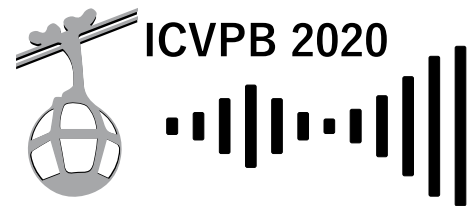




Celebrating **40 years** of scientific advances
in **Vocal Fold Physiology** and **Biomechanics**

2-4th December 2020
an online event

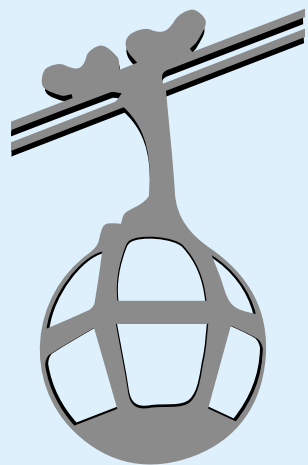


PROGRAM



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ICVPB 2020

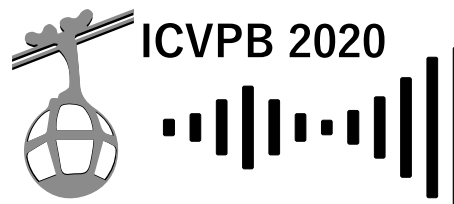


WELCOME TO ICVPB 2020 !

BIENVENUE À GRENOBLE 2020 !

Dear Colleagues,

On behalf of the local organizing committee, we are very pleased to welcome you to the 12th edition of the *International Conference on Voice Physiology and Biomechanics ICVPB2020*. Together, we will celebrate the 40th anniversary of scientific advances in Vocal Fold Physiology and Biomechanics !



ICVPB dates back to 1980. Initially called the Vocal Fold Physiology Conference, it began with five inspired pioneers who brought together voice scientists from Japan and the United States : Wilbur James Gould, Osamu Fujimura, Kenneth Stevens, Minoru Hirano, and Ingo Titze. The first meeting was held in Kurume Japan, in 1980. The focus was basic science, the physical and biological underpinnings of voice production. In total, nine Vocal Fold Physiology meetings were held. After Kurume, the meeting took place in Madison (1982), Iowa City (1984), New Haven (1985), Tokyo (1987), Stockholm (1990), Denver (1992), Kurume (1994), and Sydney (1995). The name of the conference was then changed to ICVPB to include the influx of biomechanics and biology into the study of voice production. The first ICVPB meeting was held in 1997 at Northwestern University in Evanston, Illinois, followed by Berlin (1999), Denver (2002), Marseille (2004), Tokyo (2006), Tampere (2008), Madison (2010), Erlangen (2012), Salt Lake City (2014), Viña del Mar (2016), East Lansing (2018), and now in Grenoble (2020), a place renowned in France for his long history of research in experimental phonetics. In particular, the Institut de Phonétique de Grenoble was founded in 1904 under the impetus of Théodore Rosset, a brilliant linguist and phonetician.

It is now a great honor for us to welcome this very special edition of ICVPB 2020. The event is the initiative of two Grenoble laboratories: the *GIPSA-lab* and the *3SR Lab*. *GIPSA-lab* (Grenoble Images Speech Signal and Control) is a joint research unit of *Univ. Grenoble Alpes*, *CNRS* and *Grenoble INP*, which has recognized expertise in characterization and modeling of human voice. The *3SR Lab* (Soils, Solids, Structures, Risks) is a joint research unit of *Univ. Grenoble Alpes*, *CNRS* and *Grenoble INP*, which has recognized expertise in the mechanics of (bio) materials and structures. ICVPB2020 has been organized with the team leading the Speech Acoustics Group (GAP) of the *French Acoustical Society* (SFA).

