EBU

OPERATING EUROVISION AND EURORADIO

PRODUCTION TECHNOLOGY SEMINAR 2013
SPEAKER BIOGRAPHIES & SYNOPSES

Hans Hoffmann

EBU / CH

Dr. Hans Hoffmann is Head of the unit on Media Fundamentals and production technology in the EBU Technology and Development department. On his past activities: he joined the Institut fuer Rundfunktechnik (IRT) in 1993 as research staff in new Television production technologies. In February 2000 he moved as Senior Engineer to the Technical Department of the European Broadcasting Union in Geneva.

He has led a number of international projects of the EBU in the area of file based production, HDTV, 3DTV, and digital workflows. He is also very much involved in the SMPTE, and other standardization organizations. Currently, he is the Engineering Vice President of the SMPTE.

Howard Lukk

Walt Disney Studios/USA

Howard Lukk is Vice President of Production Technology at The Walt Disney Studios. There he is responsible for helping to incorporate new technologies into the workflow of the studio. Prior to that, he was Director of Technology for DCI where he was responsible for researching and documenting Digital Cinema Specifications. Before that he was Chief Engineer at IVC a postproduction facility in Burbank. He has also worked as a freelance engineer in the past on HDTV productions such as Woodstock 25th Anniversary and Major League Baseball. Howard is an active member of SMPTE since 1995 and is also an associate member of the ASC.

The Future of Production Technologies - a view from Hollywood

Richard Smith

BBC/UK

Richard Smith, Sustainable Production Manager, BBC.   Richard leads a small team dedicated to embedding sustainable working practices across all BBC production and hopefully beyond. He created Albert the production carbon calculator for the BBC in 2010 and helped form the partnership with BAFTA to develop and promote sustainable production with the UK television industry.

In his previous role at the BBC he was on the other side of the camera as a news correspondent.   He can be contacted via r.smith@bbc.co.uk   You can find out more about the BAFTA Albert consortium at www.bafta.org/albert

Sustainable broadcasting: Risks, challenges and opportunities

Broadcasters and programme makers want their programmes to change the world. Unfortunately the environmental impact of production does have a global impact, but not for the better. Awareness of this issue is approaching a tipping point and production teams across Europe want to make their programmes in a way that

	doesn't cost the earth. What tools are available to help people measure and record their carbon footprint? What steps can they take to reduce their impact? And what are the reputational and financial benefits of taking action – and the risks of not doing so? The session will include an open invitation to any company wanting to take part in this essential and ground-breaking work to come forward.
Giorgio Dimino **RAI/IT**	Giorgio Dimino RAI Radiotelevisione Italiana, Research Centre of Turin. He is head of the research unit on digital archives and television production. His interests include the application of information technology in the broadcast production chain, the design of modern media archives and the evaluation of technical quality in video and audio signals. He is co-chair of the Joint EBU-AMWA FIMS Task Force. **Service Oriented Architecture 101: what's it all about** This speech provides an introduction to Service Oriented Architecture (SOA), outlining the distinctive aspects of this system design methodology applied to media production environments. It will be discussed how SOA offers the potential for greatly improved interoperability over the traditional vertical system design practices.
Loic Barbou **Triskel/USA**	Loic Barbou is the founder and managing director of Triskel Inc, a company providing expertise in complex system design and implementation for the media industry. His innovations have driven Triskel Inc as a well known pioneer in creating the media technologies of tomorrow. The Triskel team assists media corporations in defining their technology strategies by coaching executives, training technical staff and augmenting the level of expertise across the organization. Loic has also maintained a deep knowledge in System Architecture and Application Design as he held the title of Chief Architect for several large global corporations. His forward thinking has allowed him to drive the creation of several industry standards. Loic Barbou has been in software and system development for the later part of his career after switching from leading research projects in the field of artificial intelligence use for media content recognition. **Implementing FIMS** Understand what FIMS can provide through a real world implementation. Bloomberg TV has applied SOA concepts by leveraging FIMS standards to create a state of the art global content production and distribution platform. Learn what it took to build it and the benefits it delivered.

Matthias Elser
IRT/DE

Matthias Elser graduated from University of Applied Sciences Wiesbaden (FH Wiesbaden) in 2006 with a Dipl.-Ing. Degree in Broadcast Technique and Electronic Media. In 2007, he joined IRT as research and development engineer and is now active in definition and development of service oriented architectures, metadata models and web services in the field of IT-based and distributed production systems.

