

Ramsés H. Mena Chávez

§ RESEARCH INTERESTS

Bayesian nonparametrics, applied stochastic processes, random partitions, simulation methods, time series

§ ACADEMIC POSITIONS AT THE UNIVERSIDAD NACIONAL AUTÓNOMA DE MÉXICO

- Professor ("Titular C") 2018 – present
- Professor ("Titular B") 2011 – 2018
- Associate Professor ("Titular A") / Assistant Professor / Postdoctoral fellowship 2007, 2005, 2003

§ EDUCATION

- **University of Bath, UK**
PhD. in Mathematics (Statistics) 2003
- **Universidad Nacional Autónoma de México**
MSc. in Mathematics and BSc. in Actuarial Sciences 2000 / 1998

§ NON-ACADEMIC EMPLOYMENT

- **Mexican Institute for Federal Elections (IFE)**
Statistics analyst for fast-counting in the Presidential Elections of Mexico 2006
- **ING-Group, Mexico**
Statistical consultant developing risk models for health care portfolios 2006
- **Mexican Institute for Regional Development**
Statistical consultant for FAO projects 1999-2000, 2004
- **Berumen and Associates**
Statistical consultant for design and analysis of surveys 1996-1998

§ HONORS AND AWARDS

- **Fulbright Visiting Professor at UT-Austin.** (2017–2018)
- **UNAM Distinction** for Young Academics for Research in Exact Sciences. (RDUNJA-UNAM, 2014)
- **Fellowships at:** Collegio Carlo Alberto, Turin (2011-2012); International Centre for Economic Research, Turin (2007, 2009); Isaac Newton Institute, Cambridge (2007)
- **Honorable mention** by the *L.J. Savage Award* for the best PhD thesis in Bayesian Statistics. Granted by ISBA-ASA (2005)
- **PRIDE:** UNAM academic assessment. Level D [highest] (2012-present); Level C (2006-2011); Level B (2004-2006)
- **SNI-CONACyT:** Mexican Research Assessment System. Level III [highest] (2015-present); Level II (2010-2014); Level I (2007-2009); Candidate (2004-2006)

§ SOME RELEVANT ADMINISTRATIVE APPOINTMENTS & DUTIES

- **Mexican Statistical Association (AME):** President (2017-2019); Board member (2005–2009)
- **International Society for Bayesian Analysis (ISBA):** Program Chair (2015); Member of the Elections Committee (2011, 2015) and the L.J. Savage Award Committee (2011, 2016); Program Chair and Co-founder for the BNP Section (2011); Member of the BNP-Section Elections Committee (2014, 2016)
- **Latin-American Society for Probability and Mathematical Statistics (SLAPEM-BERNOULLI):** Member of the Executive Board (Sep 2012–present); Chair for Francisco Aranda Ordaz PhD. award (2014)
- **Project evaluator for:** Agencie Nationale De La Recherche, ANR–France (2017); Ministero dell’Istruzione, dell’Università e della Ricerca, MIUR–Italy (2017, 2016); Agency for Scientific and Technology of Argentina, Argentina (2009); Universidad Autónoma del Estado de México, Mexico (2007); National Science Foundation, Georgia (2009-2012); FONDECYT-Chile (2011-2015); PAPIIT-UNAM, Mexico (2013, 2016); CONACyT, Mexico (2007-2017); IIMAS-UNAM, Mexico (2005-2017).
- **Postgraduate program evaluator for Pontificia Universidad Católica de Chile (2017)**
- **Some selected services and participations within CONACyT:** Commission for the National Program for Excellence in Postgraduate Studies (2008,2010); Foreign-Phd Scholarship program (2006,2008–2010,2015); Evaluating Commission for the National Research System -SNI- (2017); Evaluating Commission for the "Ciencia Básica " projects call (2009-2017).
- **Some relevant internal commissions and services within UNAM:**
 - ▷ IIMAS representative at the Technical Council for Scientific Research (CTIC) at UNAM (2012-2017).
This council oversees all affairs, e.g. promotions, hirings and postdoctoral positions, of the 20 institutes and 10 centers for Science at UNAM.
 - ▷ Internal Council at IIMAS (2012-2017).
Institute representative for the Internal Council of Affairs at IIMAS. This board oversees all research activities and affairs of the five academic departments at IIMAS.
 - ▷ Founding Committee of the Mathematical Finance Field of Knowledge (2007-2009).
As part of the Postgraduate Program in Mathematics at UNAM, this committee was on charge of constructing the academic program of MSc. in Mathematics with the terminal proficiency in Mathematical Finance.
 - ▷ Coordinator of the Area of Probability (2009).
In this service, I was in charge of organizing all courses, general exams and activities related to the area of Probability within the Postgraduate Program in Mathematical Sciences at UNAM.
 - ▷ Actuarial Sciences Degree Committee (2005-2011).
This committee oversees all activities for graduation and courses at the BSc program. In particular, during this period, I took part of the commission in charge of restructuring the academic program on Actuarial Sciences.

