

WAC

1st Web Audio Conference

January 26–28, 2015

IRCAM & MOZILLA (Paris, France)

<http://wac.ircam.fr>

@WebAudioConf

WAC is the first international conference dedicated to web audio technologies and applications.

The conference welcomes web R&D developers, audio processing scientists, application designers and people involved in web standards.

The conference addresses research, development, design and standards concerned with emerging audio-related web technologies such as Web Audio API, Web RTC, WebSockets and JavaScript.

Partners:



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Centre Pompidou

Ircam - Centre Pompidou

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MONDAY, JANUARY 26, 2015**MORNING - IRCAM - IGOR STRAVINSKY ROOM**

8.00	Welcome - Lobby	
9.00	<i>WAC Introduction</i>	Samuel Goldszmidt, Norbert Schnell, and Hugues Vinet
9.15	Keynote #1 <i>Audio and the Web</i>	Chris Wilson
10.00	Coffee Break (Gallery Level -2)	
10.30 - 13.00 Tools & Components		
10.30	<i>Building a Collaborative Digital Audio Workstation Based on the Web Audio API</i>	Jan Monschke
10.50	<i>DAW Plugins for Web Browsers</i>	Jari Kleimola
11.10	<i>Meyda: An Audio Feature Extraction Library for the Web Audio API</i>	Hugh Rawlinson, Nevo Segal, and Jakub Fiala
11.30	<i>Web Audio Tools</i>	Jordan Santell
11.50	<i>Adventures in Scheduling, Buffers and Parameters: Porting a Dynamic Audio Engine to Web Audio</i>	Chinmay Pendharkar, Peter Bäck, and Lonce Wyse
12.10	<i>Audio Oriented UI Components for the Web Platform</i>	Victor Saiz, Benjamin Matuszewski, and Samuel Goldszmidt
12.30	<i>Of Time Engines and Masters – An API for Scheduling and Synchronizing the Generation and Playback of Event Sequences and Media Streams for the Web Audio API</i>	Norbert Schnell, Victor Saiz, Karim Barkati, and Samuel Goldszmidt
13.00	Lunch (Gallery, Level -2)	

MONDAY, JANUARY 26, 2015**AFTERNOON - IRCAM - IGOR STRAVINSKY ROOM**

14.00	Keynote #2 <i>The First Computer Music Programming Language</i>	Chris Lowis
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14.45 - 16.15 Languages & Environments

14.45	<i>Can WebAudio be Liberated from the Von Neumann Style?</i>	Emilio Jesús Gallego Arias
15.05	<i>Extending Csound to the Web</i>	Victor Lazzarini, Edward Costello, Steven Yi, and John Fitch
15.25	<i>BRAID: A Web Audio Instrument Builder with Embedded Code Blocks</i>	Benjamin Taylor and Jesse Allison
15.45	<i>Interactive Music with Tone.js</i>	Yotam Mann

16.15 Demo / Poster Session #1 & Coffee Break (Gallery, Level -2)

	<i>WAVE Project Demo and Enhanced Published Score</i>	Benjamin Matuszewski and Samuel Goldszmidt
	<i>Noteflight: A Web-Standards-Based Compositional Community</i> http://www.noteflight.com	Joseph Berkovitz
	<i>Web-Based Visualizations and Acoustic Rendering for Multimodal Data from Orchestra Performances Using Repovizz</i> http://phenicx.upf.edu/	Oscar Mayor
	<i>Repovizz - Multimodal Online Database and Visualization Tool</i> http://repovizz.upf.edu	Quim Llimona
	<i>Listening Guides: Ten Year Report</i>	Rodolphe Bailly
	<i>Music-Related Media Contents Synchronized Over the Web. The IEEE 1599 Initiative</i> http://emipiu.di.unimi.it/	Adriano Baratè, Stefano Baldan, Davide Andrea Mauro, Goffredo Haus, and Luca Andrea Ludovico
	<i>The Telemeta Platform and TimeSide Framework: Audio Archives Management and Automatic Analysis</i>	Guillaume Pellerin
	<i>Real-Time Client-Side Physical Modeling Harpsichord</i>	Thomas Cipierre
	<i>Delivering Object-Based 3D Audio Using the Web Audio API</i>	Chris Pike
	<i>Binaural Synthesis With the Web Audio API</i>	Thibaut Carpentier
	<i>Real-Time Acoustic Auralization on the Web</i> http://chinpen.net/auralizr/	Chinmay Prafulla Pendharkar
	<i>Birds of a Feather (Les oiseaux de même plumage): Dynamic Soundscapes using Real-Time Manipulation of Locally Relevant Birdsongs</i>	Bill Walker and Brian Belet

