SMAC Stockholm Music Acoustics Conference
SMC Sound and Music Computing Conference

2013

30 July — 3 August 2013

KTH Royal Institute of Technology, Stockholm, Sweden

Oral Presentations Programme

Version 2013.06.28

Tuesday July 30

RENCON Piano Competition Hall F2, KTH	**14.00 -16.30**	
Welcome Reception at KMH	**17.00**	Registration Desk open at KMH
Concert at KMH *(see separate programme)*	**18.00 -20.00**	

Wednesday July 31

	Lecture Hall F2		Alfvén Hall F1	
Registration Desk open outside F2		**08.30**	Registration Desk open outside F2	
	Plenary session →	**09.15**	Welcome & Opening	**Opening** *Chair:* Ternström
		09.45	KEYNOTE PRESENTATION Exploiting domain knowledge in music information research **X. Serra**	
COFFEE		**10.30**	***COFFEE***	
Woodwinds – reeds and flutes *Chair:* tba	INVITED PAPER The player–wind instrument interaction **J. Wolfe**	**11.00**	Measuring the interaction between bassoon and horn players in achieving timbre blend **S-A. Lembke, S. Levine, M. de Francisco and S. McAdams**	**Perception** *Chair:* tba
		11.15	A social network integrated game experiment to relate tapping to speed perception and explore rhythm reproduction **G. Bellec, A. Friberg, D. Wolff, A. Elowsson and T. Weyde**	
	Simulations of modal active control applied to the self-sustained oscillations of the clarinet **T. Meurisse, A. Mamou-Mani, R. Caussé and D. Sharp**	**11.30**	Methods for real time harmonic excitation of acoustic signals **S. Enderby, Z. Baracskai and C. Athwal**	
	An attempt at predicting the variation in playing frequencies for clarinets **W. Coyle, J. Kergomard, P. Guillemain, C. Vergez and A. Guilloteau**	**11.45**	Sensitivity to loudspeaker permutations during an eight-channel array reproduction of piano notes **F. Fontana, Y.i De Pra and A. Amendola**	
	Poster craze	**12.00**	Poster craze	
	LUNCH	**12.15**	***LUNCH***	

Woodwinds – reeds and flutes *Chair: tba*	Graph-based models for woodwinds **G. Le Vey**	**13.30**	3D Gestural interaction with harmonic pitch space **T. Hedges and A. McPherson**	**Human –Machine Interaction 1** *Chair: tba*
	Sound characteristics of a new bassoon as compared to modern German bassoon **T. Grothe and P. Wolf**	**13.45**	Audio-tactile feedback in musical gesture primitives: finger pressing **H. Järveläinen, S. Papetti, S. Schiesser and T. Grosshauser**	
	An experimental study of temperature variations inside a clarinet **D. Noreland**	**14.00**	VocaRefiner: An Interactive Singing Recording System with Integration of Multiple Singing Recordings **T. Nakano and M. Goto**	
	Vocal tract effects on the timbre of the saxophone **W. Li, J-M. Chen, J. Smith and J. Wolfe**	**14.15**	INVITED PAPER Child/machine interaction in reflexive environment. The MIROR platform **A. R. Addessi**	
	"In vivo" and "in vitro" characterization of single cane reeds **A. Munoz, B. Gazengel and J-P. Dalmont**	**14.30**		
	Poster craze	**14.45**	Poster craze	
	COFFEE	**15.00**	***COFFEE***	
Woodwinds – reeds and flutes *Chair: tba*	Study of the perceived quality of saxophone reeds by a panel of musicians **J-F. Petiot, P. Kersaudy, G. Scavone and S. McAdams**	**15.30**	Human-computer music performance: from synchronized accompaniment to musical partner **R. Dannenberg, N. Gold, A. Robertson, Z. Jin, O.-E. Sandu, P. Palliyaguru, A. Stark and R. Kleinberger**	**Performance 1** *Chair: tba*
	Influence of pad "resonators" on saxophone admittance **P. Eveno, M. Curtit, J-P. Dalmont and R. Caussé**	**15.45**	Conducting a virtual ensemble with a kinect device **A. Rosa-Pujazón, I. Barbancho, L. Tardón and A.M. Barbancho**	
	Determination of 2D quasi incompressible flow around a recorder labium **R. Auvray, P-Y. Lagrée and B. Fabre**	**16.00**	Virtual conductor for string quartet practice **R. Baez, A.M. Barbancho, A. Rosa-Pujazon, I. Barbancho and L.J. Tardon**	
	Is the jet-drive flute model able to produce modulated sounds like Flautas de Chinos ? **S.Terrien, C. Vergez, P. de La Cuadra and B. Fabre**	**16.15**	Acoustic score following to musical performance with errors and arbitrary repeats and skips for automatic accompaniment **T. Nakamura, E. Nakamura and S. Sagayama**	
	The design of a chromatic quena: how can linear acoustic help? **C. Vauthrin, B. Fabre and P. de La Cuadra**	**16.30**	A contour-based jazz walking bass generator **R. Dias and C. Guedes**	
	Numerical modeling of a recorder in three dimensions **N. Giordano**	**16.45**	LANdini: a networking utility for wireless LAN-based laptop ensembles **J. Narveson and D. Trueman**	
CONCERT KMH		**18.00 – 20.00**	CONCERT KMH	
ELECTROACOUSTIC PUB KTH		**21.00 – 23.00**	ELECTROACOUSTIC PUB KTH	