§ STUDENTS

PhD supervisions

1. MARÍA FERNANDA GIL LEYVA VILLA^P (IIMAS-UNAM) Started 2016
2. MICHELLE ANZARUT CHACALO* (IIMAS-UNAM) Awarded Nov 2017
Thesis: *On stationary Markov processes with non-independent increments.*
3. FREDDY PALMA MANCILLA^P (IIMAS-UNAM) Awarded Sep 2017
Thesis: *A dual construction of reversible Markov processes for filtering problems.*
4. ASael F. MARTÍNEZ MARTÍNEZ* (IIMAS-UNAM) Awarded Feb 2016
Thesis: *Usages of random combinatorial structures in statistics: A Bayesian nonparametric approach.*
5. ARRIGO COEN CORIA* (IIMAS-UNAM) Awarded Nov 2015
Thesis: *On some applications of exchangeable and stationary structures.*
6. CONSUELO RUBINA NAVA* (Co-Supervision at the University of Turin) Awarded Feb 2014
Thesis: *Some advances in Bayesian modeling and computation.*
7. KARLA E. MEDINA DÍAZ[†] (Co-Supervision at the University of Turin) Awarded Mar 2011
Thesis: *Computational methods for Bayesian nonparametric mixtures and their applications.*

Postdoc supervisions at IIMAS-UNAM

1. JOSÉ JAVIER QUINLAN BINELLI 2017-present
2. CLAUDIA ANDREA WEHRHAHN CORTES* 2016-2017
3. LUIS GUTIÉRREZ INOSTROZA* 2015-2016
4. LUZ JUDITH RODRIGUEZ ESPARZA* 2013-2014
5. GERÓNIMO FRANCISCO URIBE BRAVO* 2008-2009

MSc supervisions

1. JOSÉ ANTONIO PERUSQUIA CORTES^P Awarded Sep 2017
Thesis: (in spanish) *Construction of random probability measures via normalized random measures*
2. MARÍA FERNANDA GIL LEYVA VILLA^P Awarded Sep 2016
Thesis: *Random partitions models*
3. IVÁN DARÍO PEÑALOZA ROJAS^P Awarded Apr 2016
Thesis: *A general mixture-diffusion sde and calibration to market volatility smiles*
4. ALAN RIVA PALACIO^P Awarded Jun 2015
Thesis: (in spanish) *On a vector of Dirichlet processes*
5. FREDDY PALMA MANCILLA^P Awarded Jun 2012
Thesis: (in spanish) *Exponential Lévy Processes*
6. OSCAR ORTEGA IBAÑEZ[†] Awarded Mar 2012
Thesis: (in spanish) *NoVaS transformation for conditionally heteroscedastic autoregressive models*
7. ADRIANA ROLDÁN RODRÍGUEZ[†] Awarded Jan 2012
Thesis: (in spanish) *On the construction and estimation of stationary diffusion processes*
8. ARRIGO COEN CORIA* Awarded Aug 2011
Thesis: (in spanish) *Random measures*
9. MARÍA D. LOMELÍ GARCÍA* Awarded Aug 2011
Thesis: (in spanish) *Posterior consistency for Bayesian nonparametric models*
10. ASael F. MARTÍNEZ MARTÍNEZ* (1st place, "Francisco Aranda 2012 prize ") Awarded Feb 2011
Thesis: (in spanish) *Computational methods for Bayesian nonparametric mixture models*
11. MIGUEL A. POLO VUELVAS[†] (Co-supervised) Awarded May 2007
Thesis: (in spanish) *Longitudinal data analysis*