17.00 - 18.30 Delivering & Listening - Igor Stravinsky Room

17.00	<i>Delivering Object-Based 3D Audio Using the Web Audio API and the Audio Definition Model</i>	Peter Tylour, Chris Pike, and Frank Melchior
17.20	<i>Towards the Next Generation of Web-based Experiments: A Case Study Assessing Basic Audio Quality Following the ITU-R Recommendation BS.1534 (MUSHRA)</i>	Michael Schoeffler, Fabian-Robert Stöter, Bernd Edler, and Jürgen Herre
17.40	<i>Spatially Distributed Sound Computing and Rendering Using the Web Audio Platform</i>	Lonce Wyse
18.00	<i>Personalization Support for Binaural Headphone Reproduction in Web Browsers</i>	Michele Geronazzo, Jari Kleimola, and Piotr Majdak

TUESDAY, JANUARY 27, 2015**MORNING - IRCAM - IGOR STRAVINSKY ROOM**

9.15	Keynote #3 - Web Audio API vs. Native: Closing the Gap	Paul Adenot
10.00	Coffee Break (Gallery, Level-2)	

10.30 - 13.00 Applications

10.30	<i>Lissajous: Performing Music with Javascript</i>	Kyle Stetz
10.50	<i>EarSketch: Teaching Computational Music Remixing in an Online Web Audio Based Learning Environment</i>	Anand Mahadevan, Jason Freeman, Brian Magerko, and Juan Carlos Martinez
11.10	<i>Hyperaudio</i>	Mark Boas
11.30	<i>Birds of a Feather (Les oiseaux de même plumage): Dynamic Soundscapes using Real-Time Manipulation of Locally Relevant Birdsongs</i>	Bill Walker and Brian Belet
11.50	<i>VenueExplorer, Object-Based Interactive Audio for Live Events</i>	Matthew Paradis, Rebecca Gregory-Clarke, and Frank Melchior
12.10	<i>Noteflight: A Web-Standards-Based Compositional Community</i>	Joseph Berkovitz
12.30	<i>Music Performance by Discovering Community Loops</i>	Gerard Roma and Xavier Serra
13.00	Lunch (Gallery, Level -2)	

