

Newsletter's Summary

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Get a reminder on upcoming events and deadlines.
Feel free to contribute if you become aware of any change!

Local News [page 4](#)



Infos about the social events at ICA 2019 in Aachen.

Job announcements [page 5](#)



Find your dream job in this fresh list of opportunities!
If you wish to announce a position, please contact the YAN.

Publications [page 6](#)



This month discover a publication from the Marcus Wallenberg Laboratory at KTH Royal Institute of Technology in Stockholm, Sweden.

Board's Highlights



ICA 2019

Read about the joint projects at ICA 2019 from various organizations of young acousticians in Europe.

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PUBLI

Read about a publication on compressed sensing of impulse responses in rooms of unknown properties and contents.

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Upcoming Events



September 2019

26th - 28th — ICSA 2019 — 5th International Conference on Spatial Audio. Ilmenau, Germany



October 2019

1th - 2nd — Acoustex 2020 — Trade Show for Noise-Control and Sound- Design. Dortmund, Germany



14th - 18th — CMMR 2019 — 14th International Symposium on Computer Music Multidisciplinary Research. Marseille, France



November 2019

8th - 12th — Sound Driven Design course. Milan, Italy



14th - 15th — JJCAB 2019 – French Young Researchers' Days. Besançon, France



19th - 21th — Reproduced Sound 2019 – Creating Engagement in Sound. Bristol, England



25th - 27th — AAC 2019 — Aachen Acoustics Colloquium. Aachen, Germany



Upcoming Deadlines



October 2019

7th — Sound Driven Design course. Milan, Italy
Deadline for registration



1st — **JJ CAB 2019** – French Young Researchers' Days. Besançon, France
Deadline for abstract submission



15th — **JJ CAB 2019** – French Young Researchers' Days. Besançon, France
Deadline for registration



November 2019

1st — **DAGA 2020** — 46. Jahrestagung für Akustik. Hannover, Germany
Deadline for abstract submissions



9th — **MatFlow 2019** — Training school and research workshop on acoustics in lined ducts. Le Mans, France. **Deadline for abstract submissions**



15th — **MatFlow 2019** — Training school and research workshop on acoustics in lined ducts. Le Mans, France. **Deadline for registration**



Did we miss a date ?

Behind the YAN, there's humans you can help!

The agenda listing is all gathered by hand: if you think we missed something relevant, don't hesitate to tell us!

yan@euracoustics.org

Local News



ICA 2019

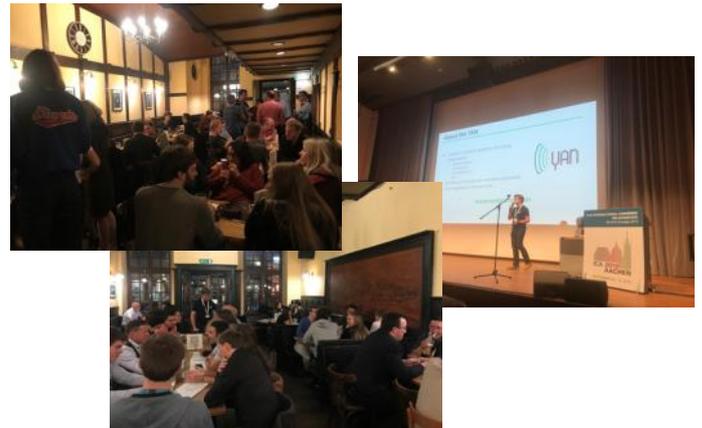
Last week one of the largest acoustics conference this year took place in Aachen, Germany: the International Congress on Acoustics (ICA 2019). With about 1600 delegates and 500 early-career and young researchers, this was the place to be for us and several of our partners, in Europe and worldwide. Since a few months, we have been working to set up different activities and events there to bring together young acousticians. This whole organisation was a joint project with the Early Career Special Interest Group from the UK Acoustics Network (UKAN SIG ECG) and other groups such as jungeDEGA (Germany), b-YAN (Belgium), YRAM (Young Researchers in Acoustic Metamaterials).

On monday afternoon, we held a session altogether to present the activities and opportunities all the groups have to offer, including as well information on the DENORMS COST Action, Acta Acustica united with Acustica and INGEACUS. This session was well attended, with about 80-100 people depending on the moment.

On monday again, we completed the presentation session with a time of ice breaking games co-organised mostly with jungeDEGA. Slow to start, this play time on the grass in front of the congress centre finally gathered about 40-50 people. The two proposed games allowed each of us to discuss and meet others, learning a bit more on our respective fields and interests.