12. ISADORA ANTONIANO VILLALOBOS* (1st place, "Francisco Aranda 2008 prize ") Awarded Jun 2008
Thesis: (in spanish) *The neutral-mutation Fleming-Viot process from a Bayesian viewpoint*
13. KARLA E. MEDINA DÍAZ† Awarded Dec 2006
Thesis: (in spanish) *Normalized processes as prior distributions in Bayesian inference*

B.S. supervisions

1. CÉSAR ESQUIVEL HERNÁNDEZ† Awarded Sep 2017
Thesis: (in spanish) *Tempered stable processes*
2. EDUARDO SELIM MARTÍNEZ MATOYORGA^P Awarded Jul 2017
Thesis: (in spanish) *Simulation and estimation of three fundamental diffusion processes: Ornstein-Uhlenbeck, Cox-Ingersoll-Ross and Wright-Fisher.*
3. EDWIN GERARDO MALDONADO RAMOS† Awarded Dec 2014
Thesis: (in spanish) *Exponential dispersion times series*
4. ANDREA AMÉRICA SANDOVAL ZÁRATE^P Awarded Aug 2012
Thesis: (in spanish) *Comparison between Bayesian classifiers and neuronal networks*
5. DIEGO IMANOL VALENZUELA FRANCO† Awarded Oct 2010
Thesis: (in spanish) *Species sampling problems from a nonparametric Bayesian perspective*
6. OSCAR ORTEGA IBAÑEZ† Awarded Aug 2009
Thesis: (in spanish) *Time series models via finite mixtures*
7. RAMIRO F. MARTIN DEL CAMPO† Awarded Jun 2009
Thesis: (in spanish) *Risk estimation via an exchangeable increments model*
8. ERIK ARMANDO VÁZQUEZ RIVERA† (3rd place, "Francisco Aranda 2008 prize ") Awarded May 2007
Thesis: (in spanish) *Discrete-valued time series models*
9. CARLOS V. RODRÍGUEZ CABALLERO* (3rd place, "Francisco Aranda 2006 prize ") Awarded May 2005
Thesis: (in spanish) *Bayesian inference for the volatility in the Black & Scholes model*
- **Currently at:** * Academic positions, ^P PhD programs and † Industry/Government positions.

§ TEACHING

Courses at UNAM: •Inference and simulation of Markovian processes (2017) •Bayesian nonparametric statistics (2016, 2014) •Random partitions and their applications in statistics (2015) •Simulation (2005, 2013) •Random measures and point processes (2013) •Stochastic processes (2010, 2015) •Bayesian Statistics II (2009) •Random measures and their applications (2008, 2010, 2014) •Time Series Analysis (2006, 2007) •Bayesian Statistics (2008, 2014, 2016)

Special invited Bayesian nonparametric courses at: University of Turin (2016), UT at Austin (2017)

Courses at Anáhuac University: Calculus I (2000), Probability II (2000), Simulation for Finance (2000)

Courses at the Instituto Tecnológico Autónomo de Mexico: Probability I (ITAM, 2000)

§ EDITORIAL ACTIVITIES

Associate editor

- Journal of Statistical Planning and Inference Oct 2017–present
- ALEA: Latin American Journal of Probability and Mathematical Statistics Jan 2016–present
- Journal of Statistical Distributions and Applications Aug 2013–present
- Bulletin of the International Society for Bayesian Analysis (ISBA). Aug 2004–Jul. 2007
- Bulletin "DATOS" of the Mexican Statistical Association (AME). Aug 2004–Dec. 2008

Other Edition dueties

- Guess Editor of Bayesian Analysis 2014 - 2015
- Editor of the Electronic Bulletin of the Bernoulli Society 2010 - 2011