ICVPB2020 was scheduled to take place from 16th to 20th March 2020 (ICVPB2020 March Edition). But that was without counting on this terrible and unpredictable event that hit the world in the beginning of Year 2020, closing borders and restricting travel. A novel coronavirus (COVID-19) causing acute illness with severe respiratory symptoms has appeared and spread around the world. In France, the first major containment of the population was imposed by the French government from 17th March to 11th May 2020 as a health response to stop the spread of COVID-19 and limit its impact.

WELCOME TO ICVPB 2020 !

BIENVENUE À GRENOBLE 2020 !

ICVPB2020 was postponed to December 2020 and the two days of pre-courses scheduled prior to the main conference days were cancelled. We were hoping for a hybrid conference, both on site and online. However, a second mass containment of French population started on October 30th to fight a surging second wave of the Covid-19 epidemic. ICVPB2020 shall be the first International Conference in Voice Physiology and Biomechanics to be held entirely online.

The ICVPB2020 scientific program will include oral presentations in mono-session and five keynotes, as well as eight parallel poster sessions. Oral presentations will be organized into six thematic sessions, including:

- Session #1: Vocal fold tissue properties : biomechanics, biology and biomimicry*
- Session #2: Flow-induced vibrations : modelling, simulation and validation*
- Session #3: Singing*
- Session #4: Voice analysis and synthesis*
- Session #5: Voice disorders and treatments*
- Session #6: Fluid-structure-sound interaction in the vocal tract*

We would like to acknowledge all the people involved for helping us build a very rich conference program. More specifically, we are most grateful to the five keynote and plenary speakers for accepting our invitation, Drs. Ingo R. Titze, Brad Story, Sten Ternström, Caroline Boudoux and Jan G. Švec; all the authors for submitting the abstracts; the Scientific Committee for managing the

reviewing process; tutors of the cancelled pre-courses days; all the chairmen/women for the moderation of the sessions; the ICVPB international advisory board for their precious advice; the SFA-GAP Bureau members and the local staff for all logistical aspects. We could not have done without their help !

We also wish to thank all our sponsors, whose support is essential for the success of this event: the laboratories and the SFA as co-organisers, the hosting institutions (CNRS, Univ. Grenoble Alpes, Grenoble INP), the Galileo Galilei Federation (Fed3G), the MACI, the Auvergne-Rhône-Alpes Region, the French Society of Biomechanics (SB), the French-speaking Speech Communication Association (AFCP), the French Society of Phoniatics and Laryngology (SFPL), and our industrial partners, NOVITOM, INSTRON and ZAION.

Finally, we would like to thank all the participants for their support and nice messages we received after rescheduling the March 2020 Edition, due to sanitary crisis. Thank you very much for your confidence, your patience during these last months and your presence to this December Edition !

We hope that you will enjoy the conference. We are looking forward to an exciting, informative and fruitful meeting.

*Yours sincerely,
Nathalie Henrich Bernardoni and Lucie Bailly
Co-Chairpersons
12th International Conference on Voice Physiology and
Biomechanics - ICVPB2020 December Edition*

NATHALIE HENRICH BERNARDONI, PHD

CO-CHAIR



Nathalie HENRICH BERNARDONI is a Research Director of the French National Centre for Scientific Research (CNRS, Department of Human and Social Sciences), choral conductor and singer. She is a scientist with a strong passion for human voice in all its forms of expression. She is affiliated to French and European Acoustical Society, French Society for Phoniatriy and Laryngology, French Ethnomusicological Society, Francophone Association for Speech Communication, French Association of Singing Instructors/Teachers, Collegium Medicorum Theatri.

Her research projects focus on experimental and clinical phonetics in speech and singing, on physiological and physical characterization of various vocal techniques (lyrical singing, contemporary music, world music), on vocal effort in speech and singing, as well as on developing and improving non-invasive experimental techniques for human-voice analysis. In 2013, she received the CNRS Bronze Medal for her research on human voice.

Regularly invited to give conferences at national and international levels, she is very much engaged in disseminating scientific knowledge about this fascinating instrument.

She coordinates [World Voice Day](#) in France (April 16th).