TUESDAY, JANUARY 27, 2015**AFTERNOON - MOZILLA****15.00 Demo/Poster Session #2**

	<i>The Collective Sound Checks Mobile Web Audio Applications</i>	Norbert Schnell
	<i>Soundworks - A Playground for Artists and Developers to Create Collaborative Mobile Web Performances</i>	Sébastien Robaszkiewicz and Norbert Schnell
	<i>Humming Mississippi</i>	Jesse Allison
	<i>Scrolling Through Sound</i> http://zya.github.io/scrollsound/	Ehsan Ziya
	<i>Web Audio Synthesizer Design</i>	Luke Teaford
	<i>Two Online N-gon Wave Synthesisers</i>	Dominik Chapman
	<i>LFO Low Frequency Operators on Streams</i>	Victor Saiz
	<i>Visualizing Audio with p5.js</i>	Jason Sigal
	<i>Quint.js: A JavaScript Library for Teaching Music Technology to Fine Arts Students</i> http://quinta.audio/Quint	Ian George Burleigh and Thilo Schaller
	<i>A Dynamic Audio Experience Creation Platform in Web Audio</i> http://wac.sonoport.com/	Chinmay Pendharkar, Peter Back, and Lonca Wyse
	<i>Websocket Server for MaxMSP</i>	Oliver Larkin
	<i>Streaming Live Content to Web Audio API</i>	Raphaël Goldwaser and Emmanuel Fréard
	<i>VenueExplorer (Demo) Object-Based Interactive Audio for Live Events</i>	Matthew Paradis
	<i>MT5: a HTML5 Multitrack Player for Musicians</i>	Michel Buffa, Amine Hallili and Philippe Renevier
	<i>Adaptive, Personalised "In Browser" Audio Compression</i>	Matthew Paradis and Andrew Mason
	<i>Seismokraft</i>	Ethan Geller
	<i>SimScene: A Web-Based Acoustic Scenes Simulator</i>	Mathias Rossignol, Gregoire Lafay, Mathieu Lagrange, and Nicolas Misdariis
	<i>Querying Freesound with a Microphone</i>	Gerard Roma and Xavier Serra
	<i>Composing a Web of Audio Applications</i>	Sarah Denoux, Yann Orlarey, Stephane Letz, and Dominique Fober

17.00 Web Audio Gigs #1

	<i>The Tomb of the Grammarian Lysias</i>	Ben Houge
	<i>Traversal</i>	Jesse Allison
18.00	Happy Hour	

TUESDAY, JANUARY 27, 2015**EVENING - MOZILLA****19.00 Web Audio Gigs #2**

	<i>Drops</i>	Sébastien Robaszkiewicz and Norbert Schnell
	<i>Smartphone Jam Session with Audience</i>	Toshihiro Kita
20.00	Buffet	

21.00 Web Audio Gigs #3

	<i>Pearl River</i>	Benjamin Taylor
	<i>Fields #2</i>	Sébastien Piquemal and Tim Shaw

WEDNESDAY, JANUARY 28, 2015**MORNING - IRCAM - IGOR STRAVINSKY ROOM**

9.30	Coffee	
10.00	<i>W3C Audio Working Group Plenary Session</i>	Matthew Paradis, Joe Berkovitz, Chris Lewis, Paul Adenot, and Chris Lilley
12.00	Free Time	

AFTERNOON - MOZILLA

14.00 - 18.30	Experiments, Hacks, Informal Presentations, and Discussions	
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KEYNOTES

MONDAY MORNING

Chris Wilson - *Audio and the Web*

The web has supported multiple media since its inception - however, only recently has it become a viable platform for building audio applications. The talk will examine the journey of audio in the web platform, the intersection of interesting technologies that make this a pivotal point for audio and the web, and will highlight the opportunities unlocked by web audio and where we go from here.

Chris Wilson is a Developer Advocate on the Google Chrome team. He started working on web browsers in 1993 when he co-authored the original Windows version of NCSA Mosaic before working on Internet Explorer for fifteen years at Microsoft. He has separate and combined passions for digital audio, music and the web, and co-edits the Web Audio and Web MIDI specifications at the W3C. He also specializes in playing many different instruments badly.

MONDAY AFTERNOON

Chris Lewis - *The First Computer Music Programming Language* -

MUSIC was a programming language developed by Max Mathews at Bell Labs in 1957. In this talk we'll learn more about Max Mathews, the origins of computer music, and by building a compiler for MUSIC in JavaScript hear what some of the very first computer music compositions sounded like.