Regular or occasional refereeing for: AISTATS; Annals of Statistics; Bayesian Analysis; Bernoulli; Biometrika; Bulletin of the Mexican Mathematical Society; Chilean Journal of Statistics; Communications in Statistics; Computers and Mathematics with Applications; Computational Statistics and Data Analysis; EconoQuantum; Electronic Journal of Statistics; Envirometrics; Journal of the American Statistical Association; Journal of Applied Statistics; Journal of Multivariate Analisis; Journal of Nonparametric Statistics; Journal of the Royal Statistical Society - Series B.; Journal of Statistical Computation and Simulation; Journal of Statistical Planning and Inference; Revista de Contaminación Ambiental; Scandinavian Journal of Statistics; Sankhya: the Indian Journal of Statistics; Statistics; Statistics and Computing; Statistics and Probability Letters; Stochastic Models; TEST; Mathematical Reviews; Fondo de Cultura Económica (FCE); UNAM Publishers; Springer.

§ ORGANIZATION OF ACADEMIC EVENTS

Organizing Committee [OC], Scientific Committee[SC] and/or Co-Chair[CC] for

- [OC] XV Latin American Congress of Probability and Mathematical Statistics, Yucatán, Mexico (Dec, 2019)
- [CC] BIRS Research program on "Bayesian nonparametric inference". Oaxaca, Mexico (Dec, 2017)
- [CC] Symposium of Inference and Statistical Modelling. Guanajuato, Mexico (Nov 2016)
- [SC] France - Mexico Meeting on Data Analysis, Mexico (Nov 2016)
- [SC] 31st National Congress on Statistics. Texcoco, Mexico (Oct 2016)
- [CC,OC,SC] Bath-UNAM-CIMAT (BUC) series of mathematical research activities (Feb 2016 - present)
- [SC] 1st Latin American Conference on Statistical Computing. Gramado, Brazil (Jul 2016)
- [SC] ISBA 2016 World Meeting. Sardinia, Italy (Jun 2016)
- [CC] Advances in Bayesian nonparametric statistics: A gathering with Stephen G. Walker, Mexico (Nov 2014)
- [OC] ISBA 2014 World Meeting. Cancún, Mexico (Jul 2014)
- [OC,SC] XI Symposium of Probability and Stochastic Processes, Mexico (Nov 2013)
- [CC] BIRS Research program on "Random Measures and Measure-Valued Processes". Banff (Sep, 2013)
- [OC,SC] 3th Mexican Workshop on Bayesian Statistics. Veracruz, Mexico (Jun 2011)
- [CC] 8th Workshop on Bayesian Nonparametrics. Veracruz, Mexico (Jun, 2011)
- [OC] 35th Conference on Stochastic Processes and their Applications. Oaxaca, Mexico (Jul 2011)
- [SC] 24th National Congress on Statistics. Texcoco, Mexico (Oct 2009)
- [OC] 2nd Latin American Congress on Bayesian Statistics. Los Cabos, Mexico (Feb 2005)

§ PUBLICATIONS

In peer reviewed journals

- Gutiérrez, L., Gutiérrez-Peña, E. and Mena R.H. (2018). A Bayesian approach to statistical shape analysis via the projected normal distribution. *Bayesian Analysis*. In press.
- Gutiérrez, L., Mena, R.H. and Díaz Avalos, C. (2018). Linear models for statistical shape analysis based on parametrized closed curves. *Statistical Papers*. In press.

