Mr. CHU Ning

Born: Jan. 1983
Nationality: Chinese
Marital status: Single
Affiliation: Laboratoire des Signaux et Systèmes (L2S), CNRS-SUPELEC-Univ. Paris-Sud, 3 rue Juliot-Curie, 91192, Gif
Cell phone: +33 [0]6-58-25-37-27
Office Tel: +33 [0]1-69-85-17-43
E-mail: ning.chu@lss.supelec.fr, chuning1983@gmail.com
Website: http://www.l2s.supelec.fr/en/perso/chu

JOB APPLICATION

Reserach engineer in acoustic signal processing/ acoustic microphone system/ aeroacoustic experiment of wind tunnel/ room acoustics

COMPETENCES

Research: Array Signal Processing in Acoustic Inverse Problem, Acoustic Imaging& System, Bayesian Inference, Real-Time Signal Processing.
Programming: MATLAB, GPU, MATHEMATICA, C, C++ , MFC, DSP, Verilog.
Languages: **Chinese**: mother tongue; **English**: excellent (7/9 IELTS); **French**: fluent; **German** &**Spanish & Italian**: notion.

Education

- **2010/2013**
  PhD, University Paris-Sud**,** France,
  Bayesian Inference in Acoustic Imaging,
  Directors: Ali MOHAMMAD-DJAFARI , José PICHERAL , Nicolas GAC.
- **2009/2010**
  Master, University Paris-Sud**, Supélec,** France,
  Signal and Image Processing, good notes (14/20).

PROFESSIONAL EXPERIENCE

◆ Projects

2010-13 Data processing, algorithms & implementation for **S2A** wind tunnel experiments, **RENAULT,** France

◆ Co-supervision

2013 Senior undergraduate internship, University Paris-Sud**,** France
Fast acoustic imaging using GPU
Co-supervised with Dr. Nicolas GAC, (L2S)

2013 Master internship, SUPEPEC, France
Acoustic source separation using deconvolution method.
Co-supervised with Dr. José PICHERAL, (SUPELEC)

◆ Teaching

2012 Digital electronics, University Paris-Sud**,** France,
BAC+2, Programming of Micro Controller (39h, in French);
Digital signal processing, University Paris-Sud,
BAC+2, Exercise (21h, in French);

- **Master Internship**

2010 Super-resolution: registration and restorations of images,
L2S. CNRS-SUPELEC-Univ. Paris-Sud, France,
Directors: Ali MOHAMMAD-DJAFARI, Nicolas GAC.

HONORS

INTERNATIONAL

- **HP Scholarship** awarded by Hewlet Packard (HP) Corporation, Jul. 2008
- **Meritorious Prize** (First Prize) in International Interdisciplinary Mathematical Contest in Modeling (**IMCM**), by American Institute for Operations Research and the management Sciences, the Society for Industrial and Applied Mathematics, the Mathematical association of America, National Security Agency(USA). Apr. 2006.
- **Honorable Mention Prize** (Second Prize) in International **IMCM** Apr. 2005.

CHINA

- China **Kwang-Hua Scholarship** for the Outstanding Student, 2006-2007
- First Prize in China Graduates **MCM**, China Education Ministry, Dec. 2006
- First Prize in China Undergraduates **MCM**, China Education Minister, Dec.2004
- Excellent Paper Prize of the periodical MATHEMATICAL MODELLING, Nov. 2004
- First Prize in Hunan Province Undergraduates **MCM**, Hunan Province Education Committee, Nov. 2004

MEMBERSHIPS

- IEEE student member since 2007.
- Student member of Acoustic Society of France since 2012.

