

## CURRICULUM VITAE

### 1. PERSONAL DATA

First Name: Christian  
Last name: SOIZE

Organization: Université Gustave Eiffel  
Laboratoire Modélisation et Simulation Multi-Echelle (MSME UMR 8208 CNRS)  
5 boulevard Descartes  
77454 Marne-la-Vallée Cedex 2, France

Tel : (331) 60 95 76 61  
E-mail : christian.soize@univ-eiffel.fr

### 2. HIGHEST DEGREE

Thèse de Doctorat d'Etat ès Sciences Physiques obtained in 1979 at Pierre et Marie Curie (Paris VI) University, Paris, France.

### 3. PROFESSIONAL EXPERIENCE

- . Professor Emeritus, Université Gustave Eiffel, 2016 - present.
- . Professor, Université Paris-Est Marne-la-Vallée (become Université Gustave Eiffel) , 2001 - 2016.
- . Researcher, ONERA (French Aeronautical & Aerospace Research Center), 1981 - 2001.

### 4. TEACHING (until September 2016).

- . Uncertainty Modeling and Uncertainty Quantification in Computational Mechanics - Applications to Structural Dynamics, Vibrations and Vibroacoustics of Complex Mechanical Systems.
- . Structural dynamics and vibration
- . Probability and Stochastic Modeling in Mechanics.

### 5. RESEARCH AREAS.

- . Statistical Learning, Probabilistic Learning, Machine Learning, and Nonconvex Optimization Problem.
- . Uncertainty Quantification, stochastic modeling of uncertainties in computational mechanics, their propagation and their quantification solving stochastic inverse problems.
- . Stochastic multi-scale modeling and application to microstructures of heterogeneous materials.
- . Computational mechanics, linear and nonlinear structural dynamics, structural acoustics, vibroacoustics and coupled systems.
- . Computational stochastic dynamics for linear and nonlinear dynamical systems.

### 6. AWARDS AND HONORS

- . 1985 "Madame Victor Noury" Prize awarded by the French Academy of Sciences in Paris.
- . 2001 "Research Award" in the area of Stochastic Dynamics awarded by IASSAR (International Association for Structural Safety and Reliability) at ICOSAR 2001 at Newport Beach, California, USA, June 17-22, 2001.
- . 2011 "Senior Research Prize" in the area of Development of Methodologies for Structural Dynamics awarded by EASD (European Association of Structural Dynamics) at EURO DYN 2011, Leuven, July 4-6, 2011.
- . 2018 "IACM Award Computational Mechanics" delivered by the International Association for Computational Mechanics (IACM) at the 13th World Congress in Computational Mechanics, New York, USA, 22-27 July 2018.
- . 2022 "Alfred M. Freudenthal Medal" delivered by the American Society of Civil Engineers (ASCE) for "fundamental contributions to computational stochastic mechanics and its application to emerging problems in engineering" at the EMI 2022 Conference in Baltimore, MD, USA, May 31- June 3, 2022.

- . 2001 "Fellow of the Acoustical Society of America".
- . 1995 "Chevalier dans l'ordre des Palmes Académiques" awarded by the French Ministry of Education.
- . 2015 "Chevalier dans l'ordre National du Mérite" awarded by the French Ministry of Education.
- . 2016 "Officier dans l'ordre des Palmes Académiques" awarded by the French Ministry of Education.
  
- . Plenary speaker, UNCECOMP 2019, 3rd International Conference on Uncertainty Quantification in Computational Sciences and Engineering and COMPDYN 2019, 7th International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, Island of Crete, Greece, June 24-26, 2019.
- . Plenary speaker, UNCECOMP 2017, 2nd International Conference on Uncertainty Quantification in Computational Sciences and Engineering and COMPDYN 2017, 6th International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, Rhodes Island, Greece, June 15-17, 2017.
- . Semi-Plenary Speaker, ECCOMAS Congress 2016, European Congress on Computational Methods in Applied Sciences and Engineering, the Island of Crete, Greece, June 5-10, 2016.
- . Plenary Speaker, UNCECOMP 2015, 1st ECCOMAS Thematic International Conference on Uncertainty Quantification in Computational Sciences and Engineering, the Island of Crete, Greece, May 25-27, 2015.
- . Semi-Plenary Speaker, COMPDYN 2009, Computational Methods in Structural Dynamics and Earthquake Engineering, Island of Rhodes, Greece, June 22-24, 2009.
- . Plenary Speaker, EM08, The Inaugural International Conference of the Engineering Mechanics Institute, University of Minnesota, Minneapolis, Minnesota, USA, May 16-21, 2008.
- . Semi-Plenary Speaker, COMPDYN 2007, Computational Methods in Structural Dynamics and Earthquake Engineering, Rethymno, Crete, Greece, June 13-15, 2007.
- . Plenary Speaker, ICOSSAR 2005, 9th International Conference on Structural Safety and Reliability, Roma, Italy, June 19-22, 2005.
- . Plenary Speaker, EURODDYN 2002, 4th European Conference on Structural Dynamics, Munich, September 2-5, 2002.
- . Plenary Speaker, 16th International Congress on Acoustics and 135th meeting Acoustical Society of America, Seattle, Washington, USA, June 20-26, 1998.

## 7. PUBLICATIONS

Preprints of papers and communications can be found in Multidisciplinary Open Archive, HAL, go to the link  
<https://pagespro.univ-gustave-eiffel.fr/christian-soize>

Published papers and communications can be found in Scholar Google, go to the link  
<https://scholar.google.fr/citations?user=XktTSHMAAAAJ&hl=fr>

### 7.1. Books

- [9] - C. Soize, *Uncertainty Quantification. An Accelerated Course with Advanced Applications in Computational Engineering*, Interdisciplinary Applied Mathematics, Springer, New York, **2017**.
- [8] - R. Ohayon and C. Soize, *Advanced Computational Vibroacoustics - Reduced-Order Models and Uncertainty Quantification*, Cambridge University Press, New York, **2014**.
- [7] - C. Soize, *Stochastic Models of Uncertainties in Computational Mechanics*, American Society of Civil Engineers (ASCE), Reston, **2012**.
- [6] - C. Soize, *Dynamique des structures, Eléments de base et concepts fondamentaux*, Ellipse, Paris, **2001**.
- [5] - R. Ohayon and C. Soize, *Structural Acoustics and Vibration*, Academic Press, San Diego, London, **1998**.
- [4] - C. Soize, *The Fokker-Planck Equation for Stochastic Dynamical Systems and its Explicit Steady State Solutions*, World Scientific Publishing Co Pte Ltd, Singapore, **1994**.
- [3] - C. Soize, *Méthodes mathématiques en analyse du signal*, Masson, Paris, **1993**.
- [2] - P. Krée and C. Soize, *Mathematics of Random Phenomena*, D. Reidel Publishing Company, Dordrecht, **1986** (version Anglaise revue et augmentée de *Mécanique aléatoire*).
- [1] - P. Krée et C. Soize, *Mécanique aléatoire*, Dunod, Paris, **1983**.

## 7.2. Chapters of books

- [15] - R. Ohayon, C. Soize, Computational vibroacoustics in low- and medium- frequency bands: damping, ROM, and UQ modeling, pp. 134-172, in *Advances in Vibroacoustics and Aeroacoustics of Aerospace and Automotive Systems*, edited by R. Citarella and L. Federico, doi: 10.3390/books978-3-03842-852-7, ISBN 978-3-03842-852-7, Applied Sciences, MDPI, Basel, Switzerland, 2018.
- [14] - J. Guillemot, C. Soize, Non-Gaussian Random Fields in Multiscale Mechanics of Heterogeneous Materials, pp. 1-9, in *Encyclopedia of Continuum Mechanics*, edited by H. Altenbach and A. Ochsner, doi:10.1007/978-3-662-53605-6.68-1, ISBN 978-3-662-55877-5, Springer, 2018.
- [13] - C. Soize, Random matrix models and nonparametric method for uncertainty quantification, Vol. 1, pp. 219-287, in *Handbook of Uncertainty Quantification*, edited by R. Ghanem, D. Higdon, and H. Owhadi, doi:10.1007/978-3-319-11259-6.5-1, Springer International Publishing Switzerland, 2017.
- [12] - C. Soize, Random vectors and random fields in high dimension - Parametric model-based representation, identification from data, and inverse problems, Vol. 2, pp. 883-935, in *Handbook of Uncertainty Quantification*, edited by R. Ghanem, D. Higdon, and H. Owhadi, doi:10.1007/978-3-319-11259-6.30-1, Springer International Publishing Switzerland, 2017.
- [11] - R. Ohayon, C. Soize, Structural dynamics, pp. 1424–1429, in *Encyclopedia of Applied and Computational Mathematics (EACM)*, edited by B. Engquist, doi:10.1007/978-3-540-70529-1, Springer-Verlag Berlin Heidelberg, 2015.
- [10] - J. Yvonnet, Q. C. He, E. Monteiro, A. Binh Tran, C. Toulemonde, J. Sanahuja, A. Clément, C. Soize, Non-concurrent computational homogenization of nonlinear, stochastic and viscoelastic materials, pp. 1157–1196, in *Handbook of Micromechanics and Nanomechanics*, edited by Shaofan Li (UC Berkeley) and Prof. Xin-Lin Gao (University Texas), Pan Stanford Publishing Pte Ltd, <http://www.panstanford.com>, 2013.
- [9] - A. Batou, C. Soize, Random dynamical response of a multibody system with uncertain rigid bodies, pp.1-14, in *Computational Methods in Stochastic Dynamics, Volume 2*, edited by M. Papadrakakis, M. Fragiadakis, and V. Plevris, Computational Methods in Applied Sciences Series, Volume 26, DOI 10.1007/978-94-007-5134-7-1, Springer, Dordrecht, 2012.
- [8] - C. Soize, Stochastic models of uncertainties in computational structural dynamics and structural acoustics, pp. 61–113, in *Nondeterministic Mechanics*, edited by I. Elishakoff and C. Soize, CISM Courses and Lectures (Udine), International Centre for Mechanical Sciences, vol. 539, Springer Wien, New York, 2012.
- [7] - C. Soize, Random matrices in structural acoustics, pp. 206–230, in *New Directions in Linear Acoustics: Random Matrix Theory, Quantum Chaos and Complexity*, edited by M. Wright and R. Weaver, Cambridge University Press, Cambridge, 2010.
- [6] - C. Soize, C. Chen, J.-F. Durand, D. Duhamel, L. Gagliardini, Computational elastoacoustics of uncertain complex systems and experimental validation, pp. 71-84, in *Computational Structural Dynamics and Earthquake Engineering*, edited by M. Papadrakakis, D.C. Charmpis, N.D. Lagaros, and Y. Tsompanakis, Structures and Infrastructures Series, Volume 2, Published by CRC Press / Balkema, Taylor and Francis Group, London, UK, 2009.
- [5] - F. Poirion, C. Soize, Numerical methods and mathematical aspects for simulation of homogeneous and non homogeneous Gaussian vector fields, pp. 17–53, in *Probabilistic Methods in Applied Physics*, edited by P. Krée and W. Wedig, Springer-Verlag, Berlin, 1995.
- [4] - C. Soize, Exact steady-state solution of FKP equation in higher dimension for a class of non-linear Hamiltonian dissipative dynamical systems excited by Gaussian white noise, pp. 284–309, in *Probabilistic Methods in Applied Physics*, edited by P. Krée and W. Wedig, Springer-Verlag, Berlin, 1995.
- [3] - C. Soize, Prediction of the high-frequency behavior of coupled fluid structure systems by the SEA method and applications, pp. 55–77, in *Computational Methods for Fluid-Structure Interaction*, edited by J.M. Crolet and R. Ohayon, Longman Scientific and Technical, 1994.
- [2] - C. Soize, *Problèmes classiques de dynamique stochastique : méthodes d'étude*, Collection Mathématiques Appliquées, Numéro 11, Fascicule A1 346, pp. 1–61, Techniques de l'Ingénieur, traité Sciences Fondamentales, Edition Périodique TI, Paris, 1988.
- [1] - C. Soize, The local effects in the linear dynamic analysis of structures in the medium frequency range, pp. 253–275, in *Local Effects in the Analysis of Structures*, edited by P. Ladevèze, Elsevier, Amsterdam, 1985.

### 7.3. Editor of Books, Proceedings and Special Issues of International Journals

- [7] - J.L. Beck, W. Graf, C. Soize, Guest Editors of the Special Issue: "Computational Intelligence in Structural Engineering and Mechanics" of *Computer-Aided Civil and Infrastructure Engineering*, doi:10.1111/mice.12150, **30**(5), pp. 329-411, 2015.
- [6] - J.L. Beck, W. Graf, C. Soize, Guest Editors of the Special Issue: "Computational Intelligence in Structural Engineering and Mechanics" of *Computer-Aided Civil and Infrastructure Engineering*, doi:10.1111/mice.12070, **29**(3), pp. 159-233, 2014.
- [5] - J.L. Beck, W. Graf, C. Soize, Guest Editors of the Special Issue: "Computational Intelligence in Structural Engineering and Mechanics" of *Computer-Aided Civil and Infrastructure Engineering*, doi: 10.1111/j.1467-8667.2012.00784.x, **27**(9), pp. 639-730, 2012.
- [4] - I. Elishakoff and C. Soize (Eds), *Nondeterministic Mechanics*, International Centre for Mechanical Sciences (CISM - Udine) book, ISBN 978-3-7091-1305-9, Springer Wien, New York, 2012.
- [3] - M. Ichchou, C. Soize, M. Haddar (Guest Eds), Dynamics of Materials, Structures and Systems, *European Journal of Computational Mechanics*, **20**(1-4) 7-245 (2011).
- [2] - C. Soize and G.I. Schueller (Eds), *Structural Dynamics EUROLYN 2005*, ISBN 90 5966 033 1, Millpress, Rotterdam, Netherlands, Vol. 1 pp. 1-758, Vol. 2 pp 761-1528, Vol. 3 pp. 1533-2250 (2005).
- [1] - R. Bouc and C. Soize (Eds), *Progress in stochastic structural dynamics*, Publications du LMA-CNRS, ISBN 2-909669-16-5, **152** (1999).

### 7.4. Papers in Refereed Journals

#### 2022

- [256] - C. Soize, Probabilistic learning inference of boundary value problem with uncertainties based on Kullback-Leibler divergence under implicit constraints, *Computer Methods in Applied Mechanics and Engineering*, **395**, 115078 (2022), doi:10.1016/j.cma.2022.115078.  
Also in arXiv:2202.05112 [stat.ML], 10 Feb 2022, <https://arXiv.org/abs/2202.05112>.
- [255] - C. Soize, R. Ghanem, Probabilistic learning on manifolds (PLoM) with partition, *International Journal for Numerical Methods in Engineering*, doi: 10.1002/nme.6856, **123**(1), 268-290 (2022).  
Also in arXiv:2102.10894 [stat.ME], 22 Feb 2021, <https://arXiv.org/abs/2102.10894>.
- [254] - J. Reyes, C. Desceliers, C. Soize, G. Gagliardini, Multi-frequency model reduction for uncertainty quantification in computational vibroacoustics, *Computational Mechanics*, doi:10.1007/s00466-021-02109-y, **69**, 661-682 (2022).
- [253] - E. Cataldo, L. Monteiro, C. Soize, A novel source-filter stochastic model for voice production, *Journal of Voice*, doi:10.1016/j.jvoice.2020.11.015, On line (2022).
- [252] - E. Capiez-Lernout, C. Soize, Nonlinear stochastic dynamics of detuned bladed disks with uncertain mistuning and detuning optimization using a probabilistic machine learning tool, *International Journal of Non-Linear Mechanics*, doi:10.1016/j.ijnonlinmec.2022.104023, **143**, 104023, 1-28 (2022).

#### 2021

- [251] - C. Soize, Stochastic elliptic operators defined by non-Gaussian random fields with uncertain spectrum, *The American Mathematical Society Journal Theory of Probability and Mathematical Statistics*, doi: 10.1090/tpms/1159, **105**, 113-136 (2021).  
Also in arXiv 2106.07706 [math.PR], 14 June 2021, <https://arXiv.org/abs/2106.07706>.
- [250] - C. Soize, Computational stochastic homogenization of heterogeneous media from an elasticity random field having an uncertain spectral measure, *Computational Mechanics*, doi: 10.1007/s00466-021-02056-8, **68**, 1003-1021 (2021).
- [249] - C. Soize, R. Ghanem, Probabilistic learning on manifolds constrained by nonlinear partial differential equations for small datasets, *Computer Methods in Applied Mechanics and Engineering*, doi:10.1016/j.cma.2021.113777, **380**, 113777 (2021).  
Also in arXiv:2010.14324 [stat.ML], 27 Oct 2020, <https://arXiv.org/abs/2010.14324>.