Her constant wish to have scientific community communicate with medical and artistic communities has resulted in a collective book,

« [La voix chantée : entre sciences et pratiques](#) [Singing voice: between science and practice]» published by Editions De Boeck.

LUCIE BAILLY, PHD

CO-CHAIR



Lucie BAILLY is a Research Associate of the French National Centre for Scientific Research (CNRS, [Institute for Engineering and Systems Sciences](#)), hired in 2010. After a PhD thesis in the field of fluid/structure/acoustic interactions in the larynx (LAUM, Le Mans - [GIPSA-lab](#), Grenoble) in 2009, she gained skills in mechanics of living tissues during her post-doc at [3SR Lab](#) (Grenoble) in 2010.

During 4 years, she practiced her functions in the group “Biomechanics” of [IRPHE](#), which research axes deal with fluid mechanics in biological systems (Marseille). She developed research in vascular and respiratory biomechanics, using in vivo, in vitro and modeling approaches. Then, her research guidelines and scientific expertise naturally turned towards the mechanics of soft fibre-reinforced tissues, using both theoretical and experimental approaches for a better understanding of multiscale properties of native tissues, and for the biomimetic design of architected materials. Therefore, since 2015, she joined the group “Mechanics and Multiphysics Couplings in Heterogeneous Media” of [3SR Lab](#), where active research is conducted in mechanics and physics of fibrous/porous media and biomaterials, offering an attractive scientific environment to practice advanced material and mechanical engineering. [3SR Lab](#) is a member of the [Labex Tec21](#) and the [Fed3G](#), bringing together the research community in mechanical and process engineering in Grenoble. It is also involved in the [Carnot Polynat institute](#) working for the eco-design of innovative and functional bio-sourced materials, and benefits from strong interactions with the [European Synchrotron Radiation Facility](#). Currently, she coordinates the [MicroVoice project](#) of the [French Agency for Research](#), whose objective is to gain an in-depth understanding of the link between the micromechanics of vocal-fold tissues and their unique vibratory performances, and take the next step towards the development of new biomimetic oscillators.

She is also involved in the [French Acoustical Society](#) to co-animate scientific meetings about speech production, in the [French Research Group on Multiscale Mechanics of Fibrous Media](#) to co-animate the axis on “mechanics of soft fibrous living tissues and related fibrous biomaterials”, and is affiliated to the [French Society of Biomechanics](#).

SCHEDULE

Wednesday, December 2, 2020

13:00 - 13:45	Online welcome (Zoom)
13:45 - 14:00	ICVPB 2020 Opening ceremony
14:00 - 15:45	Session #1 - Vocal fold tissue properties : biomechanics, biology, biomimicry Camille Finck and Sid M. Khosla
14:00 - 14:15	> Frequency analysis of ex-vivo porcine vocal fold elasticity using pipette aspiration <u>Florian Scheible</u> , Raphael Lamprecht, Marion Semmler, Michael Döllinger, Alexander Sutor
14:15 - 14:30	> Strain measurements in ex-vivo porcine vocal folds using DeepFlow <u>Raphael Lamprecht</u> , Florian Scheible, Marion Semmler, Michael Döllinger, Alexander Sutor
14:30 - 14:45	> Fabrication of synthetic, multi-material vocal fold models via embedded 3D printing Taylor Greenwood, <u>Scott Thomson</u>
14:45 - 15:00	> Multi-axial mechanical properties of hydrogel-based materials upon finite strains: towards the design of tailored vocal-fold composite replicas <u>Hamid Yousefi-Mashouf</u> , Daniel Ferri-Angulo, Lucie Bailly, Jérôme Sohier, Laurent Orgéas, Nathalie Henrich Bernardoni
15:00 - 15:15	> In vitro bioengineering and characterization of human laryngeal mucosa constructs <u>Tanja Grossmann</u> , Michael Karbiener, Andrijana Kirsch, Magdalena Grill, Ruth Birner-Grünberger, Barbara Darnhofer, Luka Brcic, Markus Gugatschka
15:15 - 15:30	> Gene expression analysis using RNA sequencing reveals novel insights into pathological alterations in human vocal fold fibroblasts from patients with Reinke's edema <u>Magdalena Grill</u> , Isaac Lazzeri, Tanja Grossmann, Ellen Heitzer, Markus Gugatschka
15:30 - 15:45	> Development and validation of a novel phonomimetic bioreactor <u>Claus Gerstenberger</u> , Andrijana Kirsch, David Hortobagyi, Tanja Grossmann and Markus Gugatschka
15:45 - 16:00	Coffee break