Mirko Zimmer
HR/DE

Mirko Zimmer (M. A.) is working as a software architect at the Hessischer Rundfunk (hr). From 2006 to 2012, Mirko assisted the project to introduce a file based production workflow. After bringing the Digital Archive online in 2008, his work is now focused on the development of the Video-I/O-Management (VIO). Since 2012, he heads the team for system integration in the department "IT organisation and software development.

SOA based integration of quality control tools

VIO meets FIMS. An introduction to Hessischer Rundfunk's Video I/O Management (VIO) - a SOA-based transfer and integration platform for file-based essence and metadata exchange in media production. And presentation of a proof of concept that demonstrates the integration of file based quality control using a FIMS QC service prototype.

Massimo Visca
RAI/IT

Massimo Visca graduated in Electronical Engineering from the Politecnico di Torino in 1992 and joined the RAI Research Centre in 1994. Since then, he has been involved in several projects dealing TV production, both in EBU and RAI. At present, he is chairman of the EBU Strategic Program FTV- Future TV Formats & Production Systems.

He is responsible for the Post-Production department of the RAI Production Centre in Torino.

What's new (or not) in video codecs

While broadcasters are still facing the introduction of HDTV formats in mainstream production, industries are already cooking new codecs enabling beyond HDTV format, including 4K.

Some of these codecs are still in lab and technical details have not yet been completely unveiled. The Beyond HD group (EBU SP- Future TV Formats and Production Systems) has in the 2013 agenda a test activity to investigate performance in the production environment of the new codecs.

In the meantime, this short presentation introduces new codecs and address questions to the relevant vendors.

Paolo Sunna
RAI/IT

Paola Sunna graduated in Electronic Engineering from Turin Polytechnic University in 1997 and took her MBA in 2005.

Since 1997, she has been with the RAI Research and Technical Innovation Centre in Turin, involved in studies to define the performances of video coding systems for broadcast and broadband scenarios.

In the past she chaired the activities of the EBU groups B-VIM (Video in Multimedia) and WMT (Web Media Technologies). Her current activities are in the field of end-to-end delivery of OTT (over-the-top) multimedia interactive services at user's home, web technologies evolution, 2D/3D TV encoding issues, connected TV and second

screen companion TV applications.

HEVC: the promised land?

HEVC is the newest compression standard of the ITU-T VCEG (Video Coding Expert Group) and MPEG (ISO/IEC Moving Picture Experts Group).

The aim of the speech is to give an overview of the main differences between HEVC and its predecessor video coding system H.264/MPEG-4 Advanced Video Coding (AVC). Moreover information on the ongoing work to extend HEVC (scalable video coding, 3D, etc.)will be provided.

Hans Terje Flatlandsmo

NRK/NO

Hans Terje works as a Project Manager at NRKs Technology Division, in the department of Filebased Production. He has been working in NRK for six years. He is part of the team developing filebased production workflows in NRK.
He has previously worked at TV2 Norway and as an Video and Broadcast consultant.
Hans Terje has experience with a broad range of editing systems and storage solutions.

Non-Linear Editing system comparisons

NRK has a Final Cut Pro 7 based workflow and have formed a project to evaluate candidates with focus on usability, technical quality, integration and operation. The presentation will be a review of method and findings.

Hiroshi Kiriyama

Sony/UK

Hiroshi KIRIYAMA
Deputy Senior General Manager Sony Corporation, Professional Solutions Group, Content Creation Solutions Business Division.

Kiriyama-san holds a bachelor of mechanical engineering degree from the Kyushu Institute of Technology. He has enjoyed a long and very successful career at Sony Corporation. Over the years, Kiriyama-san played a very significant role in the development of several VTR formats, including C-Format, D1/D2, Digital Betacam, HDCAM, and HDCAM-SR. He was General Manager of Sony's professional storage products until his recent promotion to his current position in 2012.

Studio codecs: Q&A with Sony

The Sony XAVC format complies with H.264 level 5.2. Video essence is encapsulated in the industry standard MXF OP-1a wrapper, accompanied by audio and meta-data elements. The primary objective in adopting the XAVC format is to develop a family of professional production tools that can economically handle High-Frame-Rate (HFR) HD and 4K imaging formats from production, editing, distribution and archiving. The presentation will describe the scope of the XAVC format, including outlines of additional unique technology to enhance the image quality.

