with a specialisation in the area of Computer Science. R&I Unit manager since 2020, he leads the company's applied research on Automated Information Extraction & Management/Information and Knowledge Engineering, where he is also author of about 100 publications.

**Stephan Kollinger** (ORF, Head of Innovation and AI Lab)

**Danjiela Horak** (Head of AI Lab, BBC R&D)

## WRAP-UP

13:30 – 14:00

**Stephan Heimbecher** (SWR)

## DEMOS IN THE FOYER

1	<b>Immersive audio experience</b>	Branderburg Labs
2	<b>IP-Based live, still &amp; video solution</b>	Canon
3	<b>Aiditor</b>	ORF
4	<b>The EBU LIVE IP SANDBOX KIT (tbc)</b>	EBU T&I
5	<b>ST 2110 in Unreal Engine (tbc)</b>	EBU T&I
6	<b>MOCAPI – Sony (tbc)</b>	EBU T&I
7	<b>Plain-X</b>	DW
8	<b>Elastic frame protocol</b>	AgileContent