Evans Gouno

Born : 1964 June 4, Paris, France
Citizenship : French

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Université de Bretagne-Sud	91, rue du Général Buat
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Education

H.D.R Accreditation to Supervise Research, University of South Brittany (2014)
Title : *Modelling and Data Analysis for Reliability, Agronomy and Psychometrics*
Reviewer : O.Gaudoin (Univ. de Grenoble), N. Limnios (Univ. de Compiègne),
N. Singpurwalla (The Georges Washington Univ.)

Ph.D. University of Marne-la-Vallée (1996)
Dissertation :
Reliability Problems from Industry : Algorithmic Methods / Bayesian Methods
Thesis advisor : Pr. Jean-Pierre Raoult, University of Paris V

M. Sc. Mathematical Statistic (1991), University of Paris VI.
Maîtrise Mathematical Engineering (1990), University of Paris VI.
Maîtrise Applied Mathematics (1989), University of Paris VI.
B.Sc. Mathematics (1988), University of Paris VI.

Experience

1996 - present.
Maître de Conférences, (Associate Professor), University of South-Brittany,
Department of Mathematics, Computer Science and Statistics
2001 - 2002
Visiting Associate Professor, University of California, Santa Barbara.
1995 - 1996
ATER, (Assistant Professor), University of Marne-la-Vallée.
1992 - 1995
Research Engineer, Thomson-CSF/SCTF.
Teaching assistant, University of Paris-Sud.

Research

Affiliation

- Laboratoire de Mathématiques de Bretagne Atlantique (LMBA) CNRS UMR 6205.
  (Laboratory of Mathematics of Bretagne Atlantique - National Center for Scientific Research)

  Team : Dynamical Systems, Probability and Statistics.

- Elected member of the Research Council of the LMBA (2012–2016).

Interests

Reliability, Survival analysis, Bayesian analysis, Stochastic processes, Machine learning.

Publications

Refereed Articles

Nguyen, H.D., **Gouno, E.** (2019). Maximum likelihood and bayesian inference for common-cause of failure models. *Reliability Engineering and System Safety*, Vol. 182, pp.56–62.

Gouno, E., Guérineau, L. (2015). Failure Rate Estimation in a Dynamic Environment. *Economic Quality Control*, Vol. 30, Issue 1, pp. 1–9.

Guérineau, L., **Gouno, E.** (2015). Inference for a Failure Counting Process Partially Observed. *IEEE Transactions on Reliability*, Vol. 64, N° 1, pp. 311–319.

Guérineau, L., **Gouno, E.** (2014). Failure Rate Estimation from Field Data under Time-Varying Stress. *Quality and Reliability Engineering International*, Vol. 30, N° 1, pp. 111–119.

Gouno, E.,(2011). Modelling Spread of Diseases Using a Survival Technique. *Journal of Biometrics and Biostatistics*, Vol.2, Issue 2, pp. 1–5.

Gouno, E., Courtrai L. et Fredette M. (2011). Inference from Agregate Data. *Computational Statistics and Data Analysis*, Vol.55, Issue 1, pp. 615 - 626.

Gouno, E. (2007). Optimum Step-Stress For Temperature Accelerated Life Testing. *Quality and Reliability Engineering International*, 23, pp. 915-924.

Gouno, E., Sen, A. et Balakrishnan, N. (2004). Optimal Step-Stress Test Under Progressive Type-I Censoring. *IEEE Transactions on Reliability*, Vol.53, N°3, pp. 388–395.

Gouno, E. (2001). An Inference Method for Temperature Step-Stress Accelerated Life Testing. *Quality and Reliability Engineering International*, Vol. 17, pp. 11 − 18.

Gouno, E., Courtrai, L. (1998). Reliability Assessment with Amalgamated Data via the EM algorithm. *IEEE Transactions on Reliability*, Vol. 47, N°4, pp. 425 − 430.

Gouno, E., Deleuze, G. (1993). Fiabilité des Composants en Environnements Sévères : nouveaux développements. *Revue de la SIA*, N° 684, pp. 56 − 62.

Book Chapters

Gouno, E. (2006). Step-Stress Testing, *Encyclopedia of Statistical Sciences*, Second Edition, Vol. 13, pp. 8173–8178, Wiley and Sons.

Gouno, E., Balakrishnan, N. (2001). Step-Stress Accelerated Life Test. *Handbook of Reliability*, Vol. 20, pp. 623–638, C.R. Rao and N. Balakrishnan, eds., Elsevier.

