SCHEDULE

XIV CLAPEM. San José, Costa Rica.

Venues:

- *CPCECR*: Colegio de Profesionales en Ciencias Económicas (Auditorium).
- *FM*: Edificio de Fisica Matemática.
- *CE*: Edificio de Ciencias Económicas.

Monday, December 5th

8:30-9:30am

- Registration and opening. (*CPCECR*)

9:30-10:30am

- Plenary Talk: (*CPCECR*)
  Susan Murphy (University of Michigan, USA).
  Assessing time-varying causal interactions and treatment effects with applications to mobile health.

10:30-11am Coffee break. (*CPCECR*)

11:00-12:00pm

- Plenary Talk: (*CPCECR*)
  Andreas E. Kyprianou, (University of Bath, UK)
  Stable processes through the theory of self-similar Markov processes.

12:00-1:30pm Lunch. (Comedor Universitario)

1:30-3:30pm

- Short Course: (*FM001*)
  Barry Simon, (Caltech, USA)
  Large deviations and sum rules for orthogonal polynomials.
- Short Course: (*CE009*)
  Michael G. Hudgens, (The University of North Carolina at Chapel Hill, USA)
  Introduction to Causal Inference.

3:30-4:00pm Coffee break. (*Plaza 24 de Abril*)

4:00-6:00pm

- Invited Sessions: **Random Media** (*FM001*)

- **José David Campos**, (Universidad de Costa Rica)
  Asymptotic expansion of the invariant measure for ballistic random walk in the low disorder regime
- **Gia Bao NGUYEN**, (Universidad de Chile)
  Non-intersecting Brownian bridges and the Laguerre Orthogonal Ensemble.
- **Santiago Juan Saglietti**, (Universidad Católica de Chile)
  Velocity estimates for random walks in a random environment with low disorder and a small local drift.

▪ Invited Sessions: **Wasserstein Metrics** (*CE009*)

- **Carla Tameling**, (Univ. Goettingen)
  Asymptotics of Wasserstein Distances on discrete Spaces.
- **Thibaut Le Gouic**, (Univ. Marseille)
  Existence and consistency of the Wasserstein barycenter.
- **Eustasio del Barrio**, (Universidad de Valladolid, IMUVA)
  Aggregation methods based on Wasserstein barycenters
- **Marc Hallin**, (Univ. Libre de Bruxelles)
  Glivenko-Cantelli for Monge-Kantorovich Empirical Processes

6:00-6:30pm Reception. (Oficina de Registro, Auditorium)

Tuesday, December 6th

8:30-9:30am

- Short Course: (*FM001*)
  David Nualart, (University of Kansas, USA)
  Introduction to Malliavin calculus and its applications.
- Short Course: (*CE009*)
  Gavin Shaddick, (University of Bath, UK)
  Bayesian hierarchical models.

9:30-10:30am

- Plenary Talk: (*CE009*)
  Graciela Boente, (Universidad de Buenos Aires, Argentina)
  Robust inference in functional data analysis.

10:30-11am Coffee break. (*Plaza 24 de Abril*)

11:00-12:00pm

- Plenary Talk: (*CE009*)
  Onésimo Hernández Lerma, (Centro de Investigación y de Estudios Avanzados del Instituto Politécnico Nacional, México)
  An introduction to stochastic games, To the memory of Lloyd S. Shapley (1923-2016)

12:00-1:30pm Lunch. (Comedor Universitario)

1:30-3:30pm

- Short Course: (*FM001*)
  Barry Simon, (Caltech, USA)
  Large deviations and sum rules for orthogonal polynomials.
- Short Course: (*CE009*)
  Michael G. Hudgens, (The University of North Carolina at Chapel Hill, USA)
  Introduction to Causal Inference.

3:30-4:00pm Coffee break. (*Plaza 24 de Abril*)

4:00-5:30pm

- Invited Sessions: **Random orthogonal polynomials and spectral analysis** (*FM001*)
  - **Jan Nagel**, (Technical University Munich)
    Sum rules via large deviations
  - **Joseph Najnudel**, (University of Cincinnati)
    On the maximum of the characteristic polynomial of the Circular Beta Ensemble.
  - **Alain Rouault**, (Université Versailles Saint Quentin)
    Large deviations for random measures
- Invited Sessions: **Spatio-Temporal Models** (*CE009*)
  - **Dorit Hammerling**, (NCAR, Boulder, Colorado)
    Compression and Conditional Emulation of Climate Model Output.
  - **Souparno Ghosh**, (Texas Tech University, USA)
    Relative Abundance Estimation by Merging Datasets Collected under Different Spatial Designs.
  - **Bo Li**, (University of Illinois at Urbana-Champaign)
    Comparison between spatio-temporal random processes and application to climate model data.