- [248] - C. Soize, A. Orcesi, Machine learning for detecting structural changes from dynamic monitoring using the probabilistic learning on manifolds, *Structure and Infrastructure Engineering*, doi:10.1080/15732479.2020.1811991, **17** (10), 1418-1430 (2021).
- [247] - R. Ohayon, C. Soize, Q. Akkaoui, E. Capiez-Lernout, Novel formulation for the effects of sloshing with capillarity on elastic structures in linear dynamics, *International Journal for Numerical Methods in Engineering*, doi:10.1002/nme.6290, **122**(19), 5313-5330 (2021).
- [246] - J. Nespoulous, C. Soize, C. Funfschilling, G. Perrin, Optimization of high-speed train speed to limit energy consumption, *Vehicle System Dynamics*, doi:10.1080/00423114.2021.1965628, published on line: 19 August 2021, pp. 1-18 (2021)
- [245] - V. Dangla, C. Soize, G. Cunha, A. Mosson, M. Kassem, Robust 3D acoustic performance model for nacelle liners, *AIAA Journal*, <https://doi.org/10.2514/1.J060299>, **59**(10), 4195-4211 (2021).
- [244] - E. Cataldo, C. Soize, A stochastic model of voice generation and the corresponding solution for the inverse problem using Artificial Neural Network for case with pathology in the vocal folds, *Biomedical Signal Processing and Control (BSPC)*, doi: 10.1016/j.bspc.2021.102623, **68**, 102623 (2021).
- [243] - M. Arnst, C. Soize, K. Bulthies, Computation of Sobol indices in global sensitivity analysis from small data sets by probabilistic learning on manifolds, *International Journal for Uncertainty Quantification*, **11** (2), 1-23 (2021), doi: 10.1615/Int.J.UncertaintyQuantification.2020032674

## 2020

- [242] - X.Q. Wang, M.P. Mignolet, C. Soize, Structural uncertainty modeling for nonlinear geometric response using non-intrusive reduced order models, *Probabilistic Engineering Mechanics*, doi: 10.1016/j.probengmech.2020.103033, **60** 103033, 1-9 (2020).
- [241] - C. Soize, R. Ghanem, Probabilistic learning on manifolds, *Foundations of Data Science, American Institute of Mathematical Sciences (AIMS)*, doi: 10.3934/fods.2020013, **2** (3), 279-307 (2020).  
Also in arXiv:2002.12653 [math.ST], 28 Feb 2020, <https://arXiv.org/abs/2002.12653>.
- [240] - C. Soize, R. Ghanem, Physics-constrained non-Gaussian probabilistic learning on manifolds, *International Journal for Numerical Methods in Engineering*, doi: 10.1002/nme.6202, **121** (1), 110-145 (2020).
- [239] - C. Soize, R. Ghanem, C. Desceliers, Sampling of Bayesian posteriors with a non-Gaussian probabilistic learning on manifolds from a small dataset, *Statistics and Computing*, doi: 10.1007/s11222-020-09954-6, **30**(5), 1433-1457 (2020).  
Also in arXiv:1910.12717 [stat.ML], 28 Oct 2019, <https://arXiv.org/abs/1910.12717>.
- [238] - A. Picou, E. Capiez-Lernout, C. Soize, M. Mbaye, Robust dynamic analysis of detuned-mistuned rotating bladed disks with geometric nonlinearities, *Computational Mechanics*, doi:10.1007/s00466-019-01790-4, **65**(3), 711-730 (2020).
- [237] - G. Perrin, C. Soize, Adaptive method for indirect identification of the statistical properties of random fields in a Bayesian framework, *Computational Statistics*, doi: 10.1007/s00180-019-00936-5, **35**, 111-133 (2020).
- [236] - M. Nesterova, F. Schmidt, C. Soize, Fatigue analysis of a bridge deck using the peaks-over-threshold approach with application to the Millau viaduct, *SN Applied Sciences*, doi:10.1007/s42452-020-3117-1, **2:1416**, 1-12 (2020).
- [235] - M. Mignolet, C. Soize, Compressed principal component analysis of non-Gaussian vectors, *SIAM-ASA Journal on Uncertainty Quantification*, doi:10.1137/20M1322029, **8**(4), 1261-1286 (2020).
- [234] - D. Lebel, C. Soize, C. Funfschilling, G. Perrin, High-speed train suspension health monitoring using computational dynamics and acceleration measurements, *Vehicle Systems Dynamics*, doi: 10.1080/00423114.2019.1601744, **58**(6), 911-932 (2020).
- [233] - R. Ghanem, C. Soize, L. Mehrez, V. Aitharaju, Probabilistic learning and updating of a digital twin for composite material systems, *International Journal for Numerical Methods in Engineering*, doi:10.1002/nme.6430, 1-21, on line (2020).
- [232] - Q. Akkaoui, E. Capiez-Lernout, C. Soize, R. Ohayon, Uncertainty quantification for dynamics of geometrically non-linear structures coupled with internal acoustic fluids in presence of sloshing and capillarity, *Journal of Fluids and Structures*, doi: 10.1016/j.jfluidstructs.2020.102966, **94** 102966, 1-15 (2020).

## 2019

- [231] - H. Wang, J. Guillemot, C. Soize, Modeling uncertainties in molecular dynamics simulations using a stochastic reduced-order basis, *Computer Methods in Applied Mechanics and Engineering*, doi:10.1016/j.cma.2019.05.020, **354**, 37-55 (2019).
- [230] - B. Staber, J. Guillemot, C. Soize, J. Michopoulos, A. Iliopoulos, Stochastic modeling and identification of an hyperelastic constitutive model for laminated composites, *Computer Methods in Applied Mechanics and Engineering*, doi: 10.1016/j.cma.2018.12.036, **347**, 425-444 (2019).
- [229] - C. Soize, R. Ghanem, Probabilistic Machine Learning for the small-data challenge in computational science, *IACM Expressions*, **44**(19), 3-9 (2019).
- [228] - C. Soize, R. Ghanem, C. Safta, X. Huan, Z. P. Vane, J. Oefelein, G. Lacaze, H. N. Najm, Q. Tang, X. Chen, Entropy-based closure for probabilistic learning on manifolds, *Journal of Computational Physics*, **388**, 528-533 (2019), doi: 10.1016/j.jcp.2018.12.029.  
Also in arXiv:1803.08161 [math.PR], 28 Feb 2020, <https://arXiv.org/abs/1803.08161>.
- [227] - C. Soize, R. Ghanem, C. Safta, X. Huan, Z.P. Vane, J. Oefelein, G. Lacaze, H.N. Najm, Enhancing model predictability for a scramjet using probabilistic learning on manifold, *AIAA Journal*, doi: 10.2514/1.J057069, **57**(1), 365-378 (2019).
- [226] - C. Soize, C. Farhat, Probabilistic learning for modeling and quantifying model-form uncertainties in nonlinear computational mechanics, *International Journal for Numerical Methods in Engineering*, doi:10.1002/nme.5980, **117**(7), 819-843 (2019).
- [225] - M. Nesterova, F. Schmidt, C. Soize, Probabilistic analysis of the effect of the combination of traffic and wind actions on a cable-stayed bridge, *Bridge Structures*, doi:10.3233/BRS-190151, **15**(3), 121-138 (2019).
- [224] - D. Lebel, C. Soize, C. Funfschilling, G. Perrin, Statistical inverse identification for nonlinear train dynamics using a surrogate model in a Bayesian framework, *Journal of Sound and Vibration*, doi:10.1016/j.jsv.2019.06.024, **458**, 158-176 (2019).
- [223] - D. Lavazec, G. Cumunel, D. Duhamel, C. Soize, Experimental evaluation and model of a nonlinear absorber for vibration attenuation, *Communication in Nonlinear Science and Numerical Simulation*, doi: 10.1016/j.cnsns. 2018.10.009, **69**, 386-397 (2019).
- [222] - R. Ghanem, C. Soize, C. Safta, X. Huan, G. Lacaze, J. Oefelein, H. N. Najm, Design optimization of a scramjet under uncertainty using probabilistic learning on manifolds, *Journal of Computational Physics*, doi: 10.1016/j.jcp.-2019.108930, **399**, 108930, 1-14 (2019).
- [221] - C. Farhat, R. Tezaur, T. Chapman, P. Avery, C. Soize, Feasible probabilistic learning method for model-form uncertainty in vibration analysis, *AIAA Journal*, doi: 10.2514/1.J057797, **57**(11), 4978-4991 (2019).
- [220] - M. Arnst, C. Soize, Identification and sampling of Bayesian posteriors of high-dimensional symmetric positive-definite matrices for data-driven updating of computational models, *Computer Methods in Applied Mechanics and Engineering*, doi:10.1016/j.cma.2019.04.025, **352**, 300-323 (2019).
- [219] - Q. Akkaoui, E. Capiez-Lernout, C. Soize, R. Ohayon, Revisiting the experiment of a free-surface resonance of a liquid in a vibration tank using a nonlinear fluid-structure computational model, *Journal of Fluids and Structures*, doi: 10.1016/j.jfluidstructs.2019.01.005, **85**, 149-164 (2019).

## 2018

- [218] - C. Soize, Design optimization under uncertainties of a mesoscale implant in biological tissues using a probabilistic learning algorithm, *Computational Mechanics*, doi: 10.1007/s00466-017-1509-x, **62**(3), 477-497 (2018).
- [217] - I. E. Poloskov, C. Soize, Symbolic and numeric scheme for solution of linear integro-differential equations with random parameter uncertainties and Gaussian stochastic process input, *Applied Mathematical Modeling*, doi: 10.1016/j.apm.2017.11.024, **56**, 15-31 (2018).
- [216] - G. Perrin, C. Soize, N. Ouhbi, Data-driven kernel representations for sampling with an unknown block dependence structure under correlation constraints, *Journal of Computational Statistics and Data Analysis*, doi: 10.1016/j.csda.2017.10.005, **119**, 139-154 (2018).
- [215] - R. Ghanem, C. Soize, C.-R. Thimmisetty, Optimal well-placement using probabilistic learning, *Data-Enabled Discovery and Applications*, Springer, doi: 10.1007/s41688-017-0014-x, **2**(1):4, 1-16 (2018).
- [214] - R. Ghanem, C. Soize, Probabilistic nonconvex constrained optimization with fixed number of function evaluations, *International Journal for Numerical Methods in Engineering*, doi: 10.1002/nme.5632, **113**(4), 719-741 (2018).

- [213] - C. Farhat, A. Bos, P. Avery, C. Soize, Modeling and quantification of model-form uncertainties in eigenvalue computations using a stochastic reduced model, *AIAA Journal*, doi: 10.2514/1.J056314, **56**(3), 1198-1210 (2018).
- [212] - E. Cataldo, C. Soize, Stochastic mechanical model of vocal folds for producing jitter and for identifying pathologies through real voices, *Journal of Biomechanics*, doi: 10.1016/j.jbiomech.2018.04.031, **74**, 126-133 (2018).
- [211] - Q. Akkaoui, E. Capiez-Lernout, C. Soize, R. Ohayon, Solving generalized eigenvalue problems for large scale fluid-structure models with mid-power computers, *Computers and Structures*, doi: 10.1016/j.compstruc.2018.04.007, **205**, 45-54 (2018).

## 2017

- [210] - C. Soize, R. Ghanem, Polynomial chaos representation of databases on manifolds, *Journal of Computational Physics*, doi: 10.1016/j.jcp.2017.01.031, **335**, 201-221 (2017).
- [209] - C. Soize, C. Farhat, A nonparametric probabilistic approach for quantifying uncertainties in low- and high-dimensional nonlinear models, *International Journal for Numerical Methods in Engineering*, doi:10.1002/nme.5312, **109**(6), 837-888 (2017).
- [208] - C. Soize, Optimal partition in terms of independent random vectors of any non-Gaussian vector defined by a set of realizations, *SIAM-ASA Journal on Uncertainty Quantification*, doi: 10.1137/16M1062223, **5**(1), 176-211 (2017).
- [207] - G. Perrin, C. Soize, S. Marque-Pucheu, J. Garnier, Nested polynomial trend for the improvement of Gaussian process-based predictors, *Journal of Computational Physics*, doi: 10.1016/j.jcp.2017.05.051, **346**, 389-402 (2017).
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#### **7.5. Invited Lectures (Plenary, Semi-plenary, Keynote)**

- [19] - C. Soize (Plenary lecture), A probabilistic learning on manifolds as a new tool in machine learning and data science with applications in computational mechanics, UNCECOMP 2019, 3rd International Conference on Uncertainty Quantification in Computational Sciences and Engineering, and COMPDYN 2019, 7th International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, Island of Crete, Greece, June 24-26, 2019.
- [18] - C. Soize (Keynote lecture), Probabilistic learning on manifolds for the small-data challenge in Uncertainty Quantification, International Conference on Uncertainty Quantification and Optimization (UQOP), Conference organized by The European research and training network UTOPIAE, Sorbonne University, Paris, 18-20 March 2019.
- [17] - C. Soize (Plenary lecture) in collaboration with R. Ghanem, Probabilistic learning on manifold for optimization under uncertainties, UNCECOMP 2017, 2nd International Conference on Uncertainty Quantification in Computational Sciences and Engineering and COMPDYN 2017, 6th International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, Rhodes Island, Greece on June 15-17, 2017. Proceeding of UNCECOMP 2017, M. Papadrakakis, V. Papadopoulos, G. Stefanou (eds.), pp. 1-15, (2017).
- [16] - C. Soize (Semi-plenary lecture) in collaboration with C. Farhat, Nonparametric probabilistic approach of model uncertainties introduced by a projection-based nonlinear reduced-order model, 7th European Congress on Computational Methods in Applied Sciences and Engineering, ECCOMAS Congress 2016, the Island of Crete, Greece, June 5-10, 2016. Proceeding of ECCOMAS 2016, M. Papadrakakis, V. Papadopoulos, G. Stefanou, V. Plevris (eds.), ISBN: 978-618-82844-0-1, Vol. 1, pp. 1-25, (2016).
- [15] - C. Soize (Plenary lecture) in collaboration with C. Desceliers, J. Guillemot, T.T. Le, M.T. Nguyen, G. Perrin, J.M. Allain, H. Gharbi, D. Duhamel, C. Funfschilling, Stochastic representations and statistical inverse identification for uncertainty quantification in computational mechanics, UNCECOMP 2015, 1st ECCOMAS Thematic International Conference on Uncertainty Quantification in Computational Sciences and Engineering, the Island of Crete, Greece,

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Statistics and Probability in Civil Engineering (CERRA-ICASP 7), July 10-13, 1995, Paris, *Proceedings: Applications of statistics and probability - Civil engineering reliability and risk analysis*, Edited by M. Lemaire, J.-L. Favre & A. Mébarki, Balkema, Rotterdam, Vol. 2, pp. 1143-1148 (1995).

- [19] - Invited Lecture, C. Soize, Parameter estimation for fuzzy structures. A result concerning vibrations in the low-frequency range, Paper 4aSA1, 130th meeting of ASA, 27 November - 1 December 1995, St. Louis, Missouri, *J. Acoust. Soc. Am.*, **98**(5), pp. 2946 (1995).

#### 1994-1992

- [18] - Invited Lecture, C. Soize, Méthodes de prévision en vibro-acoustique, dans les actes du congrès, tome I, Les Entretiens de la Technologie, 3-ème édition, Paris, Palais des Congrès, 15-16 mars (1994).
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- [16] - C. Soize, Stochastic linearization method with random parameters and power spectral density calculation, *Sixth International Conference on Structural Safety and Reliability*, ICOSSAR'93, Innsbruck, Austria, on August 9-13 1993. Proceedings edited by G.I. Schueller, M. Shinozuka, J.T.P. Yao, A.A. Balkema, Rotterdam, Brookfield, **1**, 217-222 (1994).
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- [14] - Invited Lecture, C. Soize, Modeling and numerical method in the medium frequency range for vibroacoustic predictions using theory of structural fuzzy, Paper 3, 124th meeting of ASA, 31 October - 4 November 1992, New Orleans, LA, *J. Acoust. Soc. Am.*, **92**(4), pp. 2365 (1992).

#### 1991-1989

- [13] - Invited Lecture, C. Soize, Sur le calcul des densités spectrales des réponses stationnaires pour des systèmes dynamiques stochastiques non linéaires, Rencontres Scientifiques du Cinquantenaire, Contrôle Actif Vibro-acoustique et Dynamique Stochastique, *Publications du LMA-CNRS*, ISSN 0750-7356, **127**, 297-344 (1991).
- [12] - Invited Lecture, C. Soize, Méthodes numériques en élastoacoustique dans le domaine non modal, Proceedings of the International Symposium on Prediction of the Noise Emitted by Vibrating Structures, CETIM-Senlis, France, March 26-28 1991, *Revue Française de Mécanique*, Special Issued Number 1991, pp. 412-437 (1991).
- [11] - Invited Lecture, C. Soize, Simulation numérique en aéroélasticité, Science et Défense 90, 15-16 Mai 1990, dans *Les nouveaux matériaux, la mécanique en environnement sévères*, Dunod, Paris, pp. 379-397 (1990).
- [10] - Invited Lecture, C. Soize, Simulation numérique en aéroélasticité, 27ème colloque d'Aérodynamique Appliquée, AAAF, Marseille, 15-17 Octobre (1990).
- [9] - M. Dussac, P. Martin, H.J. Marze, F. Chabas, J.M. David, A. Desanti, N. Meidinger and C. Soize, A finite element method to predict internal noise levels at discrete frequencies for a partially composite helicopter fuselage, AHS Annual Forum 45, Boston (Ma), pp. 1-12, May 22-24 (1989).
- [8] - Invited Lecture, C. Soize, Méthodes numériques en matière de dynamique et de rayonnement acoustique des structures, Science et Défense 89, 23-24 Mai 1989, dans *Simulations Numériques*, DGA, Paris, pp. 99-124 (1989).

#### 1988-1978

- [7] - C. Soize, Markovianisation de la houle aléatoire et applications, Journée de Mécanique Aléatoire Appliquée à la Construction, AFREM, Paris, pp. 24-31 (1984).
- [6] - C. Soize, Medium frequency linear vibrations of anisotropic elastic structures, Proceedings of the Third International Symposium on Numerical Methods in Engineering, edited by P. Lascaux, Pluralis, Paris, Tome 2, pp. 495-501 (1983).
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- [4] - C. Soize, Bases objectives de la forme paramétrique du coefficient sismique horizontal des règles PS 69, Journée Séismes et Construction Métallique, 28 Avril 1981, Centre d'Etudes Supérieures, Paris. *Annales de l'Institut Technique du Bâtiment et des Travaux Publics*, Série Construction Métallique 90, **408**, 94-98 (1982).