Stefan Hofmann

Panasonic/DE

In September 1992 Stefan has received the grade of communication and broadcast engineer by the university of applied sciences Frankfurt (Main)/Germany. Right after finalization of his studies he joined Panasonic as a Service Engineer in the broadcast department. Between 1997 and 2000 he has taken over the technical overall responsibility of Panasonic's European project business as a Product Manager in the broadcast domain. At the same time Stefan came into contact with the international standardization bodies like SMPTE, ITU and EBU. He actively served for many years Panasonic's SMPTE activities and in parallel he is the technical window person for the EBU. In 2005 Stefan has focused his activities

towards to business development, consulting and strategic planning within the European Broadcast market. In 2010 he has been elected as a board member of the FKTG and he is supporting Panasonic's HD and 3D activities and representing his company at the Deutsche TV-Plattform and the former European HD Forum. Since last year, and in addition, he is responsible for Panasonic's studio camera and switcher business.

Studio codecs: Q&A with Panasonic

Headline: The baseline concept of AVC-Ultra AVC-Ultra is the family name of a wide and reach codec scheme based on MPEG- 4 Part 10 H.264/AVC dedicated for professional usage. The core technology of AVC-Ultra is based on AVC-I and inheriting its technology to extend for wider variety of applications. AVC-Ultra offers the opportunity to select the right codec flavour for the right job in mind. This is based on the full conformance to the H.264/AVC profile. AVC-Ultra serves not only by an I-frame only flavour. By utilizing all advantages of a GOP structure, like known from MPEG-2, bit rate efficient flavours can be selected as well without loosing decoder compatibility. Utilizing the MXF container AVC-Ultra is securing interoperability as well.

Jouni Frilander
YLE / FI

Jouni Frilander has developed and managed broadcast related IT systems since early 1990's. Those systems include metadata management, information retrieval, digital sound archive, computer aided radio system, DAM system for video, audio and still images, video file workflow automation system and automated video file QC systems.

Jouni has worked in various roles including System Analyst, Systems Manager, and Development Manager. Currently he works as Technology Advisor for Finnish Broadcasting Company's Platforms, Operations unit. Jouni is member of the Technical Committee of International Association of Sound and Audiovisual Archives.

A short anatomy of automated and human assisted video QC at Yle

Many broadcasters are in the process of designing or implementing procedures for automated video file QC. The area in question is quickly developing and there are many things to consider while planning details of video file QC.

The presentation explains what Finnish Broadcasting Company has done so far with regards to video file QC and how technical QC is understood in general. Basic requirements for QC are explained and thoughts on current situation as well as future plans are presented.

Friedrich Gierlinger

Mr Friedrich Gierlinger has worked since 1979 with the IRT, the central Research Laboratory of German, Austrian and Swiss public broadcasters. He graduated in Telecommunication at the advanced technical college of Munich in 1979 and has been involved in the development of measurement techniques for analogue and digital television, development of HDTV A/D and D/A converters, matrix and clock generators. He is a member of a measurement working group and service department leaders of the Public Broadcasters of Germany, as well as a member of the EBU-FTV Display Group and the SMPTE-10E Ad-hoc Group "Reference Display and Environment for Critical Viewing of Television Pictures".

Rico Zimmermann, born in 1980, graduated from Technical University of Ilmenau in 2006 with a Dipl.-Ing. degree in media technology. In 2006, he joined IRT as research and development
engineer and is now active in data modelling, metadata exchange and in the file