Thursday August 1

	Lecture Hall F2		Alfvén Hall F1	
Singing *Chair: Johan Sundberg*	INVITED PAPER < title tba > **K-I. Sakakibara**	**09.00**	Multi-scale design of interactive music systems : the libTuiles experiment **D. Janin, F. Berthaut and M. Desainte-Catherine**	**Human –Machine Interaction 2** *Chair: tba*
		09.15	Real-time notation using brainwave control **J. Eaton and E. Miranda**	
	Assessment of the acoustical impact of piriform sinuses in MRI based vocal tract replicas **B. Delvaux and D. Howard**	**09.30**	Composing for Cars **A. Parkinson and A.Tanaka**	
	Interference-free observation of temporal and spectral features in "shout" singing voices and their perceptual roles **H. Kawahara, M. Morise and K-I. Sakakibara**	**09.45**	Downy Oak: rendering ecophysio-logical processes in plants audible **M. Maeder and R. Zweifel**	
	Power control for the second harmonic at high pitches in soprano singing: A case study **H. Takemoto, S. Adachi, T. Saitou, K. Honda, E. Haneishi and H. Kishomoto**	**10.00**	INVITED PAPER Sonification and auditory displays in electronic devices **B. Walker**	
	Formant frequencies of sung vowels intonated by six traditional Japanese Shigin singers. Part I and II. **M. Nakayama, K. Kato and M. Matsunaga**	**10.15**		
	COFFEE	**10.30**	***COFFEE***	
	Experimental study of the frequency leap interval produced by the change of laryngeal vibratory mechanism during sustained notes **S. Lamesch, B. Doval and M. Castellengo**	**11.00**	Controlling a sound synthesizer using timbral attributes **A. Pošćić and G. Kreković**	**Sonic Interaction Design** *Chair: tba*
	Acoustic characteristics of vibrato in different singing styles **N. Amir, I. Ronen and O. Amir**	**11.15**	A quantitative review of mappings in musical iOS applications **T. Kell and M. Wanderley**	
	Diverse resonance tuning strategies for women singers **J. Smith, J. Wolfe, N. Henrich and M. Garnier**	**11.30**	Acoustics-like dynamics in signal-based synthesis through parameter mapping **B. Gaffney and T. Smyth**	
	Glitch free FM vocal synthesis **C. Chafe**	**11.45**	Real, foley or synthetic? An evalua-tion of everyday walking sounds **A. de Götzen, E. Sikström, F. Grani and S. Serafin**	
	LUNCH	**12:00**	***LUNCH***	
	Testing a new protocol to measure tuning response behaviour in solo voice ensemble singing **H. Daffern and J. Brereton**	**13.30**	Spectral distortion using second-order allpass filters **G. Surges and T. Smyth**	**Synthesis 1** *Chair: tba*
	Temporal coordination in vocal duet performances of musical rounds **C. Palmer, F. Spidle, E. Koopmans and P. Schubert**	**13.45**	Multichannel control of spatial extent through sinusoidal partial modulation **A. Cabrera and G. Kendall**	