- [3] - C. Soize, Comparison between full scale measures and prediction probabilistic model of wind effects on Maine-Montparnasse tower building, International Symposium on Design with the Wind, 15–19 June 1981, CSTB Nantes, Actes du Colloque, Tome 2, chapitre VI-5 (1981).
- [2] - C. Soize, Stochastic approaches in wind and ocean wave engineering, International Conference on Probabilistic Safety of Structures, 8–9 September 1980, Paris, Proceedings, CTICM Edition, pp. 55–95 (1980).
- [1] - P. Renard, C. Soize, Système intégré pour la vérification à la fatigue des plateformes à embase poids soumises à la houle aléatoire, Journées de l'AFPC, 6-7 Juin 1978, Paris, Thème 2, Construction Offshores, pp. 185–200 (1978).

## **7.7. Communications in National and International Workshops, Seminars and Non-Refereed Conferences**

### **2019-2018**

- [119] - C. Soize, Modélisation stochastique des champs, identification statistique inverse, apprentissage probabiliste sur les variétés, optimisation de design sous incertitudes en mécanique numérique, GDR Mecafib, INSA Lyon, 26-27 Mars 2019.
- [118] - Invited Seminar, C. Soize, Probabilistic learning on manifolds for the small-data challenge with applications to optimization under uncertainties and statistical inverse problems, University of Liège, Belgium, 3 April 2019.
- [117] - G. Perrin, Soize, Oubhi (présenté par G. Perrin), Data-driven kernel representations for sampling with an unknown block dependence, GDR MascotNum 2018, Ecole Centrale de Nantes, March 22, 2018
- [116] - Invited Seminar, C. Soize, Data-driven probabilistic learning on manifolds and nonconvex optimization problems with applications, Duke University, Durham, NC, USA 24 April 2018.
- [115] - Invited Seminar, C. Soize, Probabilistic learning in computational mechanics, Laboratoire MSSC, Conservatoire National des Arts et Métiers (CNAM), Paris, 31 Mai 2018.
- [114] - Invited Seminar, C. Soize, Probabilistic learning for Uncertainty Quantification in computational sciences and engineering, Seminários Arthur Palmeira Ripper Neto, Department of Mechanical Engineering, Universidade Federal do Rio de Janeiro (UFRJ), Rio de Janeiro, Brazil, 24 August 2018.
- [113] - Invited Seminar, C. Soize, Probabilistic learning for optimization problems under uncertainties, Department of Telecommunications Engineering, Universidade Federal Fluminense (UFF), Niterói, Brazil, 29 August 2018.
- [112] - Invited Seminar, C. Soize, Probabilistic learning on manifolds in computational mechanics, Séminaire de la branche MAS (Matériaux & Structure), ONERA, 26 septembre 2018.
- [111] - C. Soize, Approche probabiliste de machine learning pour les grandes simulations numériques, Séminaire transversal du laboratoire Modélisation et Simulation Multi-Echelle (MSME), Université Paris-Est Marne-la-Vallée (UPEM), 16 novembre 2018.

### **2017-2016**

- [110] - Invited Seminar, C. Soize, Modélisation probabiliste globale des incertitudes dans les modèles d'ordre réduit non linéaires, Séminaire du laboratoire POEMS, Palaiseau, 2 février 2017.
- [109] - Invited Seminar, C. Soize, Une nouvelle approche probabiliste non paramétrique des incertitudes de modélisation dans les modèles d'ordre réduit non linéaires, Séminaire de la Fédération Francilienne de Mécanique, ENSAM, 16 juin 2016.
- [108] - Invited Seminar, C. Soize, Modélisation probabiliste et identification statistique inverse du champ d'élasticité apparent aux échelles mésoscopiques et nanoscopiques de matériaux composites. Séminaire de la branche MAS (Matériaux & Structure), ONERA, 30 septembre 2016.
- [107] - C. Soize, Probabilistic learning on manifold for optimization under uncertainties, Journée Scientifique Mécanique du laboratoire Modélisation et Simulation Multi-Echelle (MSME), Université Paris-Est Marne-la-Vallée (UPEM), 18 novembre 2016.

### **2015-2014**

- [106] - Invited Seminar, J. Guillemot, C. Soize (presented by J. Guillemot), Stochastic multiscale modeling and inverse identification of complex heterogeneous materials. Computational multiphysics systems laboratory, Center for computational material science, Naval Research Laboratory, Washington DC, USA, April 9, 2015.

- [105] - O. Ezvan, A. Batou, C. Soize, (présenté par O. Ezvan), Modèle réduit stochastique multi-niveau en dynamique des structures. Journée Thématique MSME, Thiais, France, 5 juin 2015.
- [104] - Invited Seminar, C. Soize, Remarks on reduced-order models and uncertainty quantification in computational dynamics, Séminaire de l'Equipe "Dynamique des Structures et des Systèmes", Laboratoire de Tribologie et Dynamique des Systèmes, Ecole Centrale Lyon, July 9, 2015.
- [103] - Invited Seminar, C. Soize, in collaboration with C. Desceliers, J. Guillemainot, T.T. Le, M.T. Nguyen, G. Perrin, J.M. Allain, H. Gharbi, D. Duhamel, C. Funfschilling, Stochastic representations and statistical inverse identification for uncertainty quantification in computational mechanics, seminar, School for Engineering of Matter, Transport, and Energy (SEMTE), Arizona State University (ASU), Tempe, Arizona, USA, December 4, 2015.
- [102] - G. Perrin, D. Duhamel, C. Funfschilling, N. Ouhbi, J.N. Roux, C. Soize, C. Voivret, Statistical inverse problems for non-Gaussian non-stationary stochastic processes defined by a set of realizations, Workshop "Propagation of Uncertainty", Institut Henti Poincaré, Paris, December 11, 2015.
- [101] - I. E. Poloskov, I. I. Poloskov, C. Soize, Parallel computations in the problem of analysis of a mechanical system movement in a thermoviscoelastic medium, *Bulletin of Perm State University. Mathematics. Mechanics. Information Science*, ISSN 1993-0550, **4**(31), 46-57 (2015).
- [100] - E. Capiez-Lernout, C. Soize, M. Mbaye, Analyse dynamique du désaccordage non linéaire des roues aubagées en déplacements finis. Application industrielle. Workshop du GdR Dynolin, CNAM, Paris, October 14, 2014
- [99] - T.T. Le, J. Guillemainot, C. Soize (presented by J. Guillemainot), Modélisation d'interphases aléatoires dans les polymères nano-renforcés: modèle stochastique, générateur et identification inverse à l'aide de simulations par dynamique moléculaire, Workshop du GdR Polynano 3661 – Arts et Métiers Paristech, Paris, July 3, 2014.
- [98] - A. Nouy (joint work with C. Soize), Tensor structured parametrization of random fields and reduced order methods for statistical inverse boundary value problems, Workshop on Model Order Reduction and Data, Laboratoire Jacques-Louis Lions, UPMC, Paris, January, 2014
- [97] - G. Perrin, C. Soize, PCE identification from a set of realizations, Workshop on Numerical Methods for High-Dimensional Problems, Ecole des Ponts ParisTech, Champs-sur-Marne, Marne-la-Vallée, France, April 14-18, 2014.
- [96] - Invited Lecture, C. Soize, C. Desceliers, J. Guillemainot, A. Nouy, G. Perrin, Representations of non-Gaussian positive-definite matrix-valued random fields for elliptic BVP and statistical inverse identification in high dimension using partial and limited experimental data, Workshop on Numerical Methods for High-Dimensional Problems, Ecole des Ponts ParisTech, Champs-sur-Marne, Marne-la-Vallée, France, April 14-18, 2014.
- [95] - Invited lecture, C. Soize, Identification statistique inverse de modèles probabilistes en Grande Dimension Stochastique (GDS): Quantification des incertitudes en dynamique et en vibroacoustique. Champ d'élasticité stochastique mésoscopique des microstructures hétérogènes, Forum CEA, CEA/DAM/DIF, Bruyères-le-Châtel, October 1, 2014.
- [94] - Invited Lecture, C. Soize, C. Desceliers, J. Guillemainot, M. T. Nguyen, J. M. Allain, H. Gharbi, Statistical inverse method for the multiscale identification of the apparent random elasticity field of heterogeneous microstructures, Workshop on Inverse problems for multiscale and stochastic problems, Ecole des Ponts ParisTech, Champs-sur-Marne, Marne-la-Vallée, France, October 2-3, 2014.
- [93] - Invited Seminar, C. Soize, Statistical inverse problems in high stochastic dimension - Application to uncertainty quantification in structural dynamics, in vibroacoustics, and for random elasticity fields of microstructures. Université de Sherbrooke, Sherbrooke, Quebec, Canada, December 19, 2014.

## 2013-2012

- [92] - A. Nouy (joint work with C. Soize), Random fields representations for stochastic elliptic boundary value problem and statistical inverse problems, Workshop Interplay of Theory and Numerics for Deterministic and Stochastic Homogenization, Oberwolfach, Germany, March 17-23, 2013.
- [91] - A. Nouy (joint work with C. Soize), Random fields representations for stochastic elliptic boundary value problems and high-dimensional statistical inverse problems, Workshop on Partial Differential Equations with Random Coefficients, Weierstraß-Institut für Angewandte Analysis und Stochastik, Berlin, Germany, November 13-15, 2013.
- [90] - G. Perrin, D. Duhamel, C. Soize, C. Funfschilling, Modeling and identification of non Gaussian multivariate random fields and application to the excitation of trains by the track irregularities, Premières Journées des Jeunes Chercheurs en Vibrations, Ecole des Ponts ParisTech, Marne-la-Vallée, April 11-12, 2013.

- [89] - Invited Seminar, C. Soize, Modélisation probabiliste et quantification des incertitudes en dynamique des structures. LAMCOS Seminar, Insa de Lyon, January 26, 2012.
- [88] - Invited Seminars, C. Soize, Uncertainty quantification in computational mechanics. Series of 4 seminars, Department of Higher Mathematics, Perm University, Perm, Russia, June 4-8, 2012.
- [87] - J. Guillemot J., C. Soize, On the construction of Prior Algebraic Stochastic Models for mesoscale elasticity tensor random fields; Beijing-Paris Workshop on Nano and Micro Mechanics, Université Paris-Est Marne-la-Vallée, Paris, September 6-7, 2012.
- [86] - C. Soize, Identification of Bayesian posteriors of high-dimension polynomial chaos expansions of random fields and application to micromechanics, Workshop du projet "Advanced methods using stochastic modeling in high dimension for uncertainty modeling, quantification and propagation in computational mechanics of solids and fluids" (TYCHE, ANR- 10-BLAN-904), Institut Curie, Paris, December 6-7, 2012.
- [85] - R. Cottreau, D. Clouteau, C. Soize, A coupling method for stochastic continuum models at different scales, Workshop du projet "Advanced methods using stochastic modeling in high dimension for uncertainty modeling, quantification and propagation in computational mechanics of solids and fluids" (TYCHE, ANR- 10-BLAN-904), Institut Curie, Paris, December 6-7, 2012.
- [84] - J. Guillemot, C. Soize, Prior stochastic models and numerical algorithms for the modeling of non-Gaussian tensor-valued random fields, Workshop du projet "Advanced methods using stochastic modeling in high dimension for uncertainty modeling, quantification and propagation in computational mechanics of solids and fluids" (TYCHE, ANR-10-BLAN-904), Institut Curie, Paris, December 6-7, 2012.
- [83] - M.T. Nguyen, C. Desceliers, C. Soize, Identification of an elasticity-tensor random field at mesoscale using experimental measurements at mesoscale and at macroscale, Workshop du projet "Advanced methods using stochastic modeling in high dimension for uncertainty modeling, quantification and propagation in computational mechanics of solids and fluids" (TYCHE, ANR- 10-BLAN-904), Institut Curie, Paris, December 6-7, 2012.

#### **2011-2009**

- [82] - Invited Seminar, C. Soize, Maximum entropy principle for stochastic models in computational sciences, Tongji University, Shanghai, China, October 26, 2010.
- [81] - Invited Seminar, C. Soize, Identification of high-dimension polynomial chaos expansions of tensor-valued random fields from limited observed responses of boundary value problem. Tsinghua University, Beijing, China, October 28, 2010.
- [80] - Invited Seminar, C. Soize, A short overview on the generalized probabilistic approach of uncertainties in computational dynamics. Tsinghua University, Beijing, China, October 28, 2010.
- [79] - Invited Seminar, C. Soize, Stochastic reduced order models for uncertain infinite-dimensional geometrically nonlinear dynamical systems. Peking University, Beijing, China, October 29, 2010.
- [78] - Invited Seminar, C. Soize, Generalized probabilistic approach of uncertainties in computational dynamics. Xi'an Jiatong University, Xi'an, China, November 4, 2010.
- [77] - Invited Seminar, C. Soize, Mise en oeuvre du principe du maximum d'entropie pour la construction de modèles probabilistes en très grande dimension des incertitudes dans les modèles numériques des systèmes mécaniques complexes, Séminaire du LMT Cachan, Cachan, 26 mars, 2009.
- [76] - Invited Seminar, C. Soize, Modélisation probabiliste des incertitudes et leurs propagations dans les modèles numériques des systèmes mécaniques complexes, Séminaire long, CNAM, Paris, 29 avril, 2009.
- [75] - Invited Lecture, C. Soize, Identification of high dimension polynomial chaos expansion with random coefficients using partial experimental data for non-Gaussian tensor-valued random field . Application to mesoscale probabilistic modeling of non homogeneous anisotropic elastic microstructures. NSF Workshop on "Stochastic Multiscale Methods: Mathematical Analysis and Algorithms", University of Southern California, Los Angeles, August 10-11, 2009.

#### **2008-2006**

- [74] - Series of Invited Seminars, C. Soize, Uncertainties and Stochastic modeling, Department of Engineering Mechanics, PUC-Rio University, Rio de Janeiro, Brazil, August 4-8, 2008.

- [73] - Invited Seminar, C. Soize, Maximum entropy principle for stochastic models in computational mechanics, One-day meeting of the GdR "Modélisations Mathématiques et Simulations Numériques liées aux problèmes de gestion des déchets nucléaires" (MoMaS), Institut Henri Poincaré, Paris, November 13, 2008.
- [72] - Invited Seminar, C. Soize, Remarques sur l'efficacité de la méthode POD pour la réduction des modèles en dynamique non linéaire des structures - Modélisation stochastique multiéchelle des milieux élastiques anisotropes ayant une microstructure complexe, Séminaire invité, UMR CNRS 6174 FEMTO-ST, Université de Franche-Comté, Ecole Nationale Supérieure de Mécanique de Belfort, 30 mars, 2007.
- [71] - Opening Invited Lecture, C. Soize, Méthodes probabilistes en mécanique numérique et applications industrielles, Journées Mec Proba organisées par la commission "Mécanique probabiliste des matériaux et des structures" (MPMS) de l'Association Française de Mécanique, Université de Marne-la-Vallée, 9-10 janvier, 2006.
- [70] - Invited Seminar, C. Soize, Construction des modèles probabilistes, choix des représentations et applications aux modélisations des incertitudes et des milieux aléatoires en mécanique. Séminaire long de formation de la Fédération Francilienne de Mécanique, Polytechnicum de Marne-la-Vallée, 16 Mai, 2006.
- [69] - Invited Seminar, C. Soize, Remarques sur les méthodes POD et KL pour la réduction de systèmes dynamiques non linéaires. Journée thématique du GDR CNRS n° 2902 sur l'Interaction Fluide-Structure : "Réduction de modèles en IFS", ENSAM Paris, 18 Mai, 2006.
- [68] - Invited Seminar, C. Soize, Approches stochastiques, Identification des modèles stochastiques, Milieux aléatoires, Milieux déterministes avec incertitudes, Journée du Projet Fédératif MIVA "Méthodes d'Identification et Validation", Fédération CNRS - F2M2SP, ENS Cachan, 29 mai, 2006.
- [67] - Invited Seminar, C. Soize, Modélisation probabiliste des incertitudes en simulation numérique des systèmes complexes, 10ème Journée Scientifique "Modélisation stochastique en ingénierie", Ecole Doctorale Sciences pour l'Ingénieur, Université Blaise Pascal, Université d'Auvergne, Institut Français de Mécanique Avancée (IFMA), Clermont Ferrand, 9 juin, 2006.
- [66] - Invited Seminar, C. Soize, Uncertainties and their quantification in computational mechanics, Department of Engineering Mechanics, PUC-Rio University, Rio de Janeiro, Brazil, August 12, 2006.
- [65] - Invited Lecture, C. Soize, Probabilistic approach and propagation of model and data uncertainties in computational structural dynamics and acoustics in low- and medium-frequency ranges for complex systems. Industrial applications, Technical conference day, CEIS (Compagnie Européenne d'Information Stratégique), Paris, October 3, 2006.