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- Anzarut, M. and Mena, R.H. (2017). Harris process to model stochastic volatility. *Econometrics and Statistics*. In press.
 - Anzarut, M., Mena, R.H., Nava, C. and Prünster, I. (2017). Poisson Driven Stationary Markov Models *J. Bus. Econom. Statist.* In press.
 - Gutiérrez, L., Mena, R.H., Ruggiero, M. (2016). A time dependent Bayesian nonparametric model for air quality analysis. *Comput. Statist. Data Anal.* 95, 161-175.
 - Mena, R.H. and Ruggiero, M. (2016). Dynamic density estimation with diffusive Dirichlet mixtures. *Bernoulli*. 22, 901-926.
 - Mena, R.H. and Walker, S.G. (2015). On the Bayesian mixture model and identifiability. *J. Comput. Graph. Statist.* 24, 1155-1169.
 - Coen, A. and Mena, R.H. (2015). Ruin probabilities for Bayesian exchangeable claims processes. *J. Statist. Plann. Inference*. 166, 102–115.
 - De Blasi, P., Favaro, S., Lijoi, A., Mena, R., Prünster, I. and Ruggiero, M. (2015). Are Gibbs-type priors the most natural generalization of the Dirichlet process? *IEEE Trans. Pattern Anal. Mach. Intell.*, 37, 212–229.
 - Martínez, A.F. and Mena R.H. (2014). On a nonparametric change point detection model in Markovian regimes. *Bayesian Analysis*, 9, 823–858.
 - Gutiérrez L., Gutiérrez-Peña, E. and Mena R.H. (2014). Bayesian nonparametric classification for spectroscopy data. *Comput. Statist. Data Anal.* 78, 56-68.
 - Mena, R.H. and Walker, S.G. (2012). An EPPF from independent sequences of geometric random variables. *Statist. Probab. Lett.*, 82, 1059-1066.
 - Mena, R.H., Ruggiero, M. and Walker, S. G. (2011). Geometric stick-breaking processes for continuous-time Bayesian nonparametric modeling. *J. Statist. Plann. Inference*, 141, 3217-3230.
 - Fuentes-García, R., Mena, R.H., and Walker, S. G. (2010). A probability for classification based on the mixture of Dirichlet process model. *Journal of Classification*, 27, 389-403.
 - Mena, R.H. and Nieto-Barajas, L.E. (2010). Exchangeable claim sizes in a compound Poisson type process. *Applied Stochastic Models in Business and Industry*, 26, 737-757.
 - Fuentes-García, R., Mena, R.H., and Walker, S. G. (2010). A new Bayesian nonparametric mixture model. *Communications in Statistics, Simulation and Computation* 39, 669-682.
 - Mena, R. H. and Walker, S. G. (2009). Construction of Markov processes in continuous time. *Metron*. 67, 303-323.
 - Favaro, S., Lijoi, A., Mena, R.H., and Prünster, I. (2009). Bayesian nonparametric inference for species variety with two parameter Poisson-Dirichlet process prior. *J. R. Stat. Soc. Ser. B Stat. Methodol.* 71, 993-1008.
 - Fuentes-García, R., Mena, R. H. and Walker, S.G. (2009). A nonparametric dependent process for Bayesian regression. *Statist. Probab. Lett.* 79, 1112-1119.
 - Contreras-Cristán, A., Mena, R. H. and Walker, S. G. (2009). On the construction of stationary AR(1) models via random distributions. *Statistics*. 43, 227-240.
 - Lijoi, A., Mena, R.H. and Prünster, I. (2008). A Bayesian nonparametric approach for analyzing and testing clustering structures in EST libraries. *Journal of Computational Biology*. 15, 1315-1327.
 - Lijoi, A., Mena, R.H. and Prünster, I. (2007). A Bayesian nonparametric method for prediction in EST analysis. *BMC Bioinformatics*. 8:339.
 - Lijoi, A., Mena, R.H. and Prünster, I. (2007). Controlling the reinforcement in Bayesian nonparametric mixture models. *J. R. Stat. Soc. Ser. B Stat. Methodol.* 69, 715-740.

- Lijoi, A., Mena, R.H. and Prünster, I. (2007). Bayesian nonparametric estimation of the probability of discovering new species. *Biometrika*. 94, 769–786.
- Mena, R. H. and Walker, S. G. (2007). Stationary Mixture Transition Distribution (MTD) models via predictive distributions. *J. Statist. Plann. Inference*. 137, 3103–3112.
- Mena, R. H. and Walker, S. G. (2007). On the stationary version of the generalized hyperbolic ARCH model. *Ann. Inst. Statist. Math.*. 59, 325–348.
- Escarela, G., Mena, R. H. and Castillo–Morales, A. (2006) A flexible class of parametric transition regression models based on copulas: application to poliomyelitis incidence. *Statistical Methods in Medical research*. 15, 593–609.
- Mena, R. H. and Walker, S. G. (2005). Stationary autoregressive models via a Bayesian nonparametric approach. *J. Time Ser. Anal.*, 26, 789–805.
- Lijoi, A., Mena, R.H. and Prünster, I. (2005). Hierarchical mixture modelling with normalized inverse Gaussian priors. *J. Amer. Statist. Assoc.*, 100, 1278–1291.
- Lijoi, A., Mena, R.H. and Prünster, I. (2005). Bayesian nonparametric analysis for a generalized Dirichlet process prior. *Statistical Inference for Stochastic Processes*, 8, 283–309.
- Mena, R. H. and Walker, S. G. (2004). A density function connected with a non-negative self-decomposable random variable. *J. Statist. Comput. Simulation*, 74, 765 –775.