SCHEDULE

Wednesday, December 2, 2020

16:00 - 17:00	Keynote lecture #1: 40 years of history in vocal-fold physiology conferences Prof. Ingo R. Titze
17:00 - 18:00	Keynote lecture #2: Recent advances in modeling voice production Prof. Brad Story
18:00 - 18:15	Coffee break
18:15 - 19:45	Session #2 - Flow-induced vibrations: modelling, simulation and validation Michael Krane and Scott Thomson
18:15 - 18:30	> Energy-consistent modelling of the fluid-structure interaction in the glottis <u>Fabrice Silva</u> , Thomas Hélie, Victor Wetzel
18:30 - 18:45	> How the maximum divergence angle of the glottis can affect phonation mechanism Elias Sundström, <u>Liran Oren</u> , Charles Farbos de Luzan, Sid Khosla
18:45 - 19:00	> Development of a deep learning approach based glottal flow model using high-fidelity numerical simulations on universal vocal fold kinematics models Qian Xue, Yang Zhang, <u>Weili Jiang</u> , Xudong Zheng, Simeon Smith, Ingo Titze
19:00 - 19:15	> Effect of the paraglottic space on phonation in a MRI-based vocal fold model <u>Liang Wu</u> , Zhaoyan Zhang
19:15 - 19:30	> Numerical investigation of the integrated neuromuscular control and flow-structure interaction during phonation using an image based high-fidelity computer model <u>Biao Geng</u> , Mohammadreza Movahhedi, Qian Xue, Xudong Zheng
19:30 - 19:45	> A study on the role of muscle tonicity on the onset of self-excited oscillations in tracheoesophageal speech <u>André Miazaki da Costa Tourinho</u> , Camila Zandavalli Maluf de Araujo, Andrey Ricardo da Silva

SCHEDULE

Thursday, December 3, 2020

13:45-14:00	Online welcome
14:00-15:15	Session #3 - Singing Michèle Castellengo and Matthias Echternach
14:00-14:15	> Diaphragm and rib cage movements during phonation of professional singers of different genres - a dynamic MRI study <u>Louisa Traser</u> , Stefanie Rummel, Carmen Schwab, Ali Caglar Özen, Michael Bock, Matthias Echternach, Bernhard Richter
14:15-14:30	> Performance efficiency evaluation on professional artists of Baroque Repertoire through simultaneous monitoring of vocal doses and breathing pattern Francesca Cunsolo, Valeria Ottaviani, Raffaele Dellacà, Orietta Calcinoni, <u>Silvia Capobianco</u>
14:30-14:45	> Inverse Vocal Tract Adjustment: Spectral Dependence and MRI Data <u>Patrick Hoyer</u> , Simone Graf, Seiji Adachi, Michael Gruner, Manuel Graf, Loisa Traser
14:45-15:00	> Electroglottographic assessment of Tahrir, a persian vocal technique <u>Michèle Castellengo</u> , Jean During, Nathalie Henrich Bernardoni
15:00-15:15	> How voice production of singers is influenced by room acoustics <u>Paul Luizard</u> , Silvain Gerber, Nathalie Henrich Bernardoni
15:15-15:30	Sponsor presentation INSTRON
15:30-16:00	Coffee break