Rico Zimmermann **IRT/DE**	format MXF **The File based QC-Approach in Germany** German speaking public broadcasters of ARD (BR, HR, NDR, MDR, rb, RBB, SR, SWR, WDR) ZDF, ORF, SRG/SSR and Arte exchange a huge amount of programme material every day. Over the last years an ever increasing part is delivered as MXF files via a video-filetransfer- system (DigaReplicator) running on top of a dedicated wide area network (HYBNET). Obviously, the interoperability of those MXF files to be exchanged is of great importance and automated Quality Control becomes a key role for operational efficiency. In this context the IRT MXF Test Center (http://mxf.irt.de) has established an annual "MXF plug fest" since 2006. The main issue is to validate the standard conformance and the interoperability of MXF products that are relevant for its associates. Since the beginning these events have been conducted in cooperation with the board of the heads of the planning departments of ARD, ZDF, ORF and SRG/SSR. With the continuously expanding networked production environments, and the increased use of automation, there are further demands on the Quality Management. New opportunities and challenges to perform Quality Control must be assessed. In particular, different QC levels and QC responsibilities amongst a production facility may need to be redefined. In order to answer those questions a new working group on Quality Management in file based production processes has been introduced paving the way towards automated QC. The lecture reports about the overall result achieved during the plugfest at the end of 2012 comprising various essence types, operational patterns and the most common interoperability issues. In addition, the QM group efforts towards a generic process model, the definition of uniform MXF profiles for the exchange of programme material and first activities on a test series will be explained, complemented by first findings on possible QC levels and QC profiles.
Andy Quested **BBC/UK**	Andy Quested was a much sought-after editor with BBC Resources for many years, working on programmes as diverse as The Human Body and Keeping Up Appearances but about ten years ago Andy gave up the life of a hermit editor and moved into the sunshine and bright lights of the BBC Technology Group. Since 2005, Andy has been leading the BBC's high definition technology strategy as Head of Technology for HD and leading the work for the BBC's automated quality control project. He also chairs the EBU strategic Quality Control programme. During 2010 the BBC started a series of transmission and production 3D trials. As part of this Andy has also taken on the role of Head of Technology for the BBC's 3D output and strategy. Part of his role is to be part of the process of developing standards for 3DTV production and international programme exchange. As part of the process of developing 3DTV standards, Andy was asked to become an ITU Special Rapporteur with the task of examining the current world 3D production status and providing a report with recommendation at the September 2011 and April 2012 ITU meetings in Geneva. Andy also chairs the EBU 3D group. **Strategic Programme on QC: an update**
	Dr Frank Melchior is head of the audio research team at BBC R&D. He received a Dipl.Ing. (equiv. to Master of Science) in Media Technology from the Technical University Ilmenau and a doctoral degree on the topic of spatial sound design and

acoustics from University of Technology, Delft, The Netherlands. Frank worked as a researcher and project manager at the Fraunhofer Institute for Digital Media Technology. He has spent his professional career developing audio systems including wave field synthesis based system and leading R&D

teams on various topics including authoring, live sound applications, automotive audio and motion picture sound. Before he joined the BBC he was the Chief Technical Officer at IOSONO, Erfurt, Germany, who develop spatial audio solutions. Frank's research interests include spatial array signal processing,

spatial audio reproduction, user interface technology for audio systems and listening experiments. Frank is very passionate about finding the best way to bring the emotion and creative ideas embedded in sound to the listener.

Frank Melchior
BBC/UK

Audio Objects Demystified

At the present time, several concepts for the storage of audio data are under discussion in the audio community. Beside the distribution of audio signals corresponding to a specific speaker layout or encoding a spatial audio scene in orthogonal basis functions like spherical harmonics, several solutions available and under development applying object-based formats to store and distribute spatial audio scenes.

This talk will cover the similarities and difference between the various concepts of audio objects in different applications. This comparison will include the production and reproduction of audio objects as well as their

storage.

Dave Marston is an R&D Engineer working for BBC R&D since 2000. He is an expert in the field of audio, with experience in subjective testing, psychoacoustics, semantic audio, audio coding and file formats. Dave has also been actively involved in EBU project groups over many years, and is currently the chairman of the FAR-BWF group working on the Broadcast Wave File Format.

Updating the Broadcast Wave Format (BWF) for the Beyond HD era

BWF developments (multi-channel file formats)

David Marston
BBC/UK

Currently the Broadcast Wave File Format allows a very restricted configuration of audio channels, which are really only suitable for a small set of fixed speaker layouts. As audio is moving towards more flexible, dynamic and 3D representations of the audio scene, it is necessary that a file format is available to not only carry these complex arrangements but clearly describe the configurations too. Channel, scene and object based audio will all be handled with the proposed improvements to the BWF format. This presentation will cover the basics of the file format and describe the proposed methods of carrying complex multichannel audio with accompanying configuration metadata.

Matthieu Parmentier started his audio career recording classical music CDs. He joined francetelevisions in 1999 as a sound engineer for live programs. From 2003 to 2007, as a news reporter, he was in charge of sound recording, video editing and outdoor satellite transmissions. Since 2008, he has been working as manager for multichannel audio and HD video development projects, also organizing conferences and professional workshops. Matthieu co-chairs the audio expert community of the European Broadcasting Union, holds two license degrees in sound recording and video post-production and a master degree in audiovisual research (Toulouse University).