In book chapters

- Mena, R.H. (2013). Geometric Weight Priors and their Applications in Bayesian Nonparametrics. In *Bayesian Theory and Applications*. Damien, P., Dellaportas, P., Polson, N. G. and Stephen, D.A. Eds. Oxford University Press.

In conference proceedings, notes and discussions

- Lijoi, A., Mena, R.H. and Prünster, I. (2017). Discussion of "Sparse graphs using exchangeable random measures" by F. Caron and E. Fox. *Journal of the Royal Statistical Society-Series B*, forthcoming.
- Gutierrez Inostroza, L., Mena, R.H., and Ruggiero, M. (2016). On GEM diffusive mixtures. In *JSM Proceedings 2016, Section on Nonparametric Statistics*. Alexandria, VA: American Statistical Association.
- Nava, C., Mena, R.H., and Prünster, I. (2014). On Some Stationary Models: Construction and Estimation. *Springer Proceedings in Mathematics and Statistics*, Vol. 63, 187-191.
- Nava, C., Mena, R.H., and Prünster, I. (2013). On Stationary Markov Models: a Poisson-driven approach. *Proceedings of the 8th Conference on Statistical Computing and Complex Systems - SCo 2013*, 6pp (electronic).
- De Blasi, Favaro, S., P., Lijoi, A. Mena, R.H. and Prünster, I. (2012) Two tales about Bayesian nonparametric modeling. *JSM Proceedings 2012*, Alexandria, VA: American Statistical Association.
- Favaro, S., Lijoi, A., Mena, R.H., Prünster, I. (2011). On some issues related to species sampling problems. In *Proceedings of the 7th Conference on Statistical Computing and Complex Systems - SCo 2011*. (Padova, 19-21 September 2011), 9pp.
- Mena, R.H. and Prünster, I. (2007). Alcune considerazioni sulle elezioni presidenziali messicane del 2006. *Magazine della società italiana di statistica*. Electronic <http://magazine.sis-statistica.it>
- Lijoi, A., Mena, R.H. and Prünster, I. (2006). Bayesian clustering in nonparametric hierarchical mixture models. *Atti del XLIII Riunione Scientifica SIS (Torino, Italy, June 14-16, 2006)*. Vol. I "Plenary and invited sessions", 449-460.
- Escarela, G., Mena, R.H. y Castillo-Morales, A. (2006). Modelling Non-Gaussian Time Series with a Mixture Copula Transition Model. *En: Hinde, J.; Einbeck, J. y Newell, J. (eds.), Proceedings of the 21st International Workshop on Statistical Modelling (IWSM), Galway, Irlanda*. 164-171.

- Contreras-Cristán, A., Mena, R. H. and Walker, S. G. (2006). Acerca de la construcción de modelos AR(1) utilizando densidades predictivas que emergen de la estadística bayesiana no paramétrica. *Memoria del XX foro nacional de estadística INEGI-AME*. 17–24.