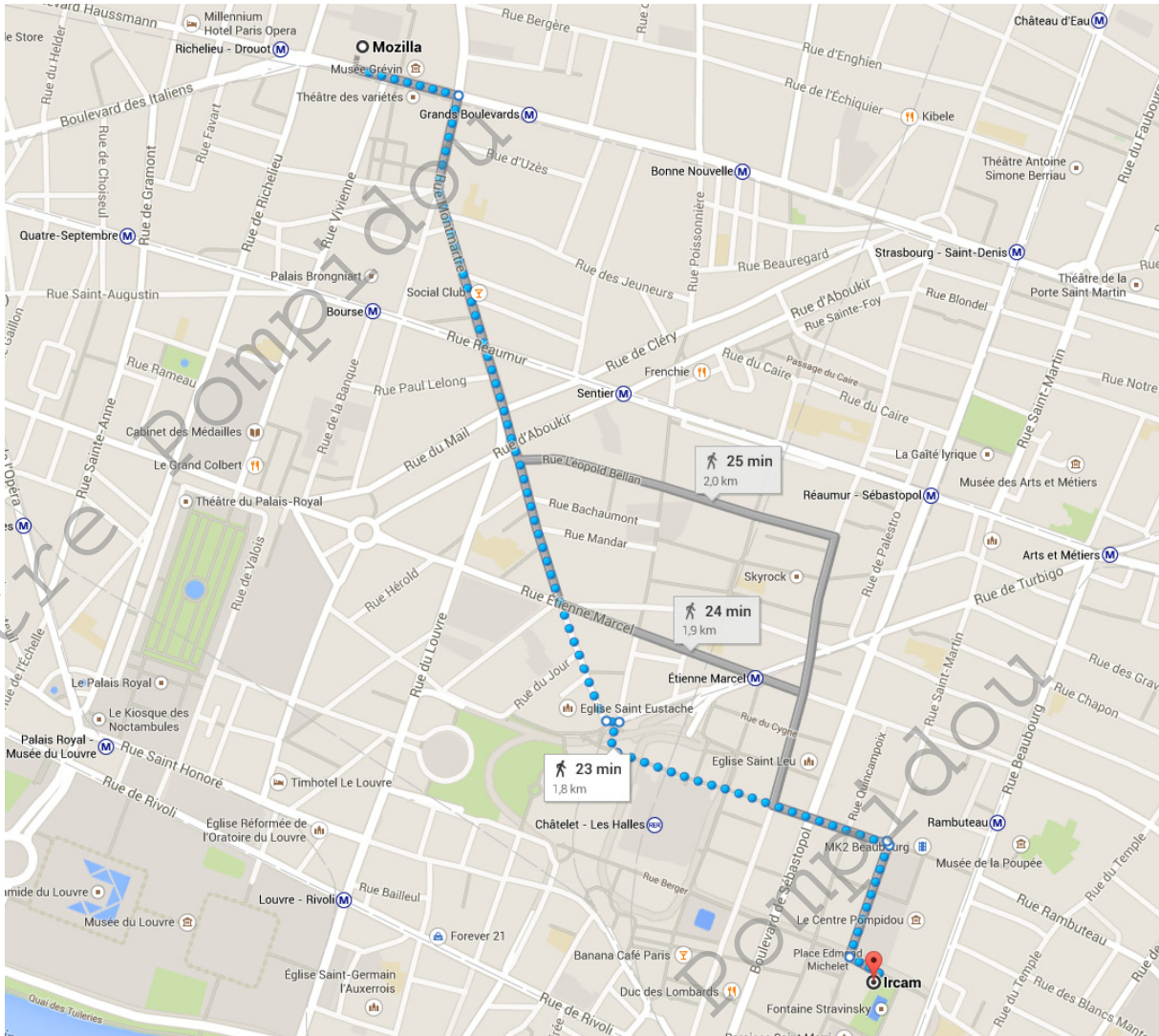
Chris Lewis is an invited expert on the W3C's Audio Working group. He studied acoustics and signal processing at the Institute of Sound and Vibration Research in Southampton, and recently worked at the R&D department at the BBC. He loves to use the Web Audio API to bring old synthesisers back to life, and to write about audio on the web in his newsletter Web Audio Weekly.