5:30-7:00pm

- Round Table: (CE009)
  ASA statement about p-values: What now?
  Moderator: Gilbert Brenes, Escuela de Estadística, UCR
  Participants:
  - Susan Murphy, University of Michigan, USA.
  - Graciela Boente, Universidad de Buenos Aires, Argentina.
  - Michael Hudgens, University of North Carolina.
  - Gavin Shaddick, University of Bath, UK.
  - Ricardo Alvarado, Escuela de Estadística, UCR.

Wednesday, December 7th

8:30-9:30am

- Short Course: (*FM001*)
  David Nualart, (University of Kansas, USA)
  Introduction to Malliavin calculus and its applications.
- Short Course: (*CE009*)
  Gavin Shaddick, (University of Bath, UK)
  Bayesian hierarchical models.

9:30-10:30am

- Plenary Talk: (*CE009*)
  Pietro Caputo, (Università Roma Tre, Italia)
  Random walk on sparse random directed graphs.

10:30-11am Coffee break. (*Plaza 24 de Abril*)

11:00-12:00pm

- Plenary Talk: (*CE009*)
  Gregory Lawler, University of Chicago, USA
  Natural parametrization and the loop-erased random walk.

12:00-1:30pm Lunch. (Comedor Universitario)

Thursday, December 8th

8:30-9:30am

- Short Course: (*FM001*)
  David Nualart, (University of Kansas, USA)
  Introduction to Malliavin calculus and its applications.
- Short Course: (*CE009*)
  Gavin Shaddick, (University of Bath, UK)
  Bayesian hierarchical models.

9:30-10:30am

- Short Course (CE009)
  Jean-Michel Loubes, (Université Paul Sabatier, Toulouse, France)
  Big Data.
- Contributed Sessions: **Regression Methods and Survey Sampling** (*FM001*)

- **María Alvarado-Leitón**, (Universidad de Costa Rica, Costa Rica)
  Considerations on data attributes when modeling Binomial or Poisson grouped data.
- **Cristian Oliva**, (Colorado State University, USA)
  Survey estimators of ordered domain means.

10:30-11am Coffee break. (*Plaza 24 de Abril*)

11:00-12:00pm

- Short Course (CE009)
  Jean-Michel Loubes, (Université Paul Sabatier, Toulouse, France)
  Big Data.
- Contributed Sessions: **Financial Mathematics** (*FM001*)
  - **Ramin Okhrati**, (University of Southampton, UK)
    Locally risk minimizing strategies of defaultable securities under delayed data.
  - **Alexander Vervuurt**, (Oxford University, UK)
    Stochastic Portfolio Theory: A Machine Learning Perspective.

12:00-1:30pm Lunch. (Comedor Universitario)

1:30-2:30pm

- Plenary Talk: (*CE009*)
  Eric Moulines, (Ecole Polytechnique, France)
  The Langevin MCMC: theory and methods.

2:30-4:00pm

- Short Course: (*CE009*)
  Daniel Hernández Hernández, (CIMAT, México)
  Introduction to Stochastic Models in Finance.
- Invited Sessions: **Jump Processes** (*FM001*)
  - **Juan Carlos Pardo**, (CIMAT, México)
    Abrupt convergence for generalized Ornstein-Uhlenbeck process.
  - **Víctor Rivero**, (CIMAT, México)
    Fluctuation Theory of Markov additive processes and applications to stable processes.
  - **Luis Guillermo Acuña**, (Universidad de Costa Rica, Costa Rica)
    Heat Content and Spectral heat content asymptotics of second order.
- Contributed Sessions: **Mathematical Statistics** (*CE141*)
  - **François Bachoc**, (Université Paul Sabatier, Toulouse, France)
    Asymptotic analysis of covariance parameter estimation for Gaussian processes in the misspecified case.

- **Nil Venet**, (CEA Tech Occitanie & Institut de Mathématiques de Toulouse, France)
  On finding stationary covariances on a metric space.
- **Thierry Klein**, (Institut de Mathématiques de Toulouse, France)
  Sensitivity indices based on Cramér von Mises Distance.

▪ Contributed sessions: **Statistical Learning and Big Data** (*CE142*)

- **Alejandra Jiménez**, (Universidad de Costa Rica, Costa Rica)
  Population Based Heuristics for Clustering Binary Data.
- **Carles Serrat**, (Universitat Politècnica de Catalunya-BarcelonaTECH, Spain)
  Statistical learning techniques applied to parameter fine-tunig in metaheuristics.
- **Leonardo Trujillo**, (Universidad Nacional de Colombia, Colombia)
  Sampling and Streaming Techniques for Big Data of Systemic Risk Surveillance and Regulatory Control of Financial Systems .

4:00-4:30pm Coffee break. (*Plaza 24 de Abril*)

4:30-5:30pm

▪ Poster Session. (*Ciencias Económicas*)

▪ Short Course: (*CE009*)
Daniel Hernández Hernández, (CIMAT, México)
Introduction to Stochastic Models in Finance.