#### **2005-2004**

- [64] - Opening Invited Lecture, C. Soize, Modèles probabilistes non paramétriques en mécanique, Journée "Mécanique numérique probabiliste" de l'association CSMA (Calcul de Structures et Modélisation), Ecole Centrale Paris, 19 janvier, 2005.
- [63] - Invited Seminar, C. Soize, Uncertainties modeling in computational stochastic mechanics and applications. University of Innsbruck, Institute of Engineering Mechanics, Innsbruck, Austria, December 9, 2005.
- [62] - Invited Seminar, C. Soize, Modélisation non paramétrique des incertitudes de modèle en dynamique des systèmes complexes I : Probabilités, variables aléatoires et principe du maximum d'entropie. Séminaire à l'Ecole Nationale Polytechnique d'Algérie, Alger, 18 Avril, 2004.
- [61] - Invited Seminar, C. Soize, Modélisation non paramétrique des incertitudes de modèle en dynamique des systèmes complexes II : Matrices aléatoires et principe du maximum d'entropie. Applications à la dynamique linéaire et non linéaire. Séminaire à l'Ecole Nationale Polytechnique d'Algérie, Alger, 19 avril, 2004.
- [60] - Invited Seminar, C. Soize, Modélisation non paramétrique des incertitudes de modèle en dynamique des systèmes complexes III : Applications aux systèmes dynamiques incertains dans le domaine des moyennes fréquences; Séminaire à l'Ecole Nationale Polytechnique d'Algérie, Alger, 20 avril, 2004.
- [59] - Invited Seminar, C. Soize, Modélisation non paramétrique des incertitudes de modèle en dynamique des systèmes complexes IV : Désaccordage dynamique des structures à géométrie cyclique dû aux incertitudes. Application aux turbomachines. Séminaire à l'Ecole Nationale Polytechnique d'Algérie, Alger, 21 avril, 2004.
- [58] - Invited Seminar, C. Soize, Modélisation non paramétrique des incertitudes de modèle en dynamique des systèmes complexes V : Application à la dynamique linéaire des structures avec assemblages complexes et applications à la dynamique non linéaire de circuit primaire des réacteurs. Séminaire à l'Ecole Nationale Polytechnique d'Algérie, Alger, 22 avril, 2004.

- [57] - Invited Seminar, C. Soize, Modélisation non paramétrique des incertitudes de modèle en dynamique linéaire et non linéaire des systèmes mécaniques complexes. Séminaire à l'Université A Mira de Béjaia, Algérie, 15 mai, 2004.
- [56] - Invited Lecture, C. Soize, Une nouvelle classe de champ stochastique non gaussien pour la modélisation des milieux aléatoires élastiques anisotropes non homogènes. Groupes de Travail MECAMAT "Approches probabilistes en Mécanique des Milieux Hétérogènes", Ecole Nationale des Ponts et Chaussées, 1-2 Juin, 2004.
- [55] - Invited Seminar, C. Soize, Nonparametric modeling of model uncertainties in linear and nonlinear dynamics for complex mechanical systems, Department of Engineering Mechanics, PUC-Rio University, Rio de Janeiro, Brazil, August 17, 2004.
- [54] - Invited Seminar, C. Soize, Non Gaussian matrix-valued random fields for modeling elliptic stochastic partial differential operators. Seminar, University of Innsbruck, Institute of Engineering Mechanics, Innsbruck, Austria, September 20, 2004.

### **2003-2002**

- [53] - Invited Seminar, C. Soize, Modélisation probabiliste des incertitudes en dynamique linéaire et non linéaire des systèmes mécaniques . Séminaire du Laboratoire de Mécanique de Rouen ,CNRS UMR 6138, Insa Rouen, 27 Mars, 2003.
- [52] - Invited Seminar, C. Soize, Uncertain dynamical systems in the medium-frequency range. Seminar, University of Innsbruck, Institute of Engineering Mechanics, Innsbruck, Austria, September 1, 2003.
- [51] - Invited Lecture, C. Soize, Model uncertainty issues for predictive models. Workshop on Elements of Predictability, The Johns Hopkins University, November 13-14, 2003.
- [50] - Invited Seminar, C. Soize, Random uncertainties modeling in dynamical system using a nonparametric approach. Seminar, University of Innsbruck, Institute of Engineering Mechanics, Innsbruck, Austria, April 4, 2002.
- [49] - Invited Seminar, C. Soize, Théorie des matrices aléatoires et modélisation probabiliste des incertitudes en élastodynamique. Séminaire Probabilités-Statistiques, Université de Marne la Vallée, 17 Mai, 2002.
- [48] - E. Capiez-Lernout et C. Soize, Une approche probabiliste non paramétrique du phénomène de désaccordage des structures à géométrie cyclique, Journée "Jeunes Chercheurs" organisée par l'Ecole Doctorale MODES de l'Université de Marne-la-Vallée et de l'Ecole Nationale des Ponts et Chaussées, Université de Marne-la-Vallée, 13 Juin, 2002.
- [47] - Invited Seminar, C. Soize, Nonparametric model of random uncertainties in dynamical systems: an overview. Seminar, Sandia Laboratory, Albuquerque, New Mexico, USA, July 16, 2002.

### **2001-2000**

- [46] - C. Soize editeur, Actes de la Journée Nationale sur La modélisation du comportement et de la résistance des liaisons et des assemblages mécaniques : Etat de l'art et perspectives. Journée organisée par la commission Structures de l'AAAF, Onera, Châtillon, 22 Mars, 2001.
- [45] - Invited Seminar, C. Soize, Théorie des matrices aléatoires et modélisation non paramétrique des incertitudes aléatoires en élastodynamique transitoire. Séminaire Descartes, Polytechnicum de Marne la Vallée, 13 Décembre, 2001.
- [44] - Invited Seminar, C. Soize, Un Modèle non paramétrique des incertitudes aléatoires pour les modèles matriciels réduits en dynamique des structures. Séminaire de Mécanique Ile-de-France Sud, Ecole Polytechnique, 2 Mars, 2000.
- [43] - Invited Seminar, C. Soize, Main difficulties in the mid-frequency range for structural-dynamics and structural-acoustics problems: Structural complexity modeling, random uncertainties, reduced matrix models. Seminar, Johns Hopkins University, Baltimore, USA, April 18, 2000.
- [42] - Invited Lecture, C. Soize, Modélisation et méthodes probabilistes en dynamique et vibration des structures. Journée AAAF sur les Approches probabilistes en calcul des structures, Chatillon, 18 Mai, 2000.
- [41] - Invited Seminar, C. Soize, Modèle non paramétrique des incertitudes aléatoires en dynamique des structures. Séminaire du laboratoire LMGC, Université de Montpellier II, 26 Mai, 2000.
- [40] - Invited Lecture, C. Soize, Modèle probabiliste non paramétrique des incertitudes de modélisation en dynamique transitoire des structures. Journée MV2 sur les Approches robustes en dynamique des structures, Pôle universitaire Léonard de Vinci, Paris la Défense, 14 Décembre, 2000.

### **1999-1997**

- [39] - Invited Seminar, C. Soize, Modélisation des systèmes vibroacoustiques ayant une complexité structurale en basse et moyenne fréquence. Séminaire de Mécanique CNAM-Onera, Cnam Paris, 12 Mars, 1999.
- [38] - Invited Lecture, C. Soize, Modélisation en vibration et vibroacoustique des structures ayant une complexité structurale en basse et moyenne fréquence. Journées Scientifiques GAMNI-SMAI sur la Modélisation numérique en acoustique, aéroacoustique et vibrations, Institut Henri Poincaré, Paris, 10 et 11 Juin, 1999.
- [37] - Invited Lecture, C. Soize, Identification dynamique modale des structures non linéaires par une méthode de linéarisation stochastique avec paramètres aléatoires. Table Ronde MV2 sur la Modélisation et identification des structures et des systèmes vibrants non linéaires, Pôle universitaire Léonard de Vinci, Paris, 2 Décembre, 1999.
- [36] - Invited Lecture, C. Soize, Modélisation vibroacoustique en moyenne fréquence pour les structures complexes. Table Ronde MV2 sur la Modélisation vibroacoustique des structures en hautes et moyennes fréquences, Pôle universitaire Léonard de Vinci, Paris, 26 Mars, 1998.
- [35] - Invited Seminar, C. Soize, Dynamique des structures et élastoacoustique en moyenne fréquence. Séminaire, Département de Mathématiques Appliquées, Université de Saint Jacques de Compostelle, Espagne, 13-17 Avril, 1998.
- [34] - Invited Lecture, C. Soize, Dynamique des structures: Rôle et modélisation du flou structural en basse et moyenne fréquence, Colloque ONERA, Centre des Congrès de la Villette, Paris, 2-3 Avril, 1997.
- [33] - Invited Seminar, C. Soize, Problème de Neumann extérieur lié à l'équation d'Helmholtz pour l'élastoacoustique externe; formulation par équations intégrales. Séminaire, Département de Mathématiques Appliquées, Université de Saint Jacques de Compostelle, Espagne, 25 Mai - 1 Juin, 1997.

#### **1996-1995**

- [32] - Invited Lecture, C. Soize, Identification modale des systèmes dynamiques faiblement non linéaires en utilisant une méthode de linéarisation stochastique à paramètres aléatoires. Sixième Séminaire Scientifique du C.E.M.I.F. sur l'Analyse Stochastique des Systèmes Non-Linéaires, EDF/DER, Clamart, 2 Mai 1996.
- [31] - Invited Seminar, C. Soize, Introduction à la théorie des processus stochastiques, à la théorie du signal aléatoire et à la dynamique stochastique. Séminaires, Département de Mathématiques Appliquées, Université de Saint Jacques de Compostelle, Espagne, 8-10 mai, 1996.
- [30] - Invited Lecture, C. Soize et O. Lefur, Modal identification of weakly nonlinear multidimensional dynamical systems using a stochastic linearization method with random coefficients, Ninth Workshop on Dynamics and Control, Rio de Janeiro, Brazil, August 12-14, 1996.
- [29] - Invited Seminars, C. Soize, *Fundamentals of Random Signal Analysis, Application to Modal Identification in Structural Dynamics*, Course of the School on "Structural Dynamics and Structural Acoustics", Department of Engineering Mechanics, PUC-Rio University, Rio de Janeiro, Brazil, August 19-23, 1996.
- [28] - Invited Seminar, C. Soize, (1) Boundary integral formulation for the exterior Neumann problem related to the Helmholtz equation. (2) Structural acoustics for external problems in LF range. Seminars, Department of Engineering Mechanics, PUC-Rio University, Rio de Janeiro, Brazil, August 27, September 2-6, 1996.
- [27] - Invited Seminar, C. Soize, Random vibration and application to structures submitted to turbulent boundary layer excitations. Seminar, Department of Engineering Mechanics, PUC-Rio University, Rio de Janeiro, Brazil, September 4, 1996.
- [26] - Invited Lecture, C. Soize, Méthodes de prévision en élastoacoustique. Journée de présentation des travaux de la Commission de Validation des Prologiciels Vibroacoustiques, SFM, Cetim-Senlis, 29 Novembre, 1996.
- [25] - Invited Lecture, C. Soize, Structural acoustics: Advanced formulations and numerical methods in the MF range, noise reduction using active control, XVIII Congresso Nacional de Matemática Aplicada e Computacional, CNMAC 95, Curitiba, PR, Brazil, August 28 - September 1, 1995.
- [24] - Invited Seminars, C. Soize, (1) Random signal processing and modal identification of dynamical systems. (2) Formulation and numerical methods in structural acoustics for the medium-frequency range. (3) Reduction of radiated noises by using distributed active control of structural vibration. Seminars, Department of Engineering Mechanics, PUC-Rio University, Rio de Janeiro, Brazil, September 2-8, 1995.

#### **1994-1989**

- [23] - Invited Lecture, C. Soize, An explicit steady state solution of the FKP equation for nonlinear stochastic dynamical systems. A uniqueness theorem, XVII Congresso de Matematica Aplicada e Computacional, CNMAC 94, Vitoria, ES, Brazil, August 29 - September 2, 1994.
- [22] - Invited Seminar, C. Soize, Random signal analysis and linear stochastic dynamics. Seminar, Department of Engineering Mechanics, PUC-Rio University, Rio de Janeiro, Brazil, September 6, 1994.
- [21] - D.A. Russel, V.W. Sparrow, C. Soize, A Penn State/Onera exchange: Mathematical formulation for modeling the type 1 fuzzy law parameters for a continuous line fuzzy attachment, Presentation at U.S./France Exchange Meeting, Airlie House Conference Center, November 17, 1993.
- [20] - A. Desanti, C. Soize, Modèle de prévision hydro-élastoacoustique moyenne fréquence de Milady, Journée de Cadarache sur la Discrétion Acoustique, 12-14 Juin, 1990.
- [19] - C. Soize, J.M. David, A. Desanti, Méthodes numériques prévisionnelles en élastoacoustique BF, MF et HF, Journée sur la vibroacoustique: résultats et perspectives, Onera, Châtillon, 15 Juin, 1990.
- [18] - Invited Lecture, C. Soize, Couplage direct fluide-structure en aéroélasticité transsonique, Colloque Onera, Châtillon, 25 et 26 Avril, 1989.
- [17] - J.M. David, A. Desanti, C. Soize, Etude par modèle numérique du comportement hydro-élastoacoustique de la pompe hélice échelle 0.15 en basses fréquences et comparaisons expérimentales, Journée de Cadarache sur la Discrétion Acoustique, 25-27 Avril, 1989.

#### **1988-1987**

- [16] - C. Soize, Couplage fluide structure MF - HF, évolution vers les hautes fréquences, Journée Thématique DRET sur l'Interaction fluide-structure, Paris, 21 Avril, 1988.
- [15] - J.M. David, A. Desanti, C. Soize, Calcul de la réponse hydro-élastique à la couche limite en moyenne fréquence du dome sonar Dauphin, Journée de Cadarache sur la Discrétion Acoustique, 26-28 Avril, 1988.
- [14] - D. Felix, F. Chabas, C. Soize, Influence de la complexité structurale sur le rayonnement de la coque forte du MN2, Journée de Cadarache sur la Discrétion Acoustique, 26-28 Avril, 1988.
- [13] - J.M. David, A. Desanti, C. Soize, Etude du transfert hydro-élastoacoustique de la pompe hélice Agosta en basses fréquences, Journée de Cadarache sur la Discrétion Acoustique, 26-28 Avril, 1988.
- [12] - Invited Lecture, C. Soize, Exact steady state solution of FKP equation in higher dimension for a class of non-linear Hamiltonian dissipative dynamical system excited by a Gaussian white noise, First European Seminar on *Effective Stochastics*, Delphi, Greece, October 3-7, 1988.
- [11] - F. Poirion, C. Soize, Numerical methods and mathematical aspects for simulation of homogeneous and non homogeneous Gaussian vector fields, First European Seminar on *Effective Stochastics*, Delphi, Greece, October 3-7, 1988.
- [10] - C. Soize, F. Chabas, A. Desanti, Prise en compte dans la méthode des éléments finis de sous-systèmes mécaniques identifiés par leur impédance de frontière, Journée de Cadarache sur la Discrétion Acoustique, Mai 1987.
- [9] - C. Soize, A. Desanti, Couplage fréquentiel moyen entre sous-systèmes, Journée de Cadarache sur la Discrétion Acoustique, Mai 1987.
- [8] - C. Soize, F. Chabas, Loi de comportement de flou probabiliste à mémoire spatiale, Journée de Cadarache sur la Discrétion Acoustique, Mai 1987.
- [7] - J.M. David, C. Soize, Effets sur le rayonnement de l'ovalisation d'une tranche 3D dans les vibrations poutre basses fréquences de MN2, Journée de Cadarache sur la Discrétion Acoustique, Mai 1987.
- [6] - C. Soize, Steady state solution of the Fokker-Planck equation in higher dimension, Publication de la R.C.P de Mécanique Aléatoire, LMT Cachan, Décembre 1987.

#### **1986-1979**

- [5] - A. Desanti, C. Soize, Calculs hydro-élastoacoustiques, Journée de Cadarache sur la Discrétion Acoustique, 22-24 Avril, 1986.
- [4] - C. Soize, Modélisation probabiliste du flou structural en dynamique linéaire des systèmes mécaniques complexes, Journée de Cadarache sur la Discrétion Acoustique, 22-24 Avril, 1986.

- [3] - C. Soize, J.M. David, A. Desanti, Réponse aléatoire stationnaire des systèmes mécaniques linéaires excités par un champ stochastique, Journée de Cadarache sur la Discrétion Acoustique, 22-24 Avril, 1986.
- [2] - C. Soize, Quelques applications de la mécanique aléatoire à l'étude des ouvrages, Journées sur l'Approche Probabiliste de la Sécurité pour les Etudes de Mécanique des Sols-Structures, École Centrale des Arts et Manufactures, 20-22 Juin, 1979.
- [1] - E. Sfantesco, C. Soize, ECCS recommendations for the calculation of wind effects on building and structures, Fifth International Conference on Wind Engineering, Colorado State University, Fort Collins, Colorado USA, July 8-14, 1979.