HOBBYS

Tourism, Golf, Swimming, Diving, Camping, Reading, Classical music, Gastronomy

PUBLICATIONS

JOURNAL

- **N. CHU**, A.M. Djafari, N. Gac, and J. Picheral, *An invariant convolution model and its Variational Bayesian Approximation approach via Students-t priors for acoustic imaging in nonstationary noises*, Journal of the Acoustical Society of America **(SCI),** to Submit 2013.
- **N. CHU**, A.M. Djafari, N. Gac, and J. Picheral, *A fast Bayesian hierarchical inference via sparsity enforcing a priori for aeroacoustic source imaging in colored noises*, Journal of the Acoustical Society of America **(SCI)**, Vol. 19, 055031, 2013.
- **N. CHU**, J. Picheral and A. M. Djafari, A *robust super-resolution approach via sparsity constraint in acoustic imaging*, **Applied Acoustics (SCIE) ,** Vol. 76, pp 197–208, Feb 2014.
- **N. CHU**, A. M. Djafari and J. Picheral, *Robust Bayesian super-resolution approach via sparsity enforcing priors for near-field acoustic source imaging*, **Journal of Sound and Vibration (SCI)**, Vol. 332, No. 18, pp 4369-4389, Feb. 2013. DOI : 10.1016/j.jsv.2013.02.037.
- **N. CHU**, Kai Zhang and Yan Zhou, *A New Method to Solve the Congestion of the Electric Power in China Market based on Segmental Linear Programming Model*, **MATHEMATICAL MODELING**, Vol.1, No.1, Nov. 2004, pp. 35-50.

INTERNATIONAL CONFERENCE

- **N. CHU**, A. M. Djafari and J. Picheral, *A Bayesian sparse inference approach in near-field wideband aeroacoustic imaging*, 2012 IEEE International Conference on Image Processing, Orlando (**ICIP2012**), USA, Sep. 30-Oct. 4, 2012.
- **N. CHU**, A. M. Djafari and J. Picheral, *Bayesian compressed sensing in near-field wideband aeroacoustic imaging*, 1st International Workshop on Compressed Sensing applied to Radar (**CoSeRa2012**), Bonn, Germany, May 14-16, 2012.
- **N. CHU**, A. M. Djafari and J. Picheral, *Bayesian sparse regularization in near-field wideband aeroacoustic imaging for wind tunnel test*, 2012 IOA annual meeting and 11th Congrès Français d'Acoustique (**ACOUSTICS2012**), Nantes, France, Apr. 23-27, 2012, pp. 1391-1396.
- **N. CHU**, A. M. Djafari and J. Picheral, *Two robust super-resolution approaches with sparsity constraint and sparse regularization for near-field wideband extended aeroacoustic source imaging*, Berlin Beamforming Conference 2012 (**BeBeC2012**), Berlin, Germany, Feb. 22-23, 2012, pp. 29.
- **N. CHU**, J. Picheral and A.M. Djafari, *A robust super-resolution approach with sparsity constraint for near-field wideband acoustic imaging*, IEEE International Symposium on Signal

Processing and Information Technology (**ISSPIT2011**), Bilbao, Spain, Dec. 14-17, 2011, pp. 310-315.

INVITED TALKS IN SEMINARS

- *Deconvolution methods in high resolution acoustic imaging on real data from wind tunnel S2A.* Seminar with researchers of Renault SAS, 1 avenue de golf Guyancourt 78288 France, Jul. 2011.
- *Robust super-resolution methods with sparsity constraint and sparse regularization in acoustic imaging.* GRESTI Summer School, Peyresq 04170 France, Aug. 2011 .
- *Bayesian methods in acoustic imaging on simulations and real data in wind tunnel. Seminar with researchers of ONERA*, Laboratoire des signaux et systèmes (L2S) UMR 8506, 3 rue Joliot-Curie 91192 Gif-sur-yvette France, Oct. 2011 .
- *Bayesian super-resolution approach via sparsity enforcing a prior in aeroacoustic imaging. Seminar of GdRiSiS*, Telecom ParisTech, 46 Rue Barrault 75013 Paris France, Nov. 2012
- *Robust Bayesian super-resolution approach in acoustic imaging.* Laboratoire de Mécanique et d'Acoustique (lMA) UPR 7051, 31 chemin Joseph-Aiguier 13402 Marseille France, Jan. 2013
- *Efficient Bayesian Variational Approximation method in acoustic imaging.* Laboratoire d'Analyse Topologie Probabilités (LATP) UMR 7353, 39 rue F.Joliot Curie 13453 Marseille France, Mar. 2013
- *An efficient Bayesian inference approach using 2D invariant convolution approximation in acoustic imaging.* Seminar of GdRiSiS, Telecom ParisTech, 46 Rue Barrault 75013 Paris France, May. 2013