SCHEDULE

Thursday, December 3, 2020

16:00-17:00	Keynote lecture #3: Who is normal, and how can we know ? Prof. Sten Ternström
17:00-18:00	Keynote lecture #4: Biomedical optics and recent advances in imaging modalities Prof. Caroline Boudoux
18:00-18:15	Coffee break
18:15-19:15	Session #4 - Voice analysis and synthesis Anne-Maria Laukkanen and Peter Pabon
18:15-18:30	> GFM-Voc: a tool for analysis and modification of the glottis signal <u>Olivier Perrotin</u> , Ian McLoughlin
18:30-18:45	> Effects of constitutive and dynamic properties of the vibrating vocal folds on vocal frequency perturbations <u>Jean Schoentgen</u> , Philipp Aichinger
18:45-19:00	> Non-invasive evaluation of vibratory kinematics of phonation in children <u>Rita Patel</u> , Sten Ternström
19:00-19:15	> Effect of vocal intensity and fundamental frequency on cepstral peak prominence in women with and without voice disorders <u>Meike Brockmann-Bauser</u> , Jarrad H. Van Stan, Marilia Carvalho Sampaio, Jörg E Bohlender, Robert E. Hillman, Daryush D. Mehta

SCHEDULE

Friday, December 4, 2020

13:45-14:00	Online welcome
14:00-15:00	Session #5 - Voice disorders and treatments Lise Crevier Buchman and Daryush D. Mehta
14:00-14:15	› Airway reconstruction using posterior cricoid reduction for treatment of dysphonia <u>Elias Sundström</u> , Liran Oren, Alessandro de Alarcón
14:15-14:30	› Improved subglottal pressure estimation from neck-surface vibration in patients with voice disorders <u>Lin Jonathan</u> , Daryush D. Mehta, Matias Zanartu, Victor Espinoza, Katie Marks
14:30-14:45	› Three-dimensional vocal fold structural change due to implant insertion in medialization laryngoplasty <u>Dinesh Chhetri</u> , Liang Wu, Zhaoyan Zhang
14:45-15:00	› Duration of biodynamic changes associated with water resistance therapy <u>Matthias Echternach</u> , Marie Köberlein, Marco Guzman, Annemaria Laukkanen, Bernhard Richter, Marieanne Kainz, Michael Döllinger
15:00-15:30	Flash poster mono-session
15:30-16:30	Parallel poster multi-sessions <ul style="list-style-type: none">• Room 01 - Voice Registers - Thierry Legou• Room 02 - Resonances - Fabrice Silva• Room 03 - Occupational Voice - Angélique Remacle• Room 04 - Vocal tract geometries - Frédéric Berthommier• Room 05 - Voice quality and frequency estimation - Paul Luizard• Room 06 - Glottal Vibrations - Thomas Hélie• Room 07 - Vocal fold tissue - Lucie Bailly• Room 08 - Voice rehabilitation - Aude Lagier
16:30-17:00	Coffee break

SCHEDULE

Friday, December 4, 2020

17:00-18:00	Keynote lecture #5: Voice and Medicine Assoc. Prof. Jan G. Švec
18:00-18:15	Coffee break
18:15-19:30	Session #6 - Fluid-structure-sound interaction in the vocal tract Zhaoyan Zhang and Fabrice Silva
18:15-18:30	> Glottal Geometry and Surface Strains During Phonation of Excised Canine Larynges Using Digital Image Correlation <u>Charles Farbos de Luzan</u> , Liran Oren, Alexandra Maddox, Ephraim Gutmark, Sid Khosla
18:30-18:45	> Aeroacoustic simulation on a simplified vocal tract model with tongue movement for the articulation of [s] <u>Tsukasa Yoshinaga</u> , Kazunori Nozaki, Hiroshi Yokoyama, Akiyoshi Iida
18:45-19:00	> Phonation energy budget from high-fidelity aeroelastic-aeroacoustic simulations <u>Lucy Zhang</u> , Feimi Yu, Michael Krane
19:00-19:15	> Toward aeroelastic-aeroacoustic phonation model validation <u>Jeff Harris</u> , Michael Krane, Adam Nickels, Paul Trzcinski, Zachary Yoas, Faith Beck, Benjamin Beck
19:15-19:30	> Pharyngeal air pressure along the vocal tract during vowels and semi-occluded vocal tract exercises: A pilot study using high-resolution pharyngeal manometry <u>Jesse Hoffmeister</u> , Christopher Ulmschneider, Corinne Jones, Michelle Ciucci, Timothy McCulloch
19:30-19:45	ICVPB2020 Closing ceremony