Technical Reports

Gouno, E., Courtrai, L. and Fredette, M. (2008). Estimation from aggregate data. *Les Cahiers GERAD*, Vol.42, 1.

Idier, J., **Gouno, E.** (2006). Conjugate prior for bayesian analysis of the Rasch model. *Rapport Technique IRCyNN*.

Gouno, E. (2006). Méthodes statistiques fréquentistes et bayésiennes pour le dimensionnement de stock, DGA/CELAR, septembre 2007.

Gouno, E. (2001). Inference on a Generalized Weibull Distribution for Step-Stress Test Under Type I Progressive Censoring, 2001, Rapports techniques du Laboratoire SABRES, UBS-SABRES/RR–2001-03–FR.

Gouno, E., Monbet, V. (1998). Conjugate priori for the Rasch Model, Rapports techniques du Laboratoire SABRES N ° 9805, mars 1998.

Gouno, E. (1997). L'algorithme EM : une application en survie aux données groupées, Rapports techniques du Laboratoire SABRES N° 9704, mai 1997.

Gouno, E. (1991). Méthodes mathématiques appliquées à l'étude de la fiabilité des composants plastiques, Thomson-CSF/SCTF, septembre 1991.

Gouno, E. (1990). Application de l'analyse factorielle à l'étude des composants plastiques, Thomson-CSF/SCTF, septembre 1990.

Conferences

Gouno, E., Nguyen H. D. (2019). Bayesian inference for common cause failure rate based on causal inference with missing data, Opening Workshop : Games, Decisions, Risk and Reliability, 5–9 August, Durham, NC, USA.

Do, V.C., **Gouno, E.** (2019). Bayesian Inference for the exponential-law process, (ICISE 2019), The Fifth International Conference on the Interface between Statistics and Engineering,

26–28 June, Séoul, Corée.

Nguyen, H.D., **Gouno, E.** (2017). Bayesian Inference for a Common–Cause Failure Models. The 10th Conference on Mathematical Methods in Reliability, 3–6 juillet, Grenoble.

Gouno, E. (2016). Statistical Models for Thunderstorm Occurrences. The 10th ICSA Conference for Energy, Shangai Jiao Tong University, 19-22 décembre, Shanghai, Chine.

Nguyen H. D., **Gouno, E.** (2016). Inference for Common–Cause Failures with Incomplete Data , (ICISE 2016), The Fourth International Conference on the Interface between Statistics and Engineering, 20–22 juin, Palerme, Italie.

Do V.C., **Gouno, E.** (2016). A prior conjugate for Bayesian Analysis of the Power-Law Process. Proceedings of The First International Conference On Applied Mathematics in Engineering and Reliability (ICAMER), Ho Chi Minh City, Vietnam, mai 2016. *Applied Mathematics in Engineering and Reliability*, pp. 3–8, CRC Press Balkema.

Gouno, E., Damaj, R. (2016) Inference For a One-memory Self-Exciting Point Process. Proceedings of The First International Conference On Applied Mathematics in Engineering and Reliability (ICAMER), Ho Chi Minh City, Vietnam, mai 2016. *Applied Mathematics in Engineering and Reliability*, pp. 193–197, CRC Press Balkema.

Gouno, E., Courtrai, L. (2015). Lifetime Data Analysis via Fiabilitis. International Workshop : Applied Methods of Statistical Analysis, September 14–19, Novosibirsk & Belokurikha, Russie.

Gouno, E., Courtrai, L. (2014). Fiabilitis : A software for Statistical Analysis of Reliability Data. The Third International Conference on the Interface between Statistics and Engineering, December 20–24, Hong Kong, Chine.

Gouno, E., Guérineau, L. (2014). Failure Rate Estimation in a Dynamic Environment. Flint International Statistical Conference, June 24 - 28, Kettering University, Flint, Michigan, USA.

Guérineau, L., **Gouno, E.** (2013). Modélisation de la Fiabilité de matériels exposés aux surtensions atmosphériques. $45^{ème}$ Journées de Statistique, Toulouse.

Guérineau, L., **Gouno, E.** (2012). Fiabilité d'un système modélisé par un couple de processus aléatoires dépendants. $44^{ème}$ Journées de Statistique, Bruxelles.

Guérineau, L., **Gouno, E.** (2011). Estimation du taux de défaillance pour des équipements industriels sous cobntraintes d'environnement. $43^{ème}$ Journées de Statistique, Tunis.