Other publications

- Mena, R.H. (2014). Book Review "Principles of uncertainty by J.K Kadane (2011). Texts in Statistical Science Series, Chapman and Hall/CRC". *Journal of Classification*. Vol. 31, No. 2, p. 270-271.
- Mena, R.H. (2003). Lenguaje de programación matricial Ox. *DATOS. Boletín de la Asociación Mexicana de Estadística*. Vol. 25
- Mena, R.H. (2003). Un ejemplo en Ox. *DATOS. Boletín de la Asociación Mexicana de Estadística*. Vol. 26

Books (edited volumes)

- Mena, R.H. and Pardo, J.C. and Rivero, V. and Bravo, G.U. (Eds). (2015) *XI Symposium on Probability and Stochastic Processes*. Progress in Probability series by Birkhäuser. ISBN 978-3-319-13983-8
- Hernández, D.C. and Mena, R.H. (Eds). (2013) *Volumen especial en conmemoración del Año Internacional de Estadística*. Boletín de la Sociedad Matemática Mexicana, Vol. 19, no.2 (2013). ISSN: 2296–4495.
- Contreras-Cristán, A., Domínguez-Molina, J.A., Estrada, E. and Mena, R.H. (Eds) (2005) *Memorias del XX Foro Nacional de Estadística*. INEGI. ISBN 978-13-5055-3
- Estrada, E., Martínez, A.F., Mena, R.H. and Nieto-Barajas, L. E. (Eds) (2007) *Memorias del XXII Foro Nacional de Estadística*. INEGI. ISBN 970-13-4692-0

Submitted manuscripts

- Gutiérrez L., Gutiérrez-Peña, E. and Mena R.H. (2017). A Bayesian approach to statistical shape analysis via the projected normal distribution.
- Palma Mancilla, F. and Mena, R.H. (2017) On a construction of reversible Markov models for filtering problems.
- Wehrhahn, C. and Mena, R.H. (2017). Compositions of Bernstein polynomials for smooth density estimation.

§ ACADEMIC VISITS AND EVENTS

Research visits at:

•CIMAT •Collegio Carlo Alberto •Hong Kong University of Science and Technology •Pontificia Universidad Católica de Chile •Universidad of Bath •Universidad of Kent •Universidad of Texas at Austin •Universidad of Cambridge •Universidad of Chile •Universidad of Milan •Universidad of Pavia •Universidad of Turin

Invited talks at 34 events (organized by event series):

- INTERNATIONAL WORKSHOP ON OBJECTIVE BAYES METHODOLOGY MEETING (**O-Bayes**):
— *Austin* (2017).
- JOINT STATISTICAL MEETINGS (**JSM**):
— *Chicago* (2016); *San Diego* (2012); *Minneapolis* (2005).
- ISBA WORLD MEETINGS (**ISBA**):
— *Sardinia* (2016); *Kyoto* (2012); *Benidorm* (2010); *Viña del Mar* (2004).
- BAYESIAN NONPARAMETRICS WORLD MEETINGS (**BNP**):
— *Durham* (2015); *Amsterdam* (2013); *Veracruz* (2011); *Cambridge* (2007); *Jeju* (2006).
- CONFERENCES OF THE EUROPEAN RESEARCH CONSORTIUM FOR INFORMATICS AND MATHS (**ERCIM**):
— *London* (2015 & 2011).
- NATIONAL CONGRESSES OF THE MEXICAN MATHEMATICAL SOCIETY (**SMM**):

— *Hermosillo* (2015); *Merida* (2013); *Monterrey* (2007).

●JOINT MEETINGS OF THE SMM AND RSME (**SMM-RSME**):

— *Zacatecas* (2014); *Málaga* (2012).

●NATIONAL MEETING OF YOUNG RESEARCHERS IN MATHEMATICS (**ENJIM**):

— *Mexico City* (2015).

●LATIN AMERICAN CONGRESSES OF PROB. AND MATHEMATICAL STATISTICS (**CLAPEM**):

— *Cartagena de Indias* (2014); *Valparaiso* (2012).

●WORKSHOP ON MULTIVARIATE ANALYSIS AND RANDOM MATRICES NEW TENDENCIES:

— *Guanajuato* (2013).

●59TH WORLD STATISTICAL CONGRESS (**WSC**):

— *Hong Kong* (2013).

●RISK ANALYSIS IN ECONOMICS AND FINANCE:

— *Guanajuato* (2011).

●LATIN AMERICAN MEETINGS ON BAYESIAN STATISTICS (**COBAL**):

— *Pucón* (2011); *Los Cabos* (2005); *Guanajuato* (2017).

●NORTH AMERICAN MEETING ON INDUSTRIAL AND APPLIED MATHEMATICS (**NAMIA**):

— *Huatulco* (2010).