POSTER SESSION

Friday, december 4, 2020

PARALLEL POSTER MULTI-SESSIONS 15:00-16:30

VOICE REGISTERS - Thierry Legou

Room 01

P1	Mathematical Modeling of the Medial Surface of the Vocal Fold for the Study of Chest and Falsetto Registers	Douglas Blake , Ingo Titze, Eileen Finnegan
P2	Singing Register Differences in Vocal Fold Oscillations Observed Across Three Octaves Through Laryngeal High-Speed Videoendoscopy	Hugo Lehoux , Lisa Popeil and Jan Švec
P3	The balloon in the box model; exponential factors in voice control	Peter Pabon

RESONANCES - Fabrice Silva

Room 02

P4	Common base of western and non-western scales derived from vocal tract resonances	Patrick Hoyer and Louisa Traser
P5	Measuring vocal-tract impedance at the lips : model, hypotheses and limits	Timothée Maison , Fabrice Silva, Christophe Vergez and Nathalie Henrich Bernardoni
P6	Physical principle of using tubes for voice therapy methods demonstrated by experimental model of phonation	Jaromír Horáček, Vojtěch Radolf, Vítězslav Bula and Anne-Maria Laukkanen
P7	CT based FE modeling of the acoustic effects of nasality for vowels [a:] and [i:] in female voice	Tomáš Vampola, Jaromír Horáček and Anne-Maria Laukkanen

POSTER SESSION

Friday, december 4, 2020

PARALLEL POSTER MULTI-SESSIONS 15:00-16:30

OCCUPATIONAL VOICE - Angélique Remacle

Room 03

P8	Prolonged Effect of TENS on Semi-occluded Vocal Tract in Teachers of Chillán	<u>Jazmín Pérez-Serey</u> and Francisca Carrasco
P9	Effect of sleep and stress in voice functioning among college professors. A case study in a Colombian university	<u>Andres Carrillo Gonzalez</u> , Maryluz Camargo Mendoza and Lady Catherine Cantor-Cutiva
P10	Identification of teachers at risk for phonotrauma using ambulatory monitoring of speaking fundamental frequency	<u>Angélique Remacle</u> , Laetitia de Chambourcy and Nathalie Lefèvre
P29	Costs associated to voice disorders in Colombian telemarketers	<u>Harold Zamir Taborda Osorio</u> and Lady Catherine Cantor-Cutiva

VOCAL TRACT GEOMETRIES - Frédéric Berthommier

Room 04

P11	Tuning MRI-based vocal tracts to modify formants in the three-dimensional finite element production of vowels	<u>Marc Arnela</u> , Oriol Guasch and Arnau Pont
P12	Towards an open-access database of 3D shapes of the vocal tract and their aero-acoustical properties	<u>Mario Fleischer</u> and Peter Birkholz
P13	Monkey vocal tracts are not so «speech ready»	<u>Frédéric Berthommier</u>

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POSTER SESSION

Friday, december 4, 2020

PARALLEL POSTER MULTI-SESSIONS 15:00-16:30

VOICE QUALITY AND FREQUENCY ESTIMATION - Paul Luizard

Room 05

P14	The role of between-versus within-speaker acoustic variability in vocal identity perception	Jody Kreiman and Yoonjeong Lee
P15	Vocal strategies to signal biological fitness in public speaking: a study on the effects of aging in American English charismatic speech	Rosario Signorello and Didier Demolin
P16	Automatic fundamental frequency characterization of premature newborns' cries in Neonatal Intensive Care Unit	Bertille Met-Montot