### 7.8. Courses and Lecture Notes

- [1] - C. Soize, *Éléments de la théorie des probabilités, des processus stochastiques et d'analyse spectrale. Applications à la mécanique*. Cours du Centre des Hautes Études de la Construction, CHEM, Paris, **1978**.
- [2] - C. Soize, *Mécanique aléatoire et applications à la dynamique des structures*, 287 pages, cours de 3ème année de l'École Centrale des Arts et Manufactures, département Génie Civil, Chatenay Malabry, **1978**.
- [3] - C. Soize, *Éléments mathématiques de la théorie du signal*, 311 pages, cours de 3ème année de l'ENSTA, département Mathématiques Appliquées, édition de l'ENSTA, Paris, **1981**.
- [4] - C. Soize, *Mécanique aléatoire*, 1ère Édition, 220 pages, cours de 3ème année de l'École Centrale des Arts et Manufactures, département Énergétique, Chatenay Malabry, **1982**.
- [5] - C. Soize, *Éléments mathématiques de la théorie déterministe et aléatoire du signal*, 380 pages, cours de tronc commun de 2ème année de l'ENSTA, département Mathématiques Appliquées, publication numéro **703**, édition de l'ENSTA, Paris, **1983**.
- [6] - C. Soize, *Mécanique aléatoire*, 2ème édition, 360 pages, cours de 3ème année de l'École Centrale des Arts et Manufactures, département Énergétique, Chatenay Malabry, **1985**.
- [7] - C. Soize, *Éléments mathématiques de la théorie déterministe et aléatoire du signal*, 2ème édition revue et modifiée, 370 pages, cours de tronc commun de 2ème année de l'ENSTA, département Mathématiques Appliquées, publication numéro **739**, édition de l'ENSTA, Paris, **1985**.
- [8] - C. Soize, *Signaux aléatoires, travaux dirigés*, 80 pages, travaux dirigés de tronc commun de 2ème Année de l'ENSTA, département Mathématiques Appliquées, publication numéro **742**, édition de l'ENSTA, Paris, **1985**.
- [9] - C. Soize et al., *Problèmes d'hydrodynamiques navale et méthodes numériques associées*, (en collaboration), cours de 3ème année de l'ENSTA, département Mathématiques Appliquées, publication numéro **749**, édition de l'ENSTA, Paris, **1985**.
- [10] - C. Soize, *Processus stochastique et méthodes de résolution des problèmes aléatoires*, 390 pages, cours de 3ème année de l'École Centrale des Arts et Manufactures, département Énergétique, options Océan et Modélisation Mécanique des Structures, Chatenay Malabry, **1986**.
- [11] - C. Soize, *Signaux aléatoires, travaux dirigés avec corrigés*, 106 pages, travaux dirigés de tronc commun de 2ème année de l'ENSTA, département Mathématiques Appliquées, publication numéro **786**, édition de l'ENSTA, Paris, **1988**.
- [12] - C. Soize, *Méthodes mathématiques de la théorie et du traitement du signal*, 598 pages, cours de tronc commun de 2ème année de l'ENSTA, département Mathématiques Appliquées, publication numéro **824**, édition de l'ENSTA, Paris, **1991**.
- [13] - C. Soize, *Signaux aléatoires*, 85 pages, cours de 3ème année de l'École Centrale des Arts et Manufactures, département Mécanique et Matériaux, option Modélisation Mécanique des Structures (MMS), Chatenay Malabry, **1994**.
- [14] - C. Soize, *Méthodes d'études des problèmes classiques de dynamiques stochastiques*, séminaire Sécurité probabiliste des structures, X Collège de Polytechnique, Ecole Polytechnique, Palaiseau, bf 1994.
- [15] - C. Soize, *Basic notions of random signal theory and modal parameter estimation from the frequency response functions*, 85 pages, Minicurso : *Modelagem em Engenharia*, Congresso Nacional de Matemática Aplicada e Computacional, CNMAC 95, De 28 de agosto a 01 de setembro de 1995, Curitiba - PR, Brésil (Edité par Universidade Federal do Paraná - UFPR, Sociedade Brasileira de Matemática Aplicada e Computacional - SBMAC), **1995**.
- [16] - C. Soize, *Signaux aléatoires, cours et travaux dirigés*, 103 pages, cours de tronc commun de 1ère année de l'ENSTA, département Mathématiques, publication numéro **886**, édition de l'ENSTA, ISBN 2-7225-0886-9, Paris, **1996**.



- [17] - C. Soize, *Fundamentals of Random Signal Analysis, Application to Modal Identification in Structural Dynamics*, Université Paris-Est-Marne-la-Vallée (UPEM), Paris, France, **1997**. Course given in the School on "Structural Dynamics and Structural Acoustics", Department of Engineering Mechanics, PUC-Rio University, Rio de Janeiro, Brazil, August 19-23, **1996**.
- [18] - C. Soize, *Processus stochastiques et réponses dynamiques des structures*, séminaire *Sécurité probabiliste des structures et systèmes*, X Collège de Polytechnique, Ecole Polytechnique, Palaiseau, **1998**.
- [19] - R. Ohayon et C. Soize, *Interaction fluide-structure et vibroacoustique*, cours de DEA "Dynamique des structures et des systèmes couplés (DS2C)", ECP, CNAM, ENPC, ENSTA, université Paris XII, Ecole Polytechnique, **2000**.
- [20] - C. Soize, *Dynamique des structures* : Cours de maîtrise de Génie des Systèmes Industriels, université de Marne la Vallée (**2000**), cours de l'UFR Ingénieurs 2000 de l'université de Marne la Vallée : 2-ème année de la filière Génie Mécanique (**2001**), 3-ème année de la filière Maintenance et Fiabilité des Processus Industriels (**2001**).
- [21] - C. Soize, *Probabilités et modélisation des incertitudes, Eléments de base et concepts fondamentaux*, cours de l'école doctorale MODES, *Probabilité et Mécanique - I*, Polytechnicum de Marne-la-Vallée, Mai **2003**.
- [22] - C. Soize, *Problématique et méthodologie des modélisations probabilistes en mécanique numérique*, cours de l'école doctorale MODES, *Méthodes numériques avancées*, Université Paris-Est, Avril **2008**.
- [23] - C. Soize, *Approche probabiliste non paramétrique des incertitudes sur les paramètres des modèles et des incertitudes induites par les erreurs de modélisation, dans les modèles de simulation numériques de systèmes complexes*. Cours de formation *Propagation des incertitudes dans les systèmes - Une approche probabiliste* X Collège de Polytechnique, Paris, **2011** et **2014**.

### 7.9. International courses

- [1] - Sequence of 24 hours of a course in the School on "Structural Dynamics and Structural Acoustics", Department of Engineering Mechanics, PUC-Rio University, Rio de Janeiro, Brazil, August 19-23, **1996**. Edited as: C. Soize, *Fundamentals of Random Signal Analysis, Application to Modal Identification in Structural Dynamics*, Université Paris-Est-Marne-la-Vallée (UPEM), Paris, France, 1997.
- [2] - Sequence of 24 hours of a course entitled *Uncertainties modeling in mechanics*, PUC Rio university, Rio de Janeiro, Brazil, August 18-26, **2004**.
- [3] - Sequence of 18 hours of a course entitled *Uncertainties modeling and uncertainties propagation in computational mechanics*, PUC Rio university, Rio de Janeiro, Brazil, July 31 - August 2, **2006**.
- [4] - Short course of 8 hours on *Uncertainty Quantification in Mechanics: Theoretical and Computational Aspects* organized in collaboration with R. Ghanem, 9th U.S. National Congress on Computational Mechanics (9th USNCCM), San Francisco, California, USA, July 22 - 26, **2007**
- [5] - Sequence of 15 hours of a course entitled *Uncertainties and stochastic modeling*, PUC Rio university, Rio de Janeiro, Brazil, August 4-7, **2008**.
- [6] - Short course of 8 hours on *Uncertainty Quantification in Mechanics: Theoretical and Computational Aspects* organized in collaboration with R. Ghanem, 10th U.S. National Congress on Computational Mechanics (10th USNCCM), Columbus, Ohio, USA, July 15, **2009**.
- [7] - Sequence of 15 hours of a course entitled *Stochastic models in computational mechanics*, PUC Rio university, Rio de Janeiro, Brazil, August 2-6, **2010**.
- [8] - Sequence of 6 hours of a course entitled *Probabilistic modeling of uncertainties in computational mechanics and their propagation in complex dynamical systems; industrial applications; recent novel methods of analysis*, in the Advanced School on "Nondeterministic Mechanics" coordinated by I. Elishakoff and C. Soize, International Centre for Mechanical Sciences, CISM, Udine, Italy, May 9-13, **2011**.
- [9] - Sequence of 8 hours of a course entitled *Stochastic models of uncertainties in computational mechanics and nonparametric probabilistic approaches*, Oberwolfach Seminar on "Spectral Methods of Uncertainty Quantification" organized by Omar M. Knio (JHU, Baltimore) and Olivier P. Le Maître (LIMSI, Paris). Mathematisches Forschungsinstitut Oberwolfach Schwarzwaldstr (Lorenzenhof), Oberwolfach-Walke, Germany, June 12-18, **2011**.
- [10] - Short course of 6 hours on *Uncertainty Quantification in Mechanics: Theoretical and Computational Aspects* organized in collaboration with R. Ghanem, 11th U.S. National Congress on Computational Mechanics (11th USNCCM), University of Minnesota, Minneapolis, Minnesota, USA, July 24, **2011**.

- [11] - Course of 36 hours on *Uncertainty Quantification in Computational Mechanics*, invited by Prof. Charbel Farhat, Army High Performance Computing Research Center (AHPCRC) at Stanford University, Stanford, USA, February 02-20, **2015**.
- [12] - Course of 18 hours on *Uncertainty Quantification in Computational Mechanics*, invited by Prof. Charbel Farhat, Army High Performance Computing Research Center (AHPCRC) at Stanford University, Army Research Laboratory (ARL), location of the Course: Aberdeen Proving Ground (APG), Aberdeen, Maryland, USA, June 21-24, **2016**.
- [13] - Course of 4 hours on *Probabilistic Learning on Manifolds* in Uncertainty Quantification Summer School, organized by R. Ghanem (USC) and Habib Najm (Sandia), University of Southern California, August 8-10, **2018**.

## 8. CONTRACTS AND TECHNICAL REPORTS

Author or co-author of 62 technical reports with contracts written between 1981 and 2000 at Onera, France.

From 2001 to 2019 at the Université Paris-Est Marne-la-Vallée and from 2020 at Université Gustave Eiffel:

- [1] - C. Soize, Modèle probabiliste mixte non paramétrique - paramétrique des incertitudes en dynamique non linéaire des structures, Contrat d'association EDF R&D / Département Acoustique et Mécanique Vibratoire et Université de Marne la Vallée / Laboratoire de Mécanique, Contrat EDF/R&D : T62/E28858, Contrat UMLV : 182 APS, Lot 1, Décembre 2001.
- [2] - C. Desceliers et C. Soize, Modèle probabiliste mixte non paramétrique - paramétrique des incertitudes en dynamique non linéaire transitoire d'un circuit primaire principal, Contrat d'association EDF R&D / Département Acoustique et Mécanique Vibratoire et Université de Marne la Vallée / Laboratoire de Mécanique, Contrat EDF/R&D : T62/E28858, Contrat UMLV : 182 APS, Lot 2, Décembre 2002.
- [3] - C. Soize, Bruit propre d'un dôme sonar lié à la turbulence de la couche limite. Contrat 2003 DCN/ Bassin d'Essais des Carènes et l'Université de Marne la Vallée / Laboratoire de Mécanique.
- [4] - Soize C., Capiez-Lernout E. (équipe française), Schueller G.I., Pellissetti M. (équipe étrangère), Une nouvelle méthode de calcul numérique en dynamique stochastique pour l'ingénierie. PAI AMADEUS Program of Scientific Cooperation between Austria and France 2003-2004.
- [5] - C. Soize, Modélisation de véhicules automobiles en vibroacoustique numérique avec incertitudes et validation expérimentale, Contrat PSA /département DPTA/DMFV/ACV et l'Université de Marne la Vallée / Laboratoire de Mécanique, 31 octobre 2003 pour 3 ans 2003-2006 correspondant à la thèse CIFRE de Jean-François DURAND.
- [6] - C. Soize, Simulation numérique des cloisons légères soumises à des chargements thermiques en présence d'incertitudes de modélisation - validation expérimentale. Application : tenue au feu des cloisons en plaques de plâtre assujetties à une ossature légère métallique, Contrat CSTB /département Structure au feu et l'Université de Marne la Vallée / Laboratoire de Mécanique, 14 février 2003 pour 3 ans 2003-2006 correspondant à la thèse de Seddik SAKJI.
- [7] - C. Soize, Modélisation réduite probabiliste de structures complexes pour la prévision des fonctions de transfert vibroacoustiques de carrosseries automobiles, Contrat PSA / département DPTA/DMFV/ACV et l'Université de Marne la Vallée / Laboratoire de Mécanique, Décembre 2005 - Décembre 2008 correspondant à la thèse CIFRE de Charles FERNANDEZ.
- [8] - C. Soize, Prise en compte des incertitudes dans les calculs couplés fluide-structure d'assemblages combustible nucléaire, Contrat EDF R&D / Clamart et l'Université de Marne la Vallée / Laboratoire de Mécanique, Octobre 2005 - Septembre 2008 correspondant à la thèse CIFRE de Anas BATOU.
- [9] - C. Soize, E. Capiez-Lernout, Conception robuste en dynamique des systèmes mécaniques complexes incertains (CORO-DYNA), Contrat ANR 2005, Projet : NT05-2-41777, Coordinateur scientifique du projet C. Soize, Janvier 2006 - Décembre 2008.
- [10] - C. Soize, Conception robuste en vibrations des roues aubagées, Contrat Turmomeca, Groupe Safran et l'Université de Marne la Vallée / Laboratoire de Mécanique, Octobre 2006 - Décembre 2009 correspondant à la thèse CIFRE de Moustapha MBAYE.
- [11] - C. Soize, C. Desceliers, Model and experimental validation for the biomechanical ultrasonic characterization in presence of uncertainties: application to bone (BONECHAR), Contrat 2007-2009 ANR 2006, Projet : BLAN06-2-144777, Partenaires : Paris 12 (laboratoire de biomécanique et biomatériaux ostéo-articulaires, responsable scientifique, S. Naili), Paris 6 (Laboratoire d'imagerie paramétrique, responsable scientifique Q. Grimal) et Université de Marne la Vallée (laboratoire de Mécanique, responsable scientifique C. Soize). Coordinateur du projet S. Naili (Paris 12).

- [12] - C. Soize, Structuration automatique et robuste pour le dimensionnement vibroacoustique des structures de véhicules en basses fréquences. Contrat PSA / département DPTA/DMFV/ACV et l'Université de Marne la Vallée / Laboratoire de Mécanique, Décembre 2006 - Décembre 2009 correspondant à la thèse CIFRE de Morad KASSEM.
- [13] - C. Soize, Nonlinear wave propagation in complex media. Application to sound propagation in urban environments (Propagation d'ondes non linéaires en milieu complexe. Application à la propagation en environnement urbain). Contrat CSTB /département Acoustique de Grenoble et l'Université Paris-Est Marne la Vallée / Laboratoire de Mécanique, octobre 2006 pour 3 ans 2006-2009 correspondant à la thèse CIFRE de Thomas LEISSING.
- [14] - C. Soize, C. Desceliers, Méthodologie d'implémentation des modèles probabilistes des incertitudes dans les modèles numériques de crash. Contrat de recherche 07CTR141 entre PSA Peugeot Citroen et l'Université Paris-Est Marne la Vallée / Laboratoire de Mécanique, juin 2007 - février 2008.
- [15] - C. Soize, Modélisation probabiliste et validation expérimentale de la stabilité d'une cloison de grande hauteur en plaques de plâtre sur ossature métallique soumise à un incendie naturel, Contrat CSTB /département Structure au feu et l'Université Paris-Est Marne la Vallée / Laboratoire de Mécanique, octobre 2007 pour 3 ans 2007-2010 correspondant à la thèse de Thanh Trung DO.
- [16] - C. Soize, C. Desceliers, Solveur stochastique pour l'analyse robuste du Crash avec modèle numérique incertain. Contrat de recherche 09CTR483 entre PSA Peugeot Citroen et l'Université Paris-Est Marne la Vallée / Laboratoire Modélisation et Simulation Multi-Echelle, Université Paris-Est Marne-la-Vallée, 2009.
- [17] - C. Soize, C. Desceliers, Analyse de la performance et du risque associés à l'intégrité du puits dans le contexte du stockage géologique du CO<sub>2</sub> : approche prédictive et probabiliste. Contrat de recherche 08CTR303 avec le Conseil Général de Seine-et-Marne, et contrat de recherche 09CTR192 avec la Société OXAND S.A., Université Paris-Est Marne la Vallée / Laboratoire Modélisation et Simulation Multi-Echelle, 2008 - 2010, Université Paris-Est Marne-la-Vallée, décembre 2009.
- [19] - C. Soize, Réduction modale basée sur une séparation des modes structuraux globaux et locaux imbriqués en vibroacoustique numérique pour la réponse statistique basse et moyenne fréquence de systèmes complexes incertains. Application à l'Avance de Phase en synthèse automobile. Contrat de recherche 09CTR418 entre PSA / département DPTA/DMFV/ACV et l'Université de Marne la Vallée / Laboratoire Modélisation et Simulation Multi-Echelle, Octobre 2009 - Octobre 2012 correspondant à la thèse CIFRE de Adrien ARNOUX.
- [20] - C. Soize, Modélisation spatiale et temporelle de la variabilité géométrique des voies ferroviaires françaises, Contrat de recherche 10CTR437 entre la SNCF, l'ENPC et l'UPEMLV, octobre 2010 pour 3 ans 2010-2013 correspondant à la thèse de Guillaume PERRIN.
- [21] - C. Soize, A. Batou, C. Desceliers, J. Guillemot, J. Yvonnet, Méthodes avancées utilisant les modélisations stochastiques en grande dimension pour la modélisation, la quantification et la propagation des incertitudes en mécanique numérique des solides et des fluides (TYCHE), Contrat ANR 2010 BLAN 090401, Coordinateur scientifique du projet C. Soize, Décembre 2010 - Août 2013.
- [22] - A. Batou, C. Soize, Pour des simulations crédibles via la corrélation calcul-essai et l'estimation des incertitudes en dynamique des structures (SYCODYN), Contrat ANR 2012 FUI12, Janvier 2012 - Décembre 2014.
- [23] - C. Soize, Identification stochastique inverse de modèles cinétiques d'évolution de la géométrie de la voie sous l'effet de la dynamique du train, Contrat de recherche 2012-00223 entre la SNCF et l'UPEMLV, octobre 2012 pour 3 ans 2012-2015 correspondant à la thèse de Nicolas LESTOILLE.
- [24] - A. Batou, E. Capiez-Lernout, J.-F. Deu, C. Soize, Réduction de modèle pour les structures dynamiques à forte densité modale en basses fréquences (HIMODE), Contrat ANR 2013, Janvier 2013 - Décembre 2015.
- [25] - A. Batou, C. Soize, Uncertainty quantification for multibody dynamical systems, Korea-France STAR Program, Prof. Hong Hee Yoo and Mr. Chankyu Choi (Hanyang University, Seoul), Prof. C. Soize and Dr. A. Batou (Université Paris-Est Marne-la-Vallée), April 2013 - March 2015.
- [26] - C. Soize, Action du vent sur les structures de grandes dimensions, simplification et optimisation du chargement aérodynamique sur les toitures de stade. Contrat de recherche entre le CSTB (établissement de Nantes) et l'UPEM (MSME), 1 janvier 2015 - 1 février 2018, correspondant à la thèse de Wafaa KASSIR.
- [27] - C. Soize, Diagnostic de sous-systèmes de matériel roulant ferroviaires à l'aide de modèles stochastiques inverses, Contrat de recherche 2012-00223 entre la SNCF et l'UPEM, 01 janvier 2016 au 31 janvier 2019, correspondant à la thèse CIFRE de David LEBEL.