Matthieu Parmentier
FranceTV/France

	Binaural: the first pathway to broadcasting multichannel audio beyond 5.1
	Binaural listening is about to become the first path for massive broadcasting of multichannel sound, 5.1 and beyond.
	The recent processors available in mobile devices now open a new era in the sound reproduction fidelity.
	Headphones sales grow fast, and new consumer skills make this binaural path particularly relevant.
	The maximum of fidelity needs a personalization of the binaural process. Two combined projects are today working on this issue.
	BiLi (French collaborative project led by francetelevisions) and SOFA (University collaborative project led by the Austrian Academy of Science) are designing several solutions to bring this reality in the everyday life soon. These works will be presented and demonstrated.
Jean-Pierre Evain **EBU/CH**	Jean-Pierre Evain joined the EBU's Technical Department in 1992 to work on "New Systems and Services" after several years spent in the R&D laboratories of France-Telecom (CCETT) and Deutsche Telekom. He is now looking after "Media Fundamentals and Production Technologies" and coordinates all EBU technical activities concerning metadata and new production architectures. He is the co-author of several EBU metadata specifications. He is actively promoting the use of semantic web technologies in broadcasting. He is the Project Manager of the joint AMWA-EBU FIMS Project on Service Oriented Architecture. He represents EBU in many standard groups and industry forums like AES, ETSI, IPTC, MPEG, SMPTE, UK-DPP, W3C, among several others. **Metadata 101** A very simple and short introduction to metadata. Basic principles will be introduced with the intention to make metadata sound less reserved to experts.
Dave Rogers **BBC/UK**	David Rogers is Senior Technical Architect in BBC Future Media (News & Knowledge). Technical lead for the BBC 2012 Olympic Data project which provided the semantic and statistical data for the range of digital products produced by the BBC for the London 2012 games. David's current focus is the BBC's Linked Data Platform which supports linked-data-driven approaches across a range of digital products, and is central to the BBC's Linked Data strategy. David's interests and expertise also include event-driven systems, functional programming and continuous delivery. **Use Case: Weaving a Semantic Web around the London Olympics** Data was at the heart of the BBC's 2012 'Digital Olympics'. David will explain how the fusion of semantic and statistical data supported the rich interactive experiences available across the BBC during the Olympic Games: including the BBC's Olympic mobile app, the Intelligent Video Player and the expansive website. All these products were weaved around a rich, dynamic linked data graph consisting of athletes, countries, venues, sports and events. Continuing with the legacy of the Olympics Data project, David will discuss the BBC's emergent Linked Data Platform. This is a platform to support the management of linked data around the BBC, joining the corporation's wide-ranging domains (News, Sport, Learning, Knowledge, Music, TV, Radio, etc..), into a connected graph of data; allowing for richer user experiences, and greater insight into the wealth of available content.

Masanori Sano **NHK/JP**	Masanori Sano received the B.E, and the M.E. degrees in electronic engineering from Waseda Univeristy, and the Ph.D degree in informatics from The Graduate University for Advanced Studies. He joined NHK (Japan Broadcasting Corporation) in 1994 and worked at the Sendai Broadcasting Station. Since 1997 he has been researching at NHK STRL (Science and Technology Research Laboratories). His research interests include information extraction from media, multimodal information integration, and metadata production systems. At present, he is a senior research engineer and leading several projects. He has also been involved with standardization in MPEG, EBU, ABU and ARIB. He is a member of IEEE, ACM, IEICE and ITE. **NHK pilot project with tools for management and automatic extraction of metadata** NHK has launched several archives on The Great East Japan Earthquake. There is still a huge amount of video material which needs to be processed and organized in order to make the archives fully functional. To support this activity, NHK STRL has developed a trial automatic metadata generation system which classifies the video shots into categories such as video memos, aerial shots and interview scenes. The talk will introduce the system and the video analysis technology deployed.

Kjell Norberg

NRK/NO

Educated from the Technological University in Trondheim.

Worked more than 25 years in Norwegian Broadcasting as a software developer and system engineer for subtitling and teletext.

I am 58 years old.

DVB live subtitling at NRK

A short history of live subtitling in NRK.

A short demo with from a live event with cumulative subtitles and prepared subtitles.