	Parametrization of Byzantine chant ethos through acoustic analysis:from theory to praxis **A. Georgaki, A. Chaldaikis and T. Tzevelekos**	**14.00**	Real time digital audio processing using Arduino **A.J. Bianchi and M. Queiroz**	
Brass Instruments *Chair: tba*	The playing frequency of the trombone and the impedances of the upstream and downstream ducts **H. Boutin, N. Fletcher, J. Smith and J. Wolfe**	**14.15**	Semi-automatic melody extraction using note position and pitch information from users **A. Laaksonen**	**MIR 1** *Chair: tba*
	Trombone sound simulation under varying upstream coupling conditions **V. Fréour and G.P. Scavone**	**14.30**	Joint F0 and inharmonicity estimation using second order optimization **H. Hahn and A. Röbel**	
	Time domain simulation of standing waves in brass wind instruments taking non-linear wave steepening into account **W. Kausel and C.B. Geyer**	**14.45**	Poster craze	
	COFFEE	**15.00**	*COFFEE*	
	Control of an artificial mouth playing a trombone **N. Lopes, T. Hélie and R. Caussé**	**15.30**	Motion recurrence analysis in music performances **E. Teixeira, H. Yehia, M. Loureiro and M. Wanderley**	**Performance 2** *Chair: tba*
	Muscle activity in playing trumpet **S. Matsukata, H.Terasawa, M. Matsubara and T. Kitahara**	**15.45**	Observed differences in rhythm between performances of classical and jazz violin students **E. Guaus, O. Saña and Q. Llimona**	
	Timpani-horn interactions at the player's lips **J-M. Chen, J.Smith and J. Wolfe**	**16.00**	Tremolo technique on the acoustic guitar: experimental setup and preliminary results on regularity **S. Freire and L. Nézio**	
	Pitch bending techniques on early horns by manipulation of the embouchure **L. Norman, J. Kemp, J. Chick and M. Campbell**	**16.15**	Audio interpolation and morphing via structured-sparse linear regression **C. Kereliuk, P. Depalle and P. Pasquier**	**Synthesis 2** *Chair: tba*
		16.30	Warped Frames: dispersive vs. non-dispersive sampling **G. Evangelista**	
		16.45 -17.00	Improved polynomial transition regions algorithm for alias-suppres-sed signal synthesis **D. Ambrits and B. Bank**	

RECEPTION STOCKHOLM CITY HALL	**18.00 – 20.00**	RECEPTION STOCKHOLM CITY HALL
CONCERT KMH	**21.00 – 23.00**	CONCERT KMH

Friday August 2

Knut Guettler Sessions Violin acoustics, making and evaluation *Chair:*	Lecture Hall F2		Alfvén Hall F1	
	Knut Guettler in memoriam **A. Askenfelt**	**09.00**	Towards a discrete electronic transmission line as a musical harmonic oscillator **K. Buys and R. Auvray**	**Synthesis 3** *Chair: tba*
	INVITED PAPER Playability of bowed-string instruments **J. Woodhouse**	**09.15**	Solving interactions between nonlinear resonators **J. Bensoam and D. Roze**	
		09.30	An energy conserving finite difference scheme for simulation of collisions **V. Chatziioannou and M. van Walstijn**	
	INVITED PAPER On the effective material properties of violin plates **E. Davis**	**09.45**	On finite difference schemes for the 3-d wave equation using non-cartesian grids **B. Hamilton and S. Bilbao**	
		10.00	The influence of graphical user interface design on critical listening skills **J. Mycroft**	**HMI 3** *Chair: tba*
	Enhanced simulation of the bowed cello string **H. Mansour, J. Woodhouse and G. Scavone**	**10.15**	Discrete isomorphic completeness and a unified isomorphic layout format **B. Park and D. Gerhard**	
	COFFEE	**10.30**	*COFFEE*	
	Vibrational modes of the violin family **C. Gough**	**11.00**	Large data sets & recommender systems: feasible approach to learning music **J. Gabriel**	**Music Information Retrieval 3** *Chair: tba*
	Digital modeling of bridge driving-point admittances from measurements on violin-family instruments **E. Maestre, G. Scavone and J.O. Smith**	**11.15**	Comparing timbre-based features for musical genre classification **M. Hartmann, P. Saari, P.Toiviainen and O. Lartillot**	
	Effect of holding the violin and soundpost removal on violin radiation via the dynamic filter model **G. Bissinger**	**11.30**	Similarity search of freesound environmental sound based on their enhanced multiscale fractal dimension **M. Sunouchi and Y.Tanaka**	
	Acoustic characterisation of violin family signature modes by internal cavity measurements **C. Gough**	**11.45**	Using semantic layer projection for enhancing music mood prediction with audio features **P. Saari, T. Eerola, G. Fazekas and M. Sandler**	
LUNCH		**12.00**	*LUNCH*	