- [28] - C. Soize, E. Capiiez-Lernout, la modélisation du désaccordage des roues aubagées en dynamique non linéaire, Contrat de recherche 2017-2020 entre SAFRAN TECH et l'UPEM, 01 février 2017 au 31 janvier 2020, correspondant à la thèse CIFRE de Anthony PICOU.
- [29] - C. Soize, Robust design of nacelle noise reduction technologies, Contrat de recherche 2017-2020 entre Airbus et l'UPEM, 01 janvier 2017 au 31 janvier 2020, correspondant à la thèse CIFRE de Vincent DANGLA.
- [30] - C. Soize, C. Desceliers, Modélisation vibro-acoustique multi-fréquentielle, Contrat de recherche 2017-2020 entre PSA et l'UPEM, 01 janvier 2017 au 31 janvier 2020, correspondant à la thèse CIFRE de Justin REYES.
- [31] - C. Soize, Optimisation de la vitesse des trains vis-à-vis de leur comportement dynamique sur les voies, Contrat de recherche 2019-2023 entre la SNCF et l'UPEM, 01 décembre 2019 au 31 mars 2023, correspondant à la thèse CIFRE de Julien NESPOULOUS.
- [32] - C. Desceliers, C. Soize, Méthodes avancées pour la modélisation du bruit moteur et avion (MAMBO) , Contrat de recherche 2021-2024, Airbus, DGA, correspondant à la thèse de Amrithesh SINHA.

## 9. VISITING SCIENTIST AND VISITING PROFESSOR

- . Visiting Professor, University of Southern California, Los Angeles, USA, 2019.
- . Visiting Professor, Duke University, Durham, USA, 2019.
- . Visiting Professor, University of Liege, Belgium, 2019
- . Visiting Professor, Tongji University, Shanghai, China, 2019.
- . Visiting Professor, Stanford University, Stanford, USA, 2019
- . Visiting Professor, University of Southern California, Los Angeles, USA, 2018.
- . Visiting Professor, Duke University, Durham, USA, 2018.
- . Visiting Professor, Stanford University, Stanford, USA, 2018.
- . Visiting Professor, Federal University of Fluminense, Rio de Janeiro, Brazil, 2018.
- . Visiting Professor, University of Southern California, Los Angeles, USA, 2017.
- . Visiting Professor, Stanford University, Stanford, USA, 2017.
- . Visiting Professor, University of Southern California, Los Angeles, USA, 2016.
- . Visiting Professor, Stanford University, Stanford, USA, 2016.
- . Visiting Professor, Naval Research Laboratory (NRL), Washington DC, USA, 2016.
- . Visiting Professor, Arizona State University, Tempe-Phoenix, Arizona, USA, 2015.
- . Visiting Professor, Stanford University, Stanford, USA, 2015.
- . Visiting Professor, University of Southern California, Los Angeles, USA, 2015.
- . Visiting Professor, Perm State University, Perm, Russia, 2012.
- . Visiting Professor, PUC University, Rio de Janeiro, Brazil, 2004, 2006, 2008, 2010, 2012.
- . Visiting Professor, Ecole Nationale Polytechnique of Algeria, 2004
- . Visiting Professor, University of Innsbruck, Austria, 2002, 2003, 2004, 2005, 2007.
- . Visiting Professor, Rice University, 2004.
- . Visiting Professor, The Johns Hopkins University, 2002, 2003.
- . Visiting Scientist, Rice University, 2001.
- . Visiting Scientist, The Johns Hopkins University, 2000.
- . Visiting Scientist, University of Saint Jacques de Compostelle, Spain, 1996, 1997, 1998.
- . Visiting Scientist, PUC University, Rio de Janeiro, Brazil, 1994, 1995, 1996.

## 10. SUPERVISED DOCTORAL STUDENTS

- 1977 - 1979 Thèse C. TREZOS. (Participation à 20% de l'encadrement, Directeur de thèse P. Krée). Bourse CTICM. Thèse de docteur ingénieur, Approche probabiliste de la sécurité des constructions , université Pierre et Marie Curie, Paris VI, soutenue le 21 septembre 1979.
- 1978 - 1980 Thèse N. AKA. (Participation à 20% de l'encadrement, Directeur de thèse P. Krée). Bourse CTICM. Thèse de docteur 3ème Cycle, Calcul d'indices probabilistes de sécurité pour les structures, université Pierre et Marie Curie, Paris VI, soutenue le 1 juillet 1980.
- 1979 - 1981 Thèse V. HACHEMI. (Participation à 20% de l'encadrement, Directeur de thèse P. Krée). Bourse CTICM. Thèse de docteur ingénieur, Etude du comportement dynamique non linéaire des risers pour les grandes profondeurs soumis au courant et à la houle, Ecole Nationale des Ponts et Chaussées, Paris, soutenue le 25 juin 1981.

- 1981 - 1983 Thèse F. POIRION. (Participation à 20% de l'encadrement, Directeur de thèse P. Krée). Bourse Onera. Thèse de docteur 3ème Cycle, Etude numérique de la mécanique aléatoire des systèmes à nombre variable de liaisons, université Pierre et Marie Curie, Paris VI, soutenue le 19 décembre 1983.
- 1989 - 1991 Thèse de O. FILLATRE. Bourse Onera. Thèse de doctorat de l'Ecole Centrale Paris sur l' Identification des systèmes dynamiques faiblement non linéaires à partir d'excitations aléatoires, soutenue le 26 juin 1991.
- 1993 - 1995 Thèse de P. SOUDAIS. Bourse Onera. Thèse de doctorat de l'Ecole Centrale Paris sur la Résolution des équations de Maxwell harmonique par une méthode numérique hybride, soutenue le 15 décembre 1995.
- 1992 - 1995 PhD de D. A. RUSSEL (Encadrement d'une partie de son travail de PhD en 1993). PhD de Pennsylvania State University, in Acoustics, on The theory of fuzzy structures and its application to waves in plates and shells, soutenue le 15 août 1995.
- 1993 - 1995 Thèse de O. LEFUR. Bourse Onera. Thèse de doctorat de l'université Pierre et Marie Curie, Paris VI, sur l'Identification modale des systèmes dynamiques multidimensionnels faiblement non linéaires par une méthode de linéarisation stochastique à paramètres aléatoires, soutenue le 7 novembre 1995.
- 1996 - 1998 Thèse de J.C. MICHELUCCI. Bourse Onera. Thèse de doctorat de l'Ecole Centrale Paris sur l' Optimisation de forme structurale axisymétrique en vibroacoustique interne dans les domaines des basses et moyennes fréquences, soutenue le 22 octobre 1998.
- 1996 - 1999 Thèse de K. BJAOUI. Bourse Onera. Thèse de doctorat du CNAM Paris sur une Estimation des paramètres d'une structure floue pour des jonctions continues, soutenue le 2 avril 1999.
- 1997 - 2001 Thèse de C. DESCELIERS. Bourse Onera. Thèse de doctorat de l'Ecole Centrale Paris sur la Dynamique non linéaire en déplacements finis des structures tridimensionnelles viscoélastiques en rotation, soutenue le 26 janvier 2001.
- 1998 - 2001 Thèse de S. MZIOU. Bourse Onera. Thèse de doctorat du CNAM Paris sur la Sous-structuration dynamique dans le domaine des moyennes fréquences en analyse des structures, soutenue le 28 novembre 2001.
- 1999 - 2002 Thèse de H. CHEBLI. Bourse Onera. Thèse de doctorat du CNAM Paris sur la Modélisation des incertitudes aléatoires non homogènes en dynamique des structures pour le domaine des basses fréquences, soutenue le 22 Novembre 2002.
- 1999 - 2002 Thèse de B. FAVERJON. Bourse Onera. Thèse de doctorat du CNAM Paris, directeur de thèse C. Soize (95%), co-directeur R. Ohayon (5%), sur la Modélisation et validation expérimentale d'un modèle d'impédance acoustique dans le domaine des moyennes et des hautes fréquences pour un système multicouche composé d'un matériau poreux épais inséré entre deux plaques minces, soutenue le 13 Décembre 2002.
- 2000 - 2003 Thèse de J. DUCHEREAU. Bourse Onera. Thèse de doctorat du CNAM Paris sur la Modélisation non paramétrique des incertitudes en dynamique transitoire des systèmes complexes avec incertitudes non homogènes, soutenue le 21 Janvier 2004.
- 2001 - 2004 Thèse de E. CAPIEZ. Allocation Recherche. Thèse de doctorat de l'université de Marne la Vallée, Dynamique des structures tournantes à symétrie cyclique en présence d'incertitudes aléatoires. Application au désaccordage des roues aubagées, soutenue le 14 Octobre 2004. Lauréate du Prix de Thèse CSMA (Computational Structural Mechanics Association) en 2005.
- 2002 - 2005 Thèse de S. SAKJI. Bourse CSTB. Thèse de doctorat de l'université de Marne la Vallée, sur la Modélisation probabiliste et validation expérimentale du transfert thermique et du comportement thermomécanique avec endommagement d'une plaque multicouche carton-plâtre-carton soumise au feu, soutenue le 10 juillet 2006.
- 2002 - 2006 Thèse de C. CHEN. Allocation Recherche. Thèse de doctorat de l'université de Marne la Vallée, directeur de thèse C. Soize (80%), co-directeur D. Duhamel (20%), Vibration et vibroacoustique des panneaux composites sandwich en présence d'incertitudes - Expérimentation et validation du modèle, soutenue le 21 décembre 2006.
- 2004 - 2006 Thèse de R. COTTEREAU. Bourse Ecole Centrale Paris. Thèse de doctorat de l'Ecole Centrale Paris, directeur de thèse D. Clouteau (90%), co-directeur C. Soize (10%), Etude stochastique de l'interaction dynamique sol-structure, soutenue le 18 janvier 2007. Lauréat du Prix de Thèse CSMA (Computational Structural Mechanics Association) en 2008.
- 2002 - 2006 Thèse de J.-F. DURAND. Thèse CIFRE PSA. Thèse de doctorat de l'université de Marne la Vallée, Modélisation de véhicules automobiles en vibroacoustique numérique avec incertitudes et validation expérimentale, soutenue le 10 mai 2007.
- 2005 - 2008 Thèse de Charles FERNANDEZ. Thèse CIFRE PSA. Thèse de doctorat de l'Université Paris-Est sur la Modélisation et validation expérimentale des complexes insonorisants pour la prévision vibroacoustique numérique basse et moyenne fréquences des automobiles, soutenue le 11 décembre 2008.

- 2005 - 2008 Thèse de Anas BATOU. Thèse CIFRE EDF R&D. Thèse de doctorat de l'Université Paris-Est sur l'identification de forces stochastiques appliquées à un système dynamique non linéaire en utilisant un modèle numérique incertain et des réponses expérimentales, soutenue le 18 décembre 2008.
- 2006 - 2008 Thèse de Johann GUILLEMINOT. Bourse Ecole des Mines de Douai. Thèse de doctorat de l'Université des Sciences et Technologies de Lille 1 sur la Modélisation stochastique mésoscopique de milieux aléatoires : application à un polymère renforcé de fibres longues, Directeurs de thèse D. Kondo (Université des Sciences et Technologies de Lille 1) et C. Binétruy (Mines Douai), co-encadrement C. Soize (20%), soutenue le 9 décembre 2008.
- 2006 - 2009 Thèse de Moustapha MBAYE. Thèse CIFRE Turbomeca. Directeur de thèse Soize C. (80%), co-encadrement Capiez-Lernout E. (20%). Thèse de doctorat de l'Université Paris-Est sur la Conception robuste en vibration et aéroélasticité des roues aubagées de turbomachines, soutenue le 3 novembre 2009.
- 2006 - 2009 Thèse de Mourad KASSEM. Thèse CIFRE PSA. Thèse de doctorat de l'Université Paris-Est sur le Champ de densité d'énergie pour la vibroacoustique basse et moyenne fréquence des structures complexes utilisant un modèle numérique stochastique. Application à la partition structurale des automobiles, soutenue le 10 décembre 2009.
- 2007 - 2009 Thèse de Thomas LEISSING. Thèse CIFRE CSTB. Directeur de thèse C. Soize (50%), co-directeur au CSTB, P. Jean (50%) Thèse de doctorat de l'Université Paris-Est sur la Propagation d'ondes non linéaires en milieu complexe. Application à la propagation en environnement urbain, soutenue le 30 novembre 2009.
- 2007 - 2010 Thèse de Thiago RITTO. Bourse Brésilienne CAPES. Thèse de doctorat en co-tutelle entre l'université de la PUC-Rio au Brésil et l'Université Paris-Est sur Numerical analysis of the nonlinear dynamics of a drill-string with uncertainty modeling, directeur de thèse coté Brésil R. Sampaio (50%), directeur de thèse coté Français C. Soize (50%), soutenue le 15 avril 2010. Lauréat du Prix de Thèse CSMA (Computational Structural Mechanics Association) en 2011.
- 2007 - 2011 Thèse de Thanh Trung DO. Thèse bourse CSTB. Thèse de doctorat de l'Université Paris-Est sur l'Analyse expérimentale et modélisation du comportement non linéaire thermomécanique de cloison en plaques carton-plâtre-carton, vissées et soumises à des charges thermiques et mécaniques, soutenue le 8 décembre 2011.
- 2009 - 2012 Thèse de Adrien ARNOUX. Thèse CIFRE PSA. Directeur de thèse C. Soize (50%), co-encadrement A. Batou (50%). Thèse de doctorat de l'Université Paris-Est sur la Réduction des modèles numériques en dynamique linéaire basse fréquence des automobiles, soutenue le 3 octobre 2012.
- 2010 - 2013 Thèse de Guillaume PERRIN. Bourse SNCF. Directeur de thèse A. Duhamel (50%), co-directeur C. Soize (50%) Thèse de doctorat de l'Université Paris-Est : "Random fields and associated statistical inverse problems for uncertainty quantification. Application to railway track geometries for high-speed trains dynamical responses and risk assessment", soutenue le 24 septembre 2013. Lauréat du Prix de Thèse 2014 de l'Ecole des Ponts ParisTech et Lauréat du Prix de Thèse 2014 de l'Université Paris-Est (École Doctorale Sciences, Ingénierie, Environnement).
- 2010 - 2013 Thèse de Manh-Tu NGUYEN. Contrat Doctoral. Directeur de thèse C. Soize (50%), co-encadrement C. Descliers (50%) Thèse de doctorat de l'Université Paris-Est : "Identification multi-échelle du champ d'élasticité apparent stochastique de microstructures hétérogènes. Application à un tissu biologique", soutenue le 8 Octobre 2013.
- 2012 - 2015 Thèse de Americo CUNHA JUNIOR. Bourse Brésilienne CAPES. Thèse de doctorat en co-tutelle entre l'université de la PUC-Rio au Brésil et l'Université Paris-Est : "Modeling and uncertainty quantification in the nonlinear stochastic dynamics of horizontal drillstrings", directeur de thèse Brésil R. Sampaio (50%), directeur de thèse France C. Soize (50%), soutenue le 11 mars 2015.
- 2012 - 2015 Thèse de Roberta DE QUEIROZ LIMA. Bourse Brésilienne CAPES. Thèse de doctorat en co-tutelle entre l'université de la PUC-Rio au Brésil et l'Université Paris-Est : "Modeling and simulation in nonlinear stochastic dynamics of coupled systems and impacts", directeur de thèse Brésil R. Sampaio (50%), directeur de thèse France C. Soize (50%), soutenue le 13 mai 2015. Lauréate d'un Prix de Thèse 2015 de ABCM-EMBRAER (Associação Brasileira de Engenharia e Ciências Mecânicas (ABCM) e pela Empresa Brasileira de Aeronáutica (Embraer)) et d'un prix de Thèse 2016 de la CAPES (Coordenadoria de Aperfeiçoamento de Pessoal de Nível Superior).
- 2012 - 2015 Thèse de Nicolas LESTOILLE. Thèse CIFRE SNCF. Thèse de doctorat de l'Université Paris-Est : "Stochastic model of high-speed train dynamics for the prediction of long-time evolution of the track irregularities", soutenue le 16 octobre 2015.
- 2012 - 2015 Thèse de Thinh Tien LE. Thèse projet ANR. Directeur de thèse C. Soize (30%), co-encadrement J. Guillemot (70%). Thèse de doctorat de l'Université Paris-Est : "Modélisation stochastique en mécanique des milieux continus de l'interphase inclusion-matrice à partir de simulations en dynamique moléculaire", soutenue le 21 octobre 2015.