Gouno, E. (2009). Statistical Analysis of Contamination Data. First Workshop on Spatio-Temporal Disease Mapping, València, Espagne.

Troupé, M., Vaillant J., **Gouno, E.**(2008). Inférence bayésienne pour des processus ponctuels auto-excités partiellement observés. Congrès conjoint de la Société Statistique du Canada et

de la Société Française de Statistique, Ottawa, Canada.

Fredette, M. et **Gouno, E.** (2007). Estimation from aggregated data. Joint Statistical Meeting, Salt Lake City, Utah, USA.

Gouno, E. (2005). Inference for Aggregate Data. Spring Research Conference on Statistics in Industry and Technology, Park City, Utah, USA.

Gouno, E. (2004). Bayesian Analysis of Non-Homogeneous Poisson Processes. Fourth International Conference on Mathematical Methods in Reliability, Santa Fé, USA.

Gouno, E. (2004). Optimum Step-Stress for Temperature Accelerated Life Test. Spring Research Conference on Statistics in Industry and Technology, NIST, Washington, USA.

Gouno, E. (2002). Bayesian Analysis of Binary Item Response Model. The 23rd Biennal Conference of the Society for Multivariate Analysis in the Behavioral Sciences, Tilburg, Pays-Bas.

Gouno, E. (2001). Inference on Weibull Distribution for Step-Stress Testing under Type I Progressive Censoring. Spring Research Conference on Statistics in Industry and Technology, Ronoake, Virginie (USA).

Gouno, E. (2000). A Bayesian Method for Inference on Step-Test Testing. Second International Conference on Mathematical Methods in Reliability, Bordeaux, pp. 473–476.

Gouno, E., Drouet, D., Viallefont, V., Dupuy, J.-F. (2000). Analyse de durées multi-états pour données fortement censurées. XXXIIème Journées de Statistique, Fez.

Hamon, A., Iovleff,S., **Gouno, E.**, M. Mesbah.(1998). Un algorithme SEM appliqué à l'estimation des paramètres du modèle de Rasch. XXXème Journées de Statistique, Rennes. pp. 301–304.

Gouno, E. (1996). Analyse de durées de vie en fiabilité : un algorithme SEM pour des données amalgamées. XVIIème Rencontre Franco-Belge de Statisticiens, Marne-la-Vallée, pp. 55–60.

Gouno, E. (1995). Algorithmes stochastiques appliqués à l'estimation du taux de défaillance dans un contexte de données manquantes. ASU, XXVIIème Journées de Statistique, Jouy-en-Jossas. pp. 343–346.

Gouno, E., Deleuze, G., Brizoux M. et Robert C. (1993). Estimation bayésienne du taux de défaillance des composants électroniques. ASU, XXVème Journées de Statistique, Vannes.

Gouno, E., Deleuze, G., Brizoux M. et Robert C. (1993). A Bayesian approach of failure rate estimation in field conditions through accelerated testing , ECTC, (Electronic Components and Technology Conference), Orlando (USA), pp. 116–123.

Gouno, E., Deleuze, G., Brizoux M. (1993). A survey of Weibull parameters estimation in accelerated testing. ESREF (European Symposium on Reliability of Electronic devices, Failure physics and analysis), Bordeaux, (7 pages).

Ph. D. Supervision

- **Lise Guérineau** – Ph.D. (June 2013)

  Dissertation : Modelling and statistical analysis of reliability data under environmental conditions.

- **Rabih Damaj** – Ph.D. (May 2015)

  Dissertation : Statistical inference for the Mino process.

- **Cuong Van Do** – Ph.D. (April 2019)

  Dissertation : Inference for some stochastic processes with application to thunderstorms data.

- **Hu Du NGUYEN** – Ph.D. (July 2019)

  Dissertation : System Reliability : Inference for common cause failure models in contexts of missing information.