Finally, on tuesday, the YAN and UKAN SIG ECG held another of the classical social events for young acoustician. It took place at Labyrinth and gathered more that 250 people, lasting from 20 till the bar closed.

We would thank both UKAN and the European Acoustics Association for making such events possible, fostering the development of the acoustic community in Europe and beyond. We thank also Karin and Elie, from the Institute for Technical Acoustics (RWTH Aachen) for their amazing support and the time they spend to organise all this with us!



YAN T-Shirts

Some of you saw us in Aachen wearing a YAN t-shirt and apparently you loved it! We got so many positive comments and questions that we're now looking into finding a way to sell some to you guys... Eventually to fuel more events for you!



Job Announcements



Research Scientist in Underwater Acoustic, National Physical Laboratory. Teddington, United Kingdom.



Acoustic Consultant, Clement Acoustics. London, United Kingdom.



Acoustic Consultant, KP Acoustics. London, United Kingdom.



Junior Scientist Acoustics & Sona, TNO. Den Haag, Netherlands.



PhD Researcher in Aeroacoustics, University of Twente. Twente, Netherlands.
Closing date: October, 15th 2019



PhD Position in 'Acoustic material design combining resonant absorbers and micro-perforations', Eindhoven University of Technology. Eindhoven, Netherlands. Closing date: September, 9th 2019



Senior Acoustic R&D Engineer, Holoplot. Berlin, Germany.



Research Assistant in "Project Wagner 3.0 - Immersive Sound Environments and their Potential for Music Experience and Cultural Participation", Institute of Communications Technology, Leibniz University Hannover. Hannover, Germany. Closing date: September, 30th 2019



Research Assistant in "ITN VRACE - Virtual Reality Audio for Cyber Environments - ESR15", Institute of Communications Technology, Leibniz University Hannover. Hannover, Germany. Closing date: September, 30th 2019



Publications



Compressed sensing of impulse responses in rooms of unknown properties and contents

This paper introduces a method to recover unmeasured room impulse responses (RIRs) in acoustical spaces with unknown properties and contents, by means of a compressed sensing methodology. Methods published in the existing literature have been validated in empty, convex rooms; a limited subset of the many, diverse acoustical spaces one can encounter. It results a challenge to represent such diverse wave phenomena with a sparse set of plane waves or equivalent sources, given the coupling between the sparsity of such representations and hypotheses regarding the properties of the acoustical space and its contents, far-field measurement distances, and other parameters. In contrast to this philosophy, the method introduced in this paper exploits the sparsity inherent to the mathematical structure of the wavefronts present in the RIRs, which without further hypotheses carry themselves all the information about the wave propagation in the room. In essence, the measured RIRs are instead represented with a sparse set of curved elementary functions of various sizes, propagation directions and times of arrival, which are linked with the various shapes and locations of the unknown scatterers and boundaries in the room.

The main contribution of this work is thus to enable the measurement of RIRs in more complex acoustical spaces, while keeping the number of microphones to a minimum with the use of compressed sensing. The method is formulated as a sparse optimization problem, and the solution is obtained with an iterative thresholding algorithm whose threshold value is determined from the measurements. An analysis of sensing coherence is included, and the performance of the method is experimentally evaluated with 1D microphone array measurements in two lecture rooms and one meeting room. For the sake of comparison, the RIRs are also linearly interpolated using a low-pass filter in the wavenumber-frequency domain. The experimental results demonstrate that the proposed method is superior than linear interpolation in all the cases investigated, motivating further development of the method to higher spatial dimensions. In terms of accuracy, the proposed method attains recovery errors in the same order of magnitude as those attained by methods in the literature, yet here the acoustical spaces have arbitrary contents and exhibit more complex geometries and boundary conditions.

Publications



About the author

Born in Caracas, Venezuela, in 1989. He received the diploma degree in Electronic Engineering at the Universidad Simón Bolívar, Caracas, in 2013, with specialisation in audio signal processing. He received the Ph.D. degree in Vehicle Engineering at the Department of Aeronautical and Vehicle Engineering at KTH Royal Institute of Technology, Stockholm, in 2017. Nowadays he is conducting postdoctoral research at The Marcus Wallenberg Laboratory for Sound and Vibration Research (MWL) since January 2018, in the subject of microphone array technologies. His current research interests are sparse signal processing, wave propagation, harmonic analysis, optimization, room acoustics, and musical acoustics.

Elias received a Best Paper Award for his work on compressive sensing at ICA 2019, Aachen, Germany in September.



INFOS

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