- 2013 - 2016 Thèse de Olivier EZVAN. Thèse projet ANR. Directeur de thèse C. Soize (30%), co-encadrement A. Batou (70%). Thèse de doctorat de l'Université Paris-Est : "Multilevel model reduction for uncertainty quantification in computational structural dynamics", soutenue le 23 septembre 2016.
- 2014 - 2020 Thèse de Rémi CAPILLON. Thèse Contrat Doctoral. Directeur de thèse C. Desceliers (90%), co-encadrement C. Soize (10%). Thèse de doctorat de l'Université Paris-Est : "Modélisation non paramétrique des incertitudes dans les modèles numériques de calcul linéaires et causaux", soutenue le 10 Décembre 2020.
- 2014 - 2017 Thèse de Wafaa KASSIR. Bourse CSTB. Thèse de doctorat de l'Université Paris-Est : "A non-Gaussian probabilistic approach for the equivalent static loads of wind effects in structural dynamics from wind tunnel measurements", soutenue le 7 septembre 2017.
- 2014 - 2017 Thèse de Déborah LAVAZEC. Contrat Doctoral, Labex MMCD. Directeur de thèse A. Duhamel (50%), co-Directeur C. Soize (30%), co-encadrement A. Batou (20%). Thèse de doctorat de l'Université Paris-Est : "Experimental evaluation and modeling of a nonlinear absorber for vibration attenuation. Design, identification, and analysis", soutenue le 21 Décembre 2017.
- 2015 - 2018 Thèse de David LEBEL. Thèse CIFRE SNCF. Thèse de doctorat de l'Université Paris-Est : "Statistical inverse problem in nonlinear high-speed train dynamics", soutenue le 30 Novembre 2018.
- 2016 - 2019 Thèse de Quentin AKKAOUI. Thèse DGA. Directeur de thèse C. Soize (10%), co-encadrement R. Ohayon du CNAM Paris (10%), E. Capiez-Lernout (80%). Thèse de doctorat de l'Université Paris-Est : "Computational dynamics of geometrically nonlinear structures coupled with acoustic fluids in presence of sloshing and capillarity. Uncertainty quantification", soutenue le 4 Octobre 2019.
- 2016 - 2019 Thèse de Mariia NESTEROVA. Thèse financée par le projet européen Marie Curie Infrastar, Directeur de thèse C. Soize (10%), co-encadrement Franziska Schmidt de l'IFSTTAR (90%). Thèse de doctorat de l'Université Paris-Est : "Reliability of structures exposed to traffic and environmental loads", soutenue le 25 Octobre 2019.
- 2016 - 2019 Thèse de Anthony PICOU. Thèse CIFRE Safran, Directeur de thèse C. Soize (10%), co-encadrement E. Capiez-Lernout (90%). Thèse de doctorat de l'Université Paris-Est : "Robust analysis under uncertainties of bladed disk vibration with geometrical nonlinearities and detuning", soutenue le 16 décembre 2019.
- 2017 - 2020 Thèse de Vincent DANGLA. Thèse CIFRE Airbus. Thèse de doctorat de l'Université Gustave Eiffel : "Robust design of nacelle noise reduction technologies", soutenue le 11 Septembre 2020.
- 2017 - 2020 Thèse de Justin REYES. Thèse CIFRE PSA, Directeur de thèse C. Soize (50%), co-encadrement C. Desceliers (50%). Thèse de doctorat de l'Université Paris-Est : "Multi-scale stochastic reduced-order model in computational vibroacoustics applied to automobiles", soutenue le 5 novembre 2020. The paper "Vehicle model likelihood computation using a probabilistic complex FRF matrix statistical reduction" that has been presented during the ISMA/USD conference has been awarded as the USD Best Student Paper.
- 2019 - 2022 Thèse de Julien NESPOULOUS (en cours). Thèse CIFRE SNCF. Thèse de doctorat de l'Université Gustave Eiffel : "Optimisation de la vitesse des trains vis-à-vis de leur comportement dynamique sur les voies", soutenance prévue en Décembre 2022.
- 2021 - 2024 Thèse de Amritesh SINHA (en cours). Thèse Airbus - DGAC. Directeur de thèse C. Desceliers (70%), co-encadrement C. Soize (30%). Thèse de doctorat de l'Université Gustave Eiffel : "Optimization of innovative acoustic treatment of engines for green aviation using numerical simulations and machine learning", soutenance prévue en Décembre 2024.

## 11. PROFESSIONAL ACTIVITIES

### 11.1. University Services

- . Director of the Engineering Mechanics Laboratory, 2002 - 2004.
- . Vice-President for the Research of the PRES Université Paris-Est, 2008 - March 2009.
- . Vice-President for the Research of the Université Paris-Est Marne-la-Vallée, 2002 - January 2012.
- . Director of the laboratory "Modélisation et Simulation Multi-Echelle (MSME UMR 8208 CNRS)", 2008 - February 2013.

### 11.2. Reviewer of Thesis and HDR (Habilitation Thesis)

- P. Fayol, Thesis, Paris VI University (Pierre et Marie Curie), December 18, 1989.  
 N. Pican, Thesis, Paris XI University, September 28, 1989.

P. Bernard, Thesis, Blaise Pascal University, Clermont-Ferrand, October 20, 1990.  
 A. Sbai, Thesis, Ecole Nation. Sup. de l'Aéronau. et de l'Espace, December 17, 1990.  
 H-P. Boissière, Thesis, Ecole Centrale Paris, September 7, 1992.  
 E. Friot, Thesis, University of Aix-Marseille II, May 5, 1993.  
 A. Lebot, Thesis, Ecole Centrale Lyon, April 20, 1994.  
 D. Trentin, Thesis, INSA Lyon, December 21, 1995.  
 A. Gallet, Thesis, University of Provence (Aix-Marseille I), January 12, 1996.  
 S. Bellizzi, HDR (Habilitation Thesis), University of Méditerranée, Aix-Marseille II, November 3, 1997.  
 O. Richoux, Thesis, University of Maine, December 7, 1999.  
 O. Dessombz, Thesis, Ecole Centrale Lyon, December 19, 2000.  
 D. Clouteau, HDR (Habilitation Thesis), INP Grenoble, Ecole Centrale Paris, October 19, 2001.  
 J.-M. Mencik, Thesis, Sherbrooke University (Canada) and INSA Lyon, December 12, 2002.  
 P. Darcis, Thesis, Blaise Pascal University - Clermont II, December 9, 2002.  
 A. Le Bot, HDR (Habilitation Thesis), Ecole Centrale Lyon, December 16, 2002.  
 P. Neple, Thesis, University of Bourgogne, December 5, 2003.  
 F. Sui, Thesis, Ecole Centrale Lyon, January 27, 2004.  
 M. N. Ichchou, HDR (Habilitation Thesis), Ecole Centrale Lyon, December 6, 2004.  
 J. Delbove, Thesis, Ecole Supérieure de l'Aéronautique et de l'Espace, June 7, 2005.  
 O. Le Maître, HDR (Habilitation Thesis), University of Evry, March 23, 2006.  
 S. Besset, Thesis, Ecole Centrale Lyon, November 24, 2006.  
 B. Sudret, HDR (Habilitation Thesis), Blaise Pascal University, October 12, 2007.  
 X. Zhong, Thesis, Ecole Centrale de Lyon, October 14, 2010.  
 P. du Cauzé de Nazelle, Thesis, Ecole Centrale de Lyon, March 27, 2013.  
 P. Froment, Thesis, Ecole Centrale de Lyon, April 24, 2014.  
 L. Alimonti, Thesis, Université de Sherbrooke, Canada, December 18, 2014.  
 F. Schmidt, HDR (Habilitation Thesis), Université Paris-Est, December 19, 2017.  
 G. Brogna, Thesis, INSA Lyon, December 18, 2018.  
 K. Bulthuis, Thesis, Université Libre de Bruxelles, January 13, 2020, and Université de Liège, January 29, 2020.

### 11.3. Reviewers of International Journals

285 reviews performed between 1990 and 2022:

Academic Press, books (2) Springer, book and chapters of book (5)  
 Aerospace Science and Technology (4)  
 AIAA Journal (14)  
 CACAIE Journal (10)  
 Computational Fluid Dynamics (1)  
 Computational Material Sciences (1)  
 Computational Mechanics (5)  
 Computational Methods in Applied Mechanics and Engineering (18)  
 Computers and Structures (36)  
 CRAS, Paris (5)  
 Engineering Structures (1)  
 European Journal of Mechanics (5)  
 IEEE Transactions on Signal Processing (1)  
 International Journal for Numerical Methods in Engineering (18)  
 International Journal for Numerical Methods in Fluids (1)  
 International Journal of Engineering Science (1)  
 International Journal of Fracture (1)  
 International Journal of Non-Linear Mechanics (25)  
 International Journal of Solids and Structures (1)  
 ISRN Applied Mathematics (1)  
 Integrated Computer-Aided Engineering, an International Journal (1)  
 Journal Acoustical Society of America (26)  
 Journal of Aerospace Engineering ASCE (1)



Journal of Aircraft (1)  
 Journal of Applied Mechanics - Transactions of the ASME (3)  
 Journal of Computational Physics (3)  
 Journal of Engineering Mechanics ASCE (2)  
 Journal of Fluids and Structures (1)  
 Journal of Intelligent Material Systems and Structures (2)  
 Journal of Offshore Mechanics and Arctic Engineering (1)  
 Journal of Nonlinear Dynamics (1)  
 Journal of Sound and Vibration (35)  
 Journal of Vibration and Acoustics (4)  
 La Recherche Aéronautique (4)  
 Mechanical Systems and Signal Processing (3)  
 Physica-D (2)  
 Probabilistic Engineering Mechanics (29)  
 Probability Surveys (1)  
 Proceedings of the Royal Society A (1)  
 SIAM Journal on Scientific Computing (6)  
 SIAM-ASA Journal on Uncertainty Quantification (JUQ) (3)  
 Structural Engineering and Mechanics (1)  
 Theory of Probability and Mathematical Statistics (1)

#### **11.4. Membership of Committees, Scientific Committees of Laboratories and Institutions.**

- . Officers of the "Uncertainty Quantification" Speciality Committee of United States Association of Computational Mechanics (USACM), 2013 - present.
- . Member of the Scientific Committee of the FCBA Institute of Technology, 2012 - 2018.
- . Member of the Scientific Committee of the Laboratory Tribology and Systems Dynamics (LTDS), 2013 - 2016.
- . Elected member of the Board of the PRES Université Paris-Est, 2012 - 2015.
- . Elected member of the Board of the Université Paris-Est Marne-la-Vallée, 2012 - 2015.
- . Member of the Executive Board of the European Association for Structural Dynamics (EASD), 2011 - 2014.
- . Chairman of the Executive Board of the European Association for Structural Dynamics (EASD), 2008 - 2011.
- . Member of the Executive Board of the European Association for Structural Dynamics (EASD), 2006 - 2008.
- . Member of the Board of the PRES Université Paris-Est, 2007 - 2011.
- . Permanent invited member of the Board of the Université Paris-Est Marne-la-Vallée, 2002 - 2011.
- . Permanent invited member of the Scientific Committee of the Université Paris-Est Marne-la-Vallée, 2002 - 2011.
- . Member of the Scientific Committee of CSTB (French Research Center in Civil Engineering), 2002 - 2006.
- . Chairman, European Association for Structural Dynamics (EADS), 2002 - 2005.
- . Chairman, *Structure Committee* of the Association Aéronautique et Astronautique de France, 2002 - 2003.
- . Expert member in the Orbital System Committee of CNES (French Space Agency), 1992 - 1999.
- . Member of the Scientific Committee of the Acoustic and Mechanics Laboratory (CNRS), 1992 - 1999.
- . Member of the Scientific Committee of the "Bassin des Carènes" of the French Navy, 1994 - 1998.
- . Chairman, Spatial Mechanisms Experts Committee of CNES (French Space Agency), 1994.

#### **11.5. Membership of Scientific Committees or Organizing Committees of International Conferences.**

- . UNCECOMP 2023, Uncertainty Quantification in Computational Sciences and Engineering, Athens, Greece, 12-14 June 2023.
- . COMPDYN 2023, Computational Methods in Structural Dynamics and Earthquake Engineering, Athens, Greece, 12-14 June 2023.
- . ICAV 2022, The Fourth International Conference on Acoustics and Vibration, Sousse, Tunisia, December 19-21, 2022
- . ICOSSAR 2021-2022, 13th International Conference on Structural Safety & Reliability, Virtual Conference, Shanghai, China, 13-17 September 2022.
- . ISMA 2022, International Conference on Noise and Vibration Engineering Conference (ISMA) and on Uncertainty in Structural Dynamics (USD), Leuven, Belgium, September 12-14, 2022
- . UNCECOMP 2021, Uncertainty Quantification in Computational Sciences and Engineering, Virtual

- conference, 28-30 June 2021.
- . COMPDYN 2021, Computational Methods in Structural Dynamics and Earthquake Engineering, Virtual conference, 28-30 June 2021.
  - . REC 2020, 9th International Workshop on Reliable Engineering Computing, Taormina, Italy, 17-20 May, 2020.
  - . EURODYN 2020, 11th International Conference on Structural Dynamics, Streamed from Athens, Greece, 23-26 November, 2020.
  - . EMI 2020 and PMC 2020, Engineering Mechanics Institute conference and the 13th ASCE Specialty Conference on Probabilistic Mechanics New York, May 26-29, 2020.
  - . ISMA 2020, International Conference on Noise and Vibration Engineering Conference (ISMA) and on Uncertainty in Structural Dynamics (USD), Leuven, Belgium, September 7-9, 2020
  - . CMSM 2019, 8th edition of the International Congress on Design and Modelling of Mechanical Systems, Hammamet, Tunisia, March 18-20, 2020.
  - . UNCECOMP 2019, Uncertainty Quantification in Computational Sciences and Engineering, Crete, Greece, 22-24 June 2019.
  - . COMPDYN 2019, Computational Methods in Structural Dynamics and Earthquake Engineering, Crete, Greece, 22-24 June 2019.
  - . CSMA 2019, 4ème Colloque National en Calcul des Structures, Giens (Var), 13-17 Mai 2019.
  - . REC 2018, 8th International Workshop on Reliable Engineering Computing, Computing with Confidence, Institute for Risk, Liverpool, July 16 - 18, 2018
  - . ISMA 2018, International Conference on Noise and Vibration Engineering Conference (ISMA) and on Uncertainty in Structural Dynamics (USD), Leuven, Belgium, September 17-19, 2018
  - . ICAV 2018, International Conference on Acoustics and Vibration, Tunisia, March 19-21, 2018
  - . COMUS 2017, Modeling of Multi-Uncertainty and Multi-Scale Problems, Porto, Portugal, September 12-14, 2017
  - . EURODYN 2017, 10th International Conference on Structural Dynamics, Roma, Italy, September 10-13, 2017
  - . ICOSSAR 2017, 12th International Conference on Structural Safety & Reliability, Vienna, Austria, 6-10 August 2017.
  - . COMPDYN 2017, Computational Methods in Structural Dynamics and Earthquake Engineering, Rhodes Island, Greece, 15-17 June, 2017.
  - . UNCECOMP 2017, Uncertainty Quantification in Computational Sciences and Engineering, Rhodes Island, Greece, 15-17 June, 2017.
  - . CMSM 2017, 7th edition of the International Congress on Design and Modelling of Mechanical Systems, Hammamet, Tunisia, March 27-29, 2017.
  - . ICAV 2016, International conference on Acoustics and Vibration (ICAV), Hammamet, Tunisia, March 21-23, 2016.
  - . EUROMECH 2016, International Conference on Multi-Uncertainty and Multi-Scale Methods and Related Euromech Colloquium 584, Porto, Portugal, September 13-17, 2016.
  - . ISMA 2016 - USD 2016, Noise and Vibration Engineering Conference (ISMA), International Conference on Uncertainty in Structural Dynamics (USD), Leuven, Belgium, September 19-21, 2016.
  - . REC 2016, 7th International Workshop on Reliable Engineering Computing, Bochum, Germany June 15 – 17, 2016.
  - . COMPDYN 2015, Computational Methods in Structural Dynamics and Earthquake Engineering, Island of Crete, Greece, 23-25 May, 2015.
  - . CMSM 2015, The Sixth International Congress on Design and Modelling of Mechanical Systems, Hammamet, Tunisia, March 23 - 25, 2015.
  - . DYNCOMP 2015, International Conference on Composites Materials and Structures Dynamic Behaviour, Arles in Provence, France, June 2-4, 2015.
  - . MSF 2015, ECCOMAS Thematic Conference on Multi-scale Computational Methods for Solids and Fluids, Sarajevo, Bosnia and Herzegovina, July 20-23, 2015.
  - . UNCECOMP 2015, Uncertainty Quantification in Computational Sciences and Engineering, Island of Crete, Greece, May 25-27, 2015.
  - . ISMA 2014 - USD 2014, Noise and Vibration Engineering Conference (ISMA), International Conference on Uncertainty in Structural Dynamics (USD), Leuven, Belgium, September 15-17, 2014.
  - . IUTAM Symposium 2014, Dynamical Analysis of Multibody Systems with Design Uncertainties, Stuttgart, Germany, June 23-27, 2014.
  - . EURODYN 2014, 9th International Conference on Structural Dynamics, Porto, Portugal, 30 June - 2 July 2014.
  - . REC 2014, 6th International Workshop on Reliable Engineering Computing - REC 2014 - Reliability and