	Plenary session →	13.15	KEYNOTE PRESENTATION Music as the goal of training and means of rehabilitation: evidence from brain science **M. Tervaniemi**	
Knut Guettler Sessions **Violin acoustics, making and evaluation** *Chair:*	INVITED PAPER Acoustic measurements in the workshop **G. Stoppani**	14.00	A preliminary computational model of immanent accent salience in tonal music **R. Parncutt, E. Bisesi and A. Friberg**	**Performance 3** *Chair: tba*
		14.15	Expressive production of piano timbre: touch and playing techniques for timbre control in piano performance **M. Bernays and C.Traube**	
	The influence of plate arching and thickness on the second and fifth mode on violin tops **M. Tinnsten and P. Carlsson**	14.30	Composing social interactions for an interactive-spatial performance system **A. Parkinson and K.Tahiroğlu**	
	The influence of different driving conditions on the frequency response of bowed-string instruments **A. Zhang and J. Woodhouse**	14.45	How do people assess computer generated expressive music performances? **S. Canazza, G. De Poli and A. Rodà**	
	Analysis of bridge mobility of violins **B. Elie, F. Gauthier and B. David**	15.00	*COFFEE*	
	COFFEE	15.15		
		15.30	Beat-station: a real-time rhythm annotation software **M. Miron, F. Gouyon, M.E.P. Davies and A. Holzapfel**	**MIR 3** *Chair: tba*
	INVITED PAPER On perceptual evaluation of instruments: The case of the violin put into perspective **C. Fritz**	15.45	Modelling perception of speed in music audio **A. Elowsson and A. Friberg**	
		16.00	INVITED PAPER PHENICX: Performances as Highly Enriched and Interactive Concert Experiences **E. Gomez, M. Grachten, A. Hanjalic, J. Janer, S. Jordà, C. F. Julià, C. Liem, A. Martorell, M. Schedl and G. Widmer**	**SMC Summer School** *Chair: Roberto Bresin*
	Evaluating violin quality: A comparison of player reliability in constrained vs unconstrained tasks. **C. Saitis, G. P. Scavone, C. Fritz and B. L. Giordano**	16.15		
	Violin quality evaluation: Examining the role of auditory and vibrotactile feedbacks **I. Wollman, C. Fritz, J. Poitevineau and S. McAdams**	16.30	INVITED PAPER Modelling emotional effects of music: key areas of improvement **T. Eerola**	
	Acoustical constraints and individual preference in the coordination of complex bowing patterns **E. Schoonderwaldt, M. Demouchron and E. Altenmüller**	16.45		
	BANQUET Waxholm Castle	18.00 - 23.00	BANQUET Waxholm Castle	

	Saturday August 3			
	Lecture Hall F2		SMC Summer School	
Physical Modeling *Chair:*	*Sleep in*	**9.00**		
	INVITED Acoustics of pianos: Physical modeling, simulations and experiments **A. Chaigne**	**9.30**		
	Large scale physical modeling sound synthesis **S. Bilbao, B. Hamilton, A.Torin, C. Webb, P. Graham, A. Gray, K. Kavoussanakis and J. Perry**	**10.00**		
	Coupled modes and time-domain simulations of a twelve-string guitar with a movable bridge **M. Marques, J. Antunes and V. Debut**	**10.15**		
	COFFEE	**10.30**		
	Modeling a vibrating string terminated against a bridge with arbitrary geometry **D. Kartofelev, A.Stulov, H-M. Lehtonen and V. Välimäki**	**11.00**		
	Distributed piano soundboard modeling with common-pole parallel filters **S. Zambon**	**11.15**		
	Simulated effects of combined control applied to an experimentally identified soundboard **S. Benacchio, B. Chomette, A. Mamou-Mani and F. Ollivier**	**11.30**		
	Sound synthesis of gongs obtained from nonlinear thin plates vibrations **M.Ducceschi, C.Touzé and S. Bilbao**	**11.45**		
	LUNCH	**12.00**		
Percussions *Chair:*	Nonlinear vibrations of steelpans: Analysis of mode coupling in view of modal sound synthesis **M. Monteil, C.Touzé and O.Thomas**	**13.15**		
	Time-resolved interferometry and phase vocoder analysis of a Caribbean steelpan **A. Morrison, D. Zietlow and T.Moore**	**13.30**		
	The role of damping in steel pan manufacture. **C. Barlow, S. Maloney and J. Woodhouse**	**13.45**		
	Objective approach for assessing the tuning properties of historical carillons **V. Debut, M. Carvalho and J. Antunes**	**14.00**		
	Experimental study of coupled drumhead vibrations using electronic speckle-pattern interferometry **R. Worland**	**14.15**		
	Numerical experiments with non-linear double membrane drums **A. Torin and S. Bilbao**	**14.30**		
Adjourn		**14.45**		