Explanation of how the subtitling is done on DVB, switching between cumulative and prepared subtitles and how we built our system.

Per Böhler

NRK/NO

Per Böhler has been with the Norwegian Broadcasting Corp. (NRK) for more than 49 years. After graduating from the NRK Engineering School he worked for a few years as an operational engineer. In the remaining years he has worked in the Engineering Development/Technology Departments. His professional work has entirely been dedicated to video origination equipment and optical testing of camera lenses and video processing/recording/compression/display technologies.

Per Böhler has been actively involved in EBU work since 1982 until this date. He has chaired several EBU groups over the years and co-chaired/chaired the EBU Production Technology Management Committee (PMC) for 16 years. He is currently the Chairman of the EBU FTV(Future TeleVision)-LED project and of the EBU Expert Community for Video (EC-V).

LED Lighting and the Television Lighting Consistency Index 2012

The presentation "LED Lighting and The Television Lighting Consistency Index 2012" will give I brief history of events leading to the EBU FTV-LED Project. The paper then goes on in describing the main activities in this project and reflects a little on the main deliverables from the project comprising one EBU Recommendation (EBU R-137), three EBU Tech Documents (EBU Tech Doc 3353, EBU Tech Doc 3354 and EBU Tech Doc 3355) and finally a free downloadable file containing the computer program for calculating the TLCI-2012 Quality Index for any light source based upon spectroradiometric measurements.

Alan Roberts

UK

Broadcast Project Research Ltd. Video and imaging Manager: Alan Roberts joined the BBCs R&D Department in 1968 as a Research Engineer, and worked on a wide variety of projects, including standards conversion, teletext, digital video processing and surface-wave device fabrication, before specialising in colour science and production technology.

He was part of the team that worked on the Eureka95 HDTV project and represented the BBC on EBU and European Union Eureka committees as a colour scientist. From this HDTV work in the 1980s and 90s he developed the film-look favoured by drama and wildlife programme-makers, devising ways to use the new technology to lower production costs without compromising quality.

Alan continues as a much sought after consultant on colour science and HDTV matters, advising manufacturers and programme-makers world-wide on HDTV developments and assisting DOPs in programme production.

Cameras - what is the state of the art?

Television is changing. When I first took an interest in cameras, HDTV was just

	emerging from the Dark Ages, and needed all the help we could give it. And there was only one standard (or two if you include 720p). But now, we're seeing emerging formats at 4k and 8k,each with special requirements. The EBU has a recommendation, R.118, which provides the means to categorise cameras according to their performance. But it's specific to HDTV, and so needs to be revised to take care of these new standards. Not only that, but, increasingly, the manufacturers seem to be aiming new products at specific tier levels within the R.118 structure, aiming at the lower limits of acceptability rather than higher levels. So maybe we have to revose R.118 for HDTV as well as incorporating the new standards. And even that's not taking into account the differing coding standards for 4k and 8k.
Richard Salmon **BBC/UK**	Richard Salmon is a Lead Research Engineer at BBC R&D, with particular expertise in TV colorimetry and display technology, and as one of the UK's pioneers in HDTV research, has a deep technical understanding of the entire image chain from the studio set and its lighting, via the camera, compression systems, to the display and the viewer's impression of that image. He is chairman of the EBU project group on Displays, and is also active in the EBU's Beyond HD and LED Lighting technical groups, and the UK Digital TV Group. He is a member of the SMPTE, the Society for Information Display and the IET. **Capture and display beyond HD** With the arrival on the market of "4k" domestic screens and "4k" (and even "5k") cameras, it is important to try to understand how these might fit into a roadmap towards the internationally agreed standards for UHDTV. The presentation will also discuss the implications for broadcasters in the context of scientific results relating the resolution, and pixel-arrangement of the capture and display devices, and channel bandwidth of the TV signal.
Andy Quested **BBC/UK** **Howard Lukk** **Walt Disney Studios/USA** **Chris Johns** **BSkyB/UK** **Richard Salmon** **BBC/UK**	BeyondHD - Roundtable discussion Chris Johns has been with BSkyB since its inception in 1989 having started his career in broadcast with the BBC. Chris formed part of the initial technical team tasked with launching Sky's multi-channel analogue satellite offering. As Chief Engineer, Chris has been at the forefront of delivering broadcast functionality to the platform such as the Multi channel Digital Playout facilities, Dolby Digital audio, Server based solutions and Compression Systems. Most recently Chris played a key role in Sky's HD launch and design of its High Definition infrastructure and continues to oversee the product quality. He has taken a lead in the capabilities of delivering 3D broadcasts to the home user over existing infrastructures and through Sky's HD PVR products and continues to manage the technological evolution. As part of Sky's Technology department, Chris is now helping Sky deliver entertainment across a multitude of different platforms from a common core whilst maintaining the audio and visual quality the customer has come to expect from today's technologies.