GLOTTAL VIBRATIONS - Thomas Hélie

Room 06

P17	How does changing vocal fold vertical stiffness gradient change vibrations	Siddarth Khosla , Liran Oren and Charles Farbos de Luzan
P18	Measurement of phonatory power flows and efficiencies in a human airway phantom	Michael Krane , Paul Trzcinski, Gage Walters and Zachary Yoas
P19	Control volume analysis of glottal jet dynamics using time resolved pressure and velocity field measurements in a scaled up vocal fold model	Timothy Wei, Hunter Ringenberg, Dylan Rogers, Nathan Wei, Lucy Zhang and Michael Krane
P20	Estimation of vocal fold physiology from voice acoustics using an artificial neural network	Zhaoyan Zhang
P21	simVoice -Efficient acoustic propagation model of the human voice source using finite element method	Stefan Schoder , Alexander Hauser, Paul Maurerlehner, Sebastian Falk, Stefan Kniesburges, Michael Döllinger and Manfred Kaltenbacher

POSTER SESSION

Friday, december 4, 2020

PARALLEL POSTER MULTI-SESSIONS 15:00-16:30

VOCAL FOLD TISSUE - Lucie Bailly

Room 07

P22	Collagen fiber angles as a function of compression and depth within the nerve	Michael Christensen , Reza Behkam, Melissa Chao, Amanda Stark, Jonathan Vande Geest and Julie Barkmeier-Kraemer
P23	The impact of phonomimetic vibration on vocal fold inflammation	David Hortobagyi , Tanja Grossmann, Magdalena Maria Tschernitz, Magdalena Grill, Andrijana Kirsch, Claus Gerstenberger and Markus Gugatschka
P24	The effect of electronic cigarette and tobacco smoke exposure on vocal fold mucosa remodeling and inflammation	Vlasta Lungova
P25	Inverse finite element of the aortic arch, implications for UVP patients	Gloriani Sanchez Marrero, Reza Behkam, Andrew Bierhals, Julie Barkmeier-Kraemer and JonathanVande Geest

VOICE REHABILITATION - Aude Lagier

Room 08

P26	Pharyngoesophageal Segment Behavior in Esophageal and Tracheoesophageal Speech: A Review of Determining Aspects of Vocal Outcome	Ana Carolina Ghirardi and Andrey Ricardo da Silva
P27	Determination of an equivalent torsion spring constant for the valve flap of a tracheoesophageal voice prosthesis	Fernando H. T. Santos , Bárbara Rech, André M. C. Tourinho and Andrey R. da Silva
P28	The application of kinesiology tape as a tactile feedback for management of lower larynx position: a pilot study	Pedro Andrade , Marianne Bos-Clark, Janaina Pimenta and Sarah Catlow

KEYNOTE

SPEAKERS



INGO R. TITZE

*Executive Director,
National Center for Voice and Speech,
University of Utah, USA*

Ingo R. Titze is a vocologist with formal education in physics (PhD), electrical engineering (MSEE), and music. He directs the National Center for Voice and Speech at the University of Utah, where he holds adjunct appointments in Surgery, Biomedical Engineering, and Music. He is a Fellow and Honoree of the American Speech Language Association, a Silver Medalist of the Acoustical Society of America, and served as the first elected President of the Pan American Vocology Association. He has authored four books, edited three books, and published over 400 journal articles.

Dr. Titze continues to be an active singer.

KEYNOTE TALK TITLE:

40 years of history in vocal-fold physiology conferences



BRAD STORY

*Professor, Dept. of Speech,
Language, and Hearing Sciences,
The University of Arizona*

Brad Story is a Professor in the Department of Speech, Language, and Hearing Sciences at the University of Arizona. His research is concerned with development of computational, physically-based models that simulate the observed structure, movement, and acoustic characteristics of specific components of the speech production system. He has taught courses at both the undergraduate and graduate levels in Speech Science, Speech Perception, Acoustics, Hearing Science, and Anatomy and Physiology. Dr. Story is a fellow of the Acoustical

Society of America, recipient of the Rossing Prize in Acoustics Education and Willard R. Zemlin Lecture in Speech Science, and has served as an Associate Editor of the Journal of the Acoustical Society of America. He has authored over 100 publications in the area of voice and speech science.