- Computations of Infrastructures, Illinois Institute of Technology, Chicago, May 25-28, 2014.
- . ICOSSAR 2013, 11th International Conference on Structural Safety and Reliability (ICOSSAR 2013) (Member of the International Advisory Committee), Columbia University, New York City, June 16-20, 2013.
  - . COMPDYN 2013, Computational Methods in Structural Dynamics and Earthquake Engineering, in conjunction with SEECCM III, Island of Kos, Greece, June 12-14, 2013.
  - . 11ème Colloque National en Calcul des Structures, Giens (Var), May 13 - 17, 2013.
  - . CSM 2013, 5th edition of the International Congress on Design and Modelling of Mechanical Systems, Djerba, Tunisia, March 18 - 20, 2013.
  - . DYNCOMP 2012, First International Conference on Composites Materials and Structures Dynamic Behaviour, Arcachon, France, May 22 - 24, 2012.
  - . ISMA 2012 - USD 2012, Noise and Vibration Engineering Conference (ISMA), International Conference on Uncertainty in Structural Dynamics (USD), Leuven, Belgium, September 17-19, 2012.
  - . SIAM UQ 2012, SIAM Conference on on Uncertainty Quantification, Raleigh, North Carolina, USA, April 2-4, 2012.
  - . EURODYN 2011, 8th International Conference on Structural Dynamics, Leuven, Belgium, July 4- 6, 2011.
  - . COMPDYN 2011, Computational Methods in Structural Dynamics and Earthquake Engineering, Corfu, Greece, May 26 -28, 2011.
  - . 10ème Colloque National en Calcul des Structures, Giens (Var), May 9 - 13, 2011.
  - . ISRERM 2010, International Symposium on Reliability Engineering and Risk Management, Tongji University, Shanghai, P.R.China, September 23-26, 2010.
  - . ISMA 2010, 30th Noise and Vibration Engineering Conference, Leuven, Belgique, September 20 - 22, 2010.
  - . USD 2010, International Conference on Uncertainty in Structural Dynamics, Leuven, September 20–22, 2010.
  - . IMPACT 2010, First International Symposium on "Dynamic of Systems, materials and structures", Djerba, Tunisie, March 22 - 24, 2010.
  - . REC 2010, 4th International Workshop on Reliable Engineering Computing Robust Design - Coping with Hazards, Risk and Uncertainty, National University of Singapore, March 3–5, 2010.
  - . ICOSSAR 2009, 10th International Conference on Structural Safety and Reliability, Osaka, Japan, September 13 - 17, 2009.
  - . IUTAM Symposium on Vibration Analysis of Structures with Uncertainties, Saint Petersburg, July 6–10, 2009.
  - . COMPDYN 2009, Computational Methods in Structural Dynamics and Earthquake Engineering, Island of Rhodes, Greece, June 22 - 24, 2009.
  - . USD 2009, 2nd International Conference on Uncertainty in Structural Dynamics, the University of Sheffield, UK, June 15–17, 2009.
  - . 9ème Colloque National en Calcul des Structures, Giens (Var), May 25 - 29, 2009.
  - . ISMA 2008, 29th Noise and Vibration Engineering Conference, Leuven, Belgique, September 15 - 17, 2008.
  - . EURODYN 2008, 7th European Conference on Structural Dynamics, Southampton, England, July 7 - 11, 2008.
  - . LSAME08-NDM08, Leuven Symposium on Applied Mechanics in Engineering - Non-deterministic numerical modeling, Leuven, March 31 - April 2, 2008.
  - . COMPDYN 2007, Computational Methods in Structural Dynamics and Earthquake Engineering, Rethymnon, Crete, Greece, June 13 - 15, 2007.
  - . USD 2007, Intern. Conference on Uncertainty in Structural Dynamics, the University of Sheffield, UK, June 11 - 13, 2007.
  - . ISMA 2006, 28th Noise and Vibration Engineering Conference, Leuven, Belgium, September 18 - 20, 2006.
  - . CSM 2006, 5th Computational Stochastic Mechanics Conference Rodos, Greece, June 21 - 23, 2006.
  - . EURODYN 2005, 6th European Conference on Structural Dynamics, Paris, September 4 - 7, 2005.
  - . ICOSSAR 2005, 9th Intern. Conf. on Structural Safety and Reliability , Rome, June 19 - 22, 2005.
  - . ISMA 2004, 27th Noise and Vibration Engineering Conference, Leuven, Belgium, September 20 - 22, 2004.
  - . 2ème Colloque d'Analyse Vibratoire Expérimentale, Blois, November 13 - 14, 2003.
  - . 1st Intern. Conf. on Risk, Vulnerability and Reliability in Construction, Alger, October 11 - 12, 2003.
  - . SSD 2003, 5th Intern. Conf. on Stochastic Structural Dynamics, Hangzhou, China, May 26 - 28, 2003.
  - . 6ème Colloque National en Calcul des Structures, Giens (Var), May 20 - 23, 2003.
  - . CSM 2002, 5th Intern. Conf. on Computational Stochastic Mechanics, Kerkyra, Greece, June 9 - 12, 2002.
  - . ISMA 2002, 26th Noise and Vibration Engineering Conference, Leuven, Belgium, September 12 - 14, 2002.
  - . EURODYN 2002, 5th European Conference on Structural Dynamics, Munich, September 2-5, 2002.

- . ICOSSAR 2001, 8th Intern. Conf. on Structural Safety and Reliability, Newport Beach, USA, 17-22 June, 2001.
- . ISMA 2000, 25th Noise and Vibration Engineering Conference, Leuven, Belgium, 13-15 September 2000.
- . NOVEM 2000, Noise and Vibration Using Energy Methods, Lyon, 31 August - 2 September 2000.
- . CSM 1998, 3rd Intern. Conf. on Computational Stochastic Mechanics, Island of Santorini, Greece, June 14-17, 1998.
- . ICOSSAR 1997, 7th Intern. Conf. on Structural Safety and Reliability, Kyoto, Japan, November 24–28, 1997;
- . EURONOISE 1995, 2nd Intern. Conf. on Noise Control, Lyon, France, March 21–23, 1995;
- . ICASP 1995, 7th Intern. Conf. on Applications of Statistics and Probability, Paris, France, July 10-13, 1995;
- . ICOSSAR 1993, 6th Intern. Conf. on Structural Safety and Reliability, Innsbruck, Austria, August 9–13, 1993.

#### **11.6. Organization of International Conferences, Minisymposia and Workshop.**

- . Conference Chairman of the 6th European Conference on Structural Dynamics, EURODYN 2005, Paris, September 4-7, 2005.
- . Co-organizers: R. Ghanem, C. Soize, G.I. Schueller, Minisymposium "Uncertainty modeling and quantification in computational mechanics" du 7th World Congress on Computational Mechanics (WCCM7), Los Angeles, USA, July 16 - 22, 2006.
- . Co-organizers: R. Ghanem, C. Soize, G.I. Schueller, Minisymposium "Uncertainty modeling and quantification in computational mechanics" du 9th U.S. National Congress on Computational Mechanics (USNCCM IX), San Francisco, USA, July 22 - 26, 2007.
- . Scientific advisor with G.I. Schueller of the Workshop "Uncertainties in structural dynamics" organized by M. Pellissitti, IFM, Leopold-Franzens University of Innsbruck, October 19, 2007.
- . Co-organizers: R. Ghanem, G.I. Schueller, C. Soize, Joint IACM-IUTAM minisymposium "Uncertainty modeling and quantification in computational mechanics" of the joint WCCM8 and ECCOMAS 2008 Conferences, 8th World Congress on Computational Mechanics (WCCM8) and 5th European Congress on Computational Methods in Applied Sciences, Venice, Italy, 30 June - 5 July 2008.
- . Co-organizers: C. Soize, G.I. Schueller, Minisymposium "Uncertainty and reliability in computational structural dynamics" in the international conference COMPDYN 2009 : Computational Methods in Structural Dynamics and Earthquake Engineering, Island of Rhodes, Greece, June 22–24, 2009.
- . Co-organizers: R. Ghanem, C. Soize, G.I. Schueller, W.K. Liu, Minisymposium "Uncertainty quantification in computational science and engineering" of the 10th U.S. National Congress on Computational Mechanics (USNCCM X), Columbus, Ohio, USA, July 16 - 19, 2009.
- . Co-organizers: R. Ghanem, W.K. Liu, G.I. Schueller, C. Soize, Minisymposium "Uncertainty quantification in computational mechanics and engineering sciences" of the 4th European Conference on Computational Mechanics (Solids, Structures and Coupled Problems in Engineering) - ECCM 2010, Paris, France, May 17–21, 2010.
- . Co-organizers: R. Ghanem, W.K. Liu, G.I. Schueller, C. Soize, Minisymposium "Uncertainty modeling and quantification in computational science and engineering" of the 9th World Congress on Computational Mechanics (WCCM 2010), Sydney, Australia, July 19 – 23, 2010.
- . Co-organizers: R. Ghanem, G.I. Schueller, C. Soize, W.K. Liu, Minisymposium "Uncertainty quantification, robustness and computational stochastic mechanics" of the 6th M.I.T. Conference on Computational Fluid and Solid Mechanics; Advances in Solids and Structures Massachusetts Institute of Technology, USA, June 15–17, 2011.
- . Co-organizers: R. Ghanem, C. Soize, G.I. Schueller, W.K. Liu, Minisymposium "Uncertainty Quantification in Computational Science and Engineering" of the 11th U.S. National Congress on Computational Mechanics (USNCCM XI), Minneapolis, Minnesota, USA, July 25 - 29, 2011.
- . Co-organizers: G.I. Schueller, R. Ghanem, C. Soize, W.K. Liu, Minisymposium "Uncertainty Quantification in Computational Mechanics" of the 7th International Conference on Computational Mechanics for Spatial Structures (IASS-IACM 2012), Sarajevo, Bosnia and Herzegovina, April 2 - 4, 2012.
- . Co-organizers: R. Ghanem, R. Sampaio, C. Soize, G.I. Schueller, W.K. Liu, Minisymposium "Uncertainty Quantification in Computational Science and Engineering " of the 10th World Congress on Computational Mechanics (WCCM 2012), São Paulo, Brazil, 8–13 July, 2012.
- . Co-organizers: G.I. Schueller, C. Soize, R. Ghanem, W.K. Liu, Minisymposium "Uncertainty Quantification in Computational Mechanics and Engineering Sciences" of the 6th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2012), Vienna, Austria, September 10-14, 2012.
- . Co-organizers: C. Soize, R. Ghanem, Minisymposium "Uncertainty quantification in computational dynamics" of the international conference COMPDYN 2013: Computational Methods in Structural Dynamics and Earthquake

- Engineering, in conjunction with the III South-East European Conference on Computational Mechanics (SEECM III) Island of Kos, Greece, June 12-14, 2013.
- . Co-organizers: R. Ghanem, C. Soize, W.K. Liu, Minisymposium "Probabilistic modeling, analysis and simulation for large scale and complex engineered systems" of the 11th International Conference on Structural Safety and Reliability (ICOSSAR 2013), Columbia University, New York City, June 16-20, 2013.
  - . Co-organizers: R. Ghanem, J. Stewart, C. Soize, Minisymposium "Uncertainty quantification (UQ) challenge benchmarks" of the 12th U.S. National Congress on Computational Mechanics (USNCCM XII), Raleigh, NC, USA, July 22-25, 2013.
  - . Co-organizers: J. Stewart, R. Ghanem, C. Soize, Minisymposium "Uncertainty quantification (UQ) challenge benchmarks" of the SIAM Conference on Uncertainty Quantification, Savannah, Georgia, USA, March 31, April 3, 2014.
  - . Co-organizers: C. Soize, R. Ghanem, Minisymposium "Uncertainty quantification in computational structural dynamics and coupled systems" of the 9th International Conference on Structural Dynamics (EURODYN 2014), Porto, Portugal, 30 June - 2 July 2014.
  - . Co-organizers: C. Soize, M. Arnst, Minisymposium "Uncertainty quantification in coupled problems and structural dynamics", ECCOMAS Thematic Conference on Uncertainty Quantification in Computational Sciences and Engineering (UNCECOMP 2015), Crete Island, Greece 25-27 May 2015.
  - . Co-organizers: J. Guilleminot, M. Arnst, C. Soize, Minisymposium "Stochastic modeling and identification of uncertainties in computational mechanics" of the 7th European Congress on Computational Methods in Applied Sciences and Engineering (ECCM 2016), Crete Island, Greece, June 05-10, 2016.
  - . Co-organizers: E. Capiez-Lernout, M. Mignolet, C. Soize, Minisymposium "Nonlinear dynamics of rotating structures" of the 7th European Congress on Computational Methods in Applied Sciences and Engineering (ECCM 2016), Crete Island, Greece, June 05-10, 2016.
  - . Co-organizers: J. Guilleminot, R. Ghanem, C. Soize, Minisymposium "Stochastic modeling, identification and propagation of uncertainties in computational mechanics of materials", 12th World Congress on Computational Mechanics, (WCCM12), Seoul, Korea, 24-29 July, 2016.
  - . Co-organizers: J. Guilleminot, R. Ghanem, C. Soize, Minisymposium "Uncertainty Quantification in Computational Mechanics", 2016 EMI International Conference of ASCE, Engineering Mechanics Institute Conference, Metz, France, 25-27 October, 2016.
  - . Co-organizers: C. Soize, R. Ghanem, P.D. Spanos, Jie Li, M. Arnst, Minisymposium "Probabilistic and statistical methodologies for uncertainty quantification in computational sciences and engineering, 12th International Conference on Structural Safety & Reliability, ICOSSAR 2017, Vienna, Austria, 6-10 August, 2017.
  - . Co-organizers: R. Ghanem, M. Mignolet, C. Soize, Minisymposium "Uncertainty Quantification and reliability analysis in structural dynamics and coupled systems", X International Conference on Structural Dynamics, EURODYN 2017, Rome, Italy, 10-13 September, 2017.
  - . Co-organizers: M. Arnst, R. Ghanem, C. Soize, Minisymposium "UQ and probabilistic learning computational dynamics", XI International Conference on Structural Dynamics, EURODYN 2020, Athens, Greece, 23-25 November, 2020.
  - . Co-organizers: C. Desceliers, C. Soize, J. Stewart, A.F. Alvarez, K. Garikipati, M. Bessa, M. Mignolet, F. Pled, R. Ghanem, Minisymposium "Data-driven science with uncertainty quantification, machine learning, and optimization", 14th World Congress on Computational Mechanics, (WCCM14) and ECCOMAS 2020, Virtual Conference, Paris, France, January 11-15, 2021.
  - . Co-organizers: M. Bessa, A.F. Alvarez, K. Garikipati, R. Ghanem, C. Soize, J. Stewart, Minisymposium "Uncertainty Quantification and Machine Learning for Modeling and Optimization, UNCECOMP 2021, 4th International Conference on Uncertainty Quantification in Computational Sciences and Engineering, Virtual Conference, 28-30 June 2021, Athens, Greece.
  - . Co-organizers: J. Stewart, K. Garikipati, R. Ghanem, M. Bessa, C. Desceliers, A. Figueroa, M. Mignolet, F. Pled, and C. Soize, Minisymposium "Data-driven Science and Uncertainty quantification, machine learning, and optimization", 16th U.S National Congress on Computational Mechanics (USNCCM16), Virtual Conference, Chicago, USA, July 25-29, 2021.

### **11.7. Membership of Editorial Boards.**

- . International Journal of Non-Linear Mechanics, Elsevier, 1996 - present.
- . Advances in Mechanical Engineering, Hindawi Publishing Corporation, 2008 - 2013.
- . International Journal for Uncertainty Quantification, Begell House, 2009 - present.
- . Lecture Notes in Mechanics, Engineering Mechanics Institute, ASCE, 2010 - present.
- . ISRN Applied Mathematics, Hindawi Publishing Corporation, 2013 - 2014.
- . Advances in Theoretical and Applied Mechanics, Hikari Ltd, 2013 - 2015.
- . Computer-Aided Civil and Infrastructure Engineering, Wiley, 2013 - 2016.
- . Computers & Structures, Elsevier, 2016 - present.
- . Computer Methods in Applied Mechanics and Engineering, Elsevier, 2022 - present.

### **11.8. Guest Editor of Special Issues in International Journals**

- . Special Issue "Artificial Intelligence in Computational Mechanics and Engineering Sciences" in *Computer Methods in Applied Mechanics and Engineering*, ISSN: 0045-7825, 2020 to 2022.
- . Special Issue "Machine Intelligence for Engineering under Uncertainties" in *ASME Journal of Computing and Information Science in Engineering*, to appear 2022.

### **11.9. Membership of Awards Committee.**

- . Member of the 2020 Major and General Awards Committee of IACM (International Association for Computational Mechanics).
- . Member of the selection committee for the 2022 SIAG/UG Early Career Prize, Society for Industrial and Applied Mathematics (SIAM).
- . Member of the 2022 Major and General Awards Committee of IACM (International Association for Computational Mechanics).