Collaboration

N. Balakrishnan, Mac Master University, Canada.

L. Courtrai, University of South Brittany, France.

E. Fokoué, Rochester Institute of Technology (RIT), USA.

M. Fredette, HEC Montréal, Canada.

A. Sen, University of Michigan, USA.

J. Vaillant, M. Troupé, University of French West Indies, Guadeloupe.

Research Residency Abroad

1999	University of Kent, Canterbury, England, (1 week),
2000	McMaster University, Hamilton, Canada, (1 month),
2001	Oakland University, Michighan USA, (2 weeks),
2001-2002	University of California, Santa, Barbara, USA, (one year and a half),
2005	HEC Montreal, Canada , (2 weeks),
2012	University of Utah, Salt Lake City, USA , (2 weeks),
2013	Hoa Sen University, Vietnam , (2 weeks),
2014	City University of Hong Kong, Chine, (2 weeks).
2016	Rochester Institut of Technology, (2 weeks),
2016	Vietnam Institute for Advanced Study in Mathematics (VIASM), Hanoï, Vietnam, (1 week).
2018	African Institute of Mathematical Science (AIMS), Kigali, Rwanda, (3 weeks + 3 weeks).
2019	Statistical and Applied Mathematical Science Institut (SAMSI), Raleigh-Durham, USA, (5 months)

Reviewer

Biometrics	Naval Research Logistics
Com. in Stat. and Data Analysis	Physica A
Com. in Stat. : Theory and Methods	Reliability Engineering & System Safety
IEEE Transactions on Reliability	Statistics and its Interface
Journal de la Société Française de Statistique	Statistical Modelling
Journal of Statistical Planning and Inference	Technometrics
Metron	International Journal for Performability Engineering

Research Contract

2000	Thalès, Orsay
2007	French Ministry of Defense – DGA, Rennes
2011	EDF R&D, Clamart – Grant for a Ph.D.
2015	EDF Lab Paris-Saclay, Electrical Grid Measurements and Information System (MIRE)
2016	EDF Lab Paris-Saclay, Industrial Risks Management(MRI)

Softwares

- FIABILITIS for reliability and lifetime data analysis.
  `https://share-irisa.univ-ubs.fr/fiabilitis/pub/`

- OCCURLAB for statistical analysis of common cause of failures

Teaching

Currently

- University of South Brittany (UBS) – Department of Mathematics, Computer Science and Statitics (DMIS)

    Markov Chains and Stochastic Processes (44 h), Bachelor, Year 3

    Bayesian Statistics and MCMC (44 h), Master, Year 1,

    Statistical Learning and Big-Data (22 h), Master, Year 1,

    Life Time Data Analysis (22 h) Master, Year 1,

    Mathematics for Insurance (22 h) , Master, Year 2,

    Supervisions of Master's students for projects and training sessions (six months).

Courses taught

- UBS–DMIS

    Elements of Statistics (44 h), Bachelor, Year 1

    Linear Model and ANOVA (24 h), Bachelor, Year 2

    Stochastic Operation Research (44 h), Bachelor, Year 3

    Design of Experiments (44 h) Bachelor, Year 3

    Life Time Data Analysis (44 h) Master, Year 1,

    Introduction to Actuarial Science (44 h) , Master, Year 2,

    Reliability (44 h) Master, Year 2

    Probability for Engineer (20 h) ENSIBS (Engineer School of South Brittany)

- ENSIBS – National School of Engineering in South Brittany

    Stochastic Modelling

- ENSAI – National School for Statistics an Information Analysis

    Design of Experiments

- ENITIA – ONIRIS Nantes–Atlantic National College of Veterany Medecine, Food Science and Engineering

    Quality Control

- Ecole des Mines - Nantes

    Reliability

- Ecole Centrale - Nantes

    Statistics and data analysis

Teaching Experience Abroad

- ENGLAND : Sheffield Hallam University (1997/1998 – 1999/2000 – 2003/2004),
  Bachelor of Sciences : Lecture on Survival Analysis (4 h)

- USA : University of California in Santa Barbara – Visiting position 2001/2002,
  Statistics for Business, Probability, Survival Analysis, Stochastic Operation Research.

- VIETNAM : Vietnam Institut for Advanced Study in Mathematics (VIASM), 2016,
  Lecture : Introduction to Bayesian Statistical Analysis (6 h).

- RWANDA : African Institute of Mathematical Sciences (AIMS), January 2018,
  Actuarial Mathematics (30 h).

- RWANDA : African Institute of Mathematical Sciences (AIMS), October 2018,
  Probability and Statistics (30 h).

Administrative Tasks and Responsabilities

Currently
- Assitant Director of the Department of Mathematics, Computer Science and Statistics.
- Head of the Master's Degree Program *Data Science and Statistical Modelling*.
- Head of the Bachelor's Degree Program in Statistics.
- Responsable of the International Master program with Atlantic Mines–Telecom Institute.

Vannes, 13 September 2019

EVANS GOUNO
UNIVERSITÉ DE BRETAGNE SUD