●SYMPOSIA OF PROBABILITY AND STOCHASTIC PROCESSES (**SPPE**):

— *Guanajuato* (2009, 2006, 2004).

●NATIONAL CONGRESS OF PROBABILITY AND STATISTICS (**CNPE**):

— *Villahermosa* (2008).

●NATIONAL CONGRESS ON STATISTICS (**FORO AME**):

— *Acapulco* (2006).

●BAYESIAN INFERENCE IN STOCHASTIC PROCESSES (**BISP**):

— *Varena* (2005).

Invited short courses in the following international events:

● XI Latin American and Caribe School of Mathematics (EMALCA). BUAP, Puebla, Mexico (Jun–2015) ● 4th Statistical Pattern Recognition. CIMAT, Guanajuato. (Oct–2013) ● XII Latin American Congress on Probability and Mathematical Statistics. Valparaiso, Chile (Mar–2012) ● National Congress of Probability and Statistics 2010. Mexico City, Mexico (2010) ● 10th World meeting of the International Society for Bayesian Analysis. Benidorm, Spain (2010) ● 10th Symposium of Probability and Stochastic Processes. Guanajuato, Mexico (2009)

Poster presentations at:

● 10th Conference on Bayesian Nonparametrics. Raleigh. USA (2015) ● 7th Valencia International Meeting on Bayesian Statistics. Tenerife. Spain (2002)

Invited seminars:

● University of California – Santa Cruz, USA (2018); ● Stanford University, USA (2018); ● University of California – Irvine, USA (2018); ● Pontifical Catholic University, Chile (2016); ● Institute of Physics-UNAM, MEX (2016); ● University of Texas at Austin, USA (2016); ● DTU-Denmark, Denmark (2014); ● University of Padova, Italy (2012); ● University College of London, UK (2012); ● Collegio Carlo Alberto, Italy (2011,2015); ● Polytechnic Institute of Turin, Italy (2009); ● National Bank of Mexico, MEX (2008); ● IIMAS-UNAM, MEX (2007, 2010, 2012); ● Bocconi, Italy (2007); ● CNR-IMATI, Italy (2007); ● University of Pavia, Italy. (2005); ● CIMAT-GTO, MEX. (2008, 2009, 2013, 2015); ● Mexican Autonomous Technologic Institute (ITAM), MEX (2004, 2006, 2015); ● Faculty of Sciences at UNAM, MEX. (2004, 2011); ● University of Bath, UK (2001, 2002, 2003, 2014);

Other talks and interviews:

● Live Radio interview in "PRISMA" Radio UNAM (2018), ● Live National TV interview in "Creadores Universitarios", Foro-TV, Televisa (2016) ● Talk for the Mathematical Sciences degree at UNAM (2013) ● Colloquium of Probability and Statistics at CIMAT (2013) ● Day of Statistics at IIMAS (2007) ● Conference of the Mexican Statistical Association (2004)

§ FUNDING

Principal Investigator of CONACyT projects (\approx 250K USD):

- Bayesian nonparametric statistics for complex data[241195] (2015-18) [\approx 120K USD]
- Random partitions in statistics[131179] (2011-14) [\approx 70K USD]
- Random distributions and their applications[50160] (2007-10) [\approx 60K USD]

Principal Investigator of PAPIIT-UNAM project (\approx 50K USD):

- Dependent random measures IN100411 (2011-14)

Principal Investigator for Subsidized Projects via IIMAS-UNAM (\approx 1.7M USD):

- Treasury and Public Credit Ministry (SHCP) and National Bank for Public Works and Services of Mexico (BANOBRAS): "Upgrade system and statistical module for the National Disasters Fund (FONDEN)" (2015-2017) [\approx 1.4M USD]
- National Bonding and Insurance Commission (CNSF): "Specialised training program for solvency of insurance companies" (2012-present), Co-Supervised with Dr. Ruiz-Velasco. [\approx 200K USD]
- Mexico City Attorney General's Office (PGJ-DF): "Trends and forecasting of criminal incidence in Mexico City" [2011-2012], Co-Supervised with Drs. Bladt and Díaz-Avalos [\approx 100K USD]