5:30-6:30pm

▪ Aranda-Ordaz prize

- **Probability**: **Roberto Amaru Cortez Milán** - Tesis: *"Propagación de caos para sistemas de partículas de interacción de salto puro"*. Advisor: Joaquin Fontbona Torres. Universidad de Chile.
- **Statistics**: **Nicolas Garcia Trillos** - Tesis: *"Variational limit of graph cuts on point clouds"*. Advisor: Dejan Slepcev. Carnegie Mellon University, EEUU.

6:30-9:00pm

▪ Social Dinner. (*Mirador Tiquicia, Escazú.*)

Friday, December 9th

8:30-9:30am

▪ Short Course: (*FM001*)
David Nualart, (University of Kansas, USA)
Introduction to Malliavin calculus and its applications.

- Short Course: (*CE009*)
  Gavin Shaddick, (University of Bath, UK)
  Bayesian hierarchical models.

9:30-10:30am

- Short Course (CE009) **CANCELLED**
  Jean-Michel Loubes, (Université Paul Sabatier, Toulouse, France)
  Big Data.
- Invited Sessions: **Biomathematics**. (*CE009*)
  - **Arno Siri Jegousse**, (IIMAS, UNAM, México)
    Multi–species coalescents.
  - **Emmanuel Schertzer**, (University of Paris, France)
    Limit theorems for the partitioning process.
  - **Helene Leman**, (CIMAT, México)
    A stochastic model for reproductive isolation by mating preference.
- Contributed Sessions: **Probability**. (*FM001*)
  - **Andressa Cerqueira**, (University of São Paulo, Brazil)
    Perfect simulation for Exponential random graphs.
  - **Jaime Lobo**, (Universidad de Costa Rica, Costa Rica)
    Occupation times sequences from the martingale point of view.

10:30-11am Coffee break. (*Plaza 24 de Abril*)

11:00-12:00pm

- Short Course (CE009) **CANCELLED.**
  Jean-Michel Loubes, (Université Paul Sabatier, Toulouse, France)
  Big Data.
- Contributed sessions: **Geostatistics** (*CE009*)
  - **Luis Barboza Chinchilla**, (Universidad de Costa Rica, Costa Rica)
    Paleoclimate reconstruction of mean global temperature using a hierarchical bayesian model: comparison of INLA and MCMC methods.
  - **Zaida Quiróz**, (Universidade Federal De Minas Gerais, Brazil)
    Bayesian spatio-temporal modeling of anchovy abundance through the SPDE approach.
  - **Daira Velandia**, (Universidad Tecnológica de Bolívar, Colombia)
    Composite likelihood inference for multivariate Gaussian random fields.
- Contributed Sessions: **Probability**. (*FM001*)
  - **Allan Fiel**, (Cinvestav-IPN, México)
    Stability for a class of semilinear fractional stochastic integral equations

- **Christian Fonseca**, (Universidad de Costa Rica, Costa Rica)
  Lévy Processes and Infinitely Divisible Measures in the Dual of a Nuclear Space

12:00-1:30pm Lunch. (Comedor Universitario)

1:30-2:30pm

- Plenary Talk: (*CE009*)
  Scott Sheffield, (Massachusetts Institute of Technology, USA)
  Universal randomness in 2D.

2:30-4:00pm

- Short Course: (*CE009*)
  Daniel Hernández Hernández, (CIMAT, México)
  Introduction to Stochastic Models in Finance.
- Contributed sessions: **Computational Statistics and Image Processing** (*CE141*)
  - **Prateek Bansal**, (Cornell University, USA)
    A framework integrating biogeography-based optimization and support vector regression for freeway travel time prediction and feature selection: a case study of Taiwan freeway.
  - **Marvin Coto-Jiménez**, (Universidad de Costa Rica, Costa Rica / Universidad Autónoma Metropolitana, México)
    Statistical Parametric Speech Synthesis Based on Hidden Markov Models.
  - **Frédéric Richard**, (Aix Marseille University, France)
    Anisotropy of Holderian Gaussian random fields: characterization, estimation and application to the analysis of image textures.
- Contributed sessions: **Bayesian Analysis** (*CE142*)
  - **Mauricio Campos**, (Universidad de Costa Rica, Costa Rica)
    Using Bayesian and traditional meta-analysis methods to study the effects of strength exercises in women with Fibromyalgia.
  - **Rolando de la Cruz**, (Pontificia Universidad Católica de Valparaíso, Chile)
    Bayesian Regression Analysis of Data with Random Effects Covariates from Nonlinear Longitudinal Measurements.
  - **Ignacio Vidal**, (Instituto de Matemática y Física, Universidad de Talca, Chile)
    Bayesian inference for agreement measures.

4:00-4:30pm Coffee break. (*Plaza 24 de Abril*)

4:30-5:30pm

- Short Course: (*CE009*)
  Daniel Hernández Hernández, (CIMAT, México)
  Introduction to Stochastic Models in Finance.

- Contributed sessions: **Nonparametric Statistics** (*CE141*)
  - **Karine Bertin**, (Universidad de Valparaiso, Chile,)
    Adaptive Density Estimation on Bounded Domains.
  - **Álvaro Cordero**, (Universidad