Stephan Heimbecher

BSkyB/DE

Stephan Heimbecher (born 1967) has been working at Sky Deutschland since July 2002. As Head of Innovations & Standards in Technology, his post involves representing Sky on national and international committees, technical work with major Hollywood studios plus technical innovation management tasks within Sky Deutschland.

The electrical engineering graduate began his career as research associate at the Institut für Rundfunktechnik (IRT), the research and development institute for the public broadcasters in Germany, Austria and Switzerland. After extensive work experience with DAB technology and audio coding, he dedicated his work to the standardisation of Digital TV for several years.

Stephan then joined Top5 MediaConnection in 2001 (a company of the earlier KirchGruppe) as manager within the consulting department. At Premiere/Sky Mr. Heimbecher has significantly been involved in the launch of PVR, HD and Sky 3D. His current major focus is Ultra HD and Stephan Heimbecher serves as chairman of a respective project group of the German TV Platform in that regard. Since 2003 Mr. Heimbecher is also member of the DVB Steering Board.

Jonathan Dupras

CBC/Radio-Canada

Jonathan Dupras Studied in electric engineering at "l'école de technologie supérieure" in Montreal while working full time as a laboratory technician. He has received his bachelor diploma in 2012. He is currently pursuing his master in business administration at UQAM.

Since joining CBC/Radio-Canada, Jonathan has participated in different project ranging from Video quality analysis, digital content distribution, Camera systems and workflow optimisation. Jonathan current main focus is to simplify the integration of multi-platform workflows into today's television broadcast infrastructure.

A new paradigm for content creation in a multi-platform environment

As CBC/Radio-Canada is migrating from a television broadcaster to a multi-platform content creator and provider, most of the technical production still revolves around its classic business core: producing television shows which are then reformatted to publish on other platforms.

The question is "how can we change our infrastructure of today to leverage the different business opportunity offered by the new platforms and technologies available. When we consider the market fragmentation of the distributing platforms (in reference to classic television), Scheduling, Content preparation, Transformation and Publication must be simplified to a minimum in order to reduce operating costs. This presentation will showcase our vision and concepts along with a description of the required tools to achieve a multi-platform publishing infrastructure. Some key topics of the presentation will include: Automated content preparation systems (e.g. versioning); Use of the FIMS-based orchestration system for preparation, transformation and publication of content.

Brad Gilmer
VSF/USA

Brad Gilmer is Executive Director of the Advanced Media Workflow Association (AMWA). He is also Executive Director of the Video Services Forum (VSF), and President of Gilmer & Associates, Inc, a management and technology consulting firm, providing business and technical consulting services to the television industry. Brad is a Fellow of the Society of Motion Picture and Television Engineers and he has been an active participant within the SMPTE since 1984. He currently chairs the 32NF-60 Video over IP Working Group.

Brad was previously employed as Director of Engineering and Operations at Turner Broadcasting System, Inc. in Atlanta. His staff managed all technical aspects of Turner's Entertainment networks including TBS, TNT, and Cartoon Network, worldwide.

Brad is author of the monthly Computer and Networks column in Broadcast Engineering Magazine, Editor-in-Chief of the File Interchange Handbook (Focal Press), a contributor to the NAB Engineering Handbook, and is a frequent presenter at Broadcast conventions including SMPTE, VidTrans, NAB and IBC.

Packetized networks for professional media applications

Computer networks have been a part of media facilities for many years, but primarily in a supporting role. Are we about to see computer networks become a key part of the media facility core? During this presentation, participants will learn how changes in technology and consumer business drivers are causing fundamental changes in networking technology which may make networks as critical for on-air networks as Serial Digital Video. The industry is at a crossroads, and very soon we will see computer networks carrying critical on-air video. But will this transition be orderly, or will it be chaos? Will we have time to make critical choices that will drive the future of our technical infrastructures? Learn more about efforts to provide some guidance in the professional media industry as we navigate what will surely be an interesting transition.