KEYNOTE TALK TITLE:

Recent advances in modeling voice production

KEYNOTE

SPEAKERS



STEN TERNSTRÖM

*Professor of Music Acoustics,
Division of Speech, Music & Hearing,
School of Electrical Engineering and
Computer Science,
KTH Royal Institute of Technology,
Stockholm, Sweden*

The research interests of Sten Ternström center on technical aspects of voice acoustics, especially singing. This includes researching measurements of voice, usually for clinical purposes, and implementing them in practical forms. Lately, his hot topics have been how to address the methodological challenges of the great variability in voices; as well as various analyses of the electroglottogram. Sten Ternström also likes to stay current with acoustics and sound processing for music and audio, and teaches several courses on those topics. His PhD thesis was on the acoustics of choir singing, and this has been a sporadically recurring theme, especially in his outreach activities. Sten Ternström received his MScEE

in 1982, PhD in 1989 and became professor in 2003, all at KTH. He has been p.i. or co-p.i. in some twenty research projects, including including site and project coordination of two EU FET-Open projects on voice. He is a Fellow of the Acoustical Society of America and serves on several editorial boards, frequently reviewing for journals and conferences in speech, voice and audio.

KEYNOTE TALK TITLE:

Who's normal, and how can we know ?



CAROLINE BOUDOUX

*Professor, Laboratory of Optical
Diagnoses and Imagery,
Polytechnique Montréal, Canada*

Caroline Boudoux obtained her PhD in 2007 from the Harvard-MIT Division of Health Sciences and Technology (USA) in biomedical optics. After a post-doctoral fellowship at Ecole Polytechnique (France), she joined the Engineering Physics department of Polytechnique Montréal (Canada). Caroline Boudoux has been the head of the Laboratory of Optical Diagnoses and Imagery at Polytechnique Montréal since 2008. She focuses on the development of new imaging modalities and their clinical translation, and is specialized in the use of fibre-optic components for non-invasive observation of internal organs. All of Professor Boudoux's work employs

photonics, and encompasses optical coherence tomography, endoscopy, optical machining, non-linear microscopy, and confocal microscopy. Rookie entrepreneur, she also co-founded Castor Optics, Inc., a start-up commercializing double-clad fiber couplers.

KEYNOTE TALK TITLE:

Biomedical optics and recent advances in imaging modalities



JAN G. ŠVEC

*Associate Professor,
Voice Research Lab,
Department of Biophysics,
Faculty of Science, Palacký University,
Olomouc, Czech republic*

Jan G. Švec, Ph. D. is an internationally renowned Czech physicist performing basic research on production of human voice. He holds a MSc degree in fine mechanics and optics and PhD degrees in biophysics as well as in medical sciences. He has worked as a research scientist at the Center for Communication Disorders, Medical Healthcom, Ltd. in Prague, the Czech Republic, at the National Center for Voice and Speech in Denver, CO, USA and at the University of Groningen, the Netherlands. Currently he is at the Palacký University Olomouc, the Czech Republic and serves also as an associate research scientist at the Voice and Hearing Centre Prague. He designed videokymography, the method for high-speed visualization

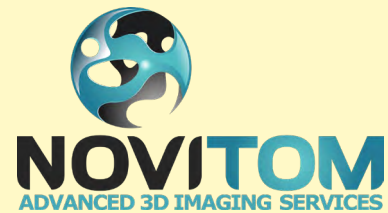
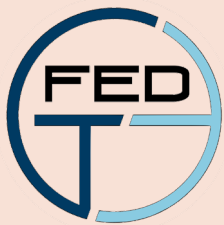
of vocal-fold vibrations, which is used for advanced diagnosis of voice disorders. His broad research interests include acoustics, biomechanics, voice measurement methodology, as well as singing voice. He collaborates with numerous research teams in Europe and USA and lectures world-wide. From 2004 to 2011 he served as the chairman of the Voice Committee of the International Association of Logopedics and Phoniatics (IALP).

KEYNOTE TALK TITLE:

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