TUESDAY MORNING

Paul Adenot - *Web Audio API vs. Native: Closing the Gap*

Audio is one of the domains where developers try to get every bit of performance out of the device. On the other hand, the Web Audio API looks like an high-level API with a lot of constraints for developers. What does the web platform need for the Web Audio API to be competitive with native audio? What problems does the platform have that can be solved today?

Paul Adenot is an audio developer at Mozilla, working on the Firefox web browser. He works on the Firefox Web Audio implementation, as well as the platform-specific audio code on all platforms, and WebRTC. He also co-edits the Web Audio API specification at the W3C, and is a long time guitar player.



PLACES

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COMMITTEE

Chairs

- Samuel Goldszmidt, IRCAM, Paris, France
- Norbert Schnell, IRCAM, Paris, France
- Raphaël Troncy, Eurecom, Sophia Antipolis, France
- Victor Saiz, IRCAM, Paris, France - Web Audio Gig Chair
- Benjamin Matuszewski, IRCAM, Paris, France - Demo/Poster Chair

Local Organization Committee

IRCAM - STMS joint research unit with the CNRS and the Université Pierre et Marie Curie - Paris

- Sylvie Benoit, IRCAM, Paris, France
- Samuel Goldszmidt, IRCAM, Paris, France
- Benjamin Matuszewski, IRCAM, Paris, France
- Victor Saiz, IRCAM, Paris, France
- Norbert Schnell, IRCAM, Paris, France
- Renaud Vincent, IRCAM, Paris, France
- Hugues Vinet, IRCAM, Paris, France

The WAC takes place within the WAVE project.

The WAVE project, funded by French National Research Agency, aims to formalize new means of editing, visualization, and interaction with temporal audiovisual objects online.

This project will lead to the design and development of software bricks concerning user interfaces and interactions, digital audio interfaces, client/server interfaces, and their data exchanges. These software bricks will come from the results of the analysis of expert musical practices compared to their ordinary use in web applications and standards, with the goal of offering innovative uses for them.

The project's objective is to integrate these software bricks in existing software to develop new services and improve existing ones. New means of purchasing and sharing musical and audiovisual documents online, these services will be put in place during the project and made available to users by project partners using the W3C standards (particularly HTML5 and the new Web platform), completing them if necessary, and also proposing interaction via new terminals in order to offer coherent interfaces, accessible and innovative, and new user experiences adapted for consultation, interaction, annotation, transformation, and sharing of temporal objects.

In a fluctuating web technology situation, the formalization and instantiation of these multiple interfaces in different technologies supported by W3C standards and recommendations will contribute to the surfacing of a truly hypermedia and interactive Internet.

In the context of the cultural industry's crisis, and particularly those connected to music, companies and institutions can make use of these cases and explore new markets via innovative systems for listening and consultation that are interactive and enhanced with temporal streaming from the Internet.

IRCAM, the Institute for Research and Coordination in Acoustics/Music, is one of the world's largest public research centers dedicated to both musical expression and scientific research. A unique location where artistic sensibilities collide with scientific and technological innovation, Frank Madlener has directed the institute since 2006, bringing together over 160 people.

IRCAM's three principal activities – creation, research, transmission – are visible in IRCAM's Parisian concert season, in productions throughout France and abroad, in a new rendezvous created in June 2012, ManiFeste, that combines an international festival with a multidisciplinary academy.

Founded by Pierre Boulez, IRCAM is associated with the Centre Pompidou, under the tutelage of the French Ministry of Culture and Communication. The mixed STMS research lab (Sciences and Technologies for Music and Sound), housed by IRCAM, also benefits from the support of the CNRS and the University Pierre and Marie Curie, as well as Inria (team-project MuTant).

Mozilla is a global, nonprofit organization dedicated to making the Web better. We emphasize principle over profit and believe that the Web is a shared public resource to be cared for, not a commodity to be sold. We work with a worldwide community to create open source products like Mozilla Firefox, and to innovate for the benefit of the individual and the betterment of the Web. The result is great products built by passionate people and better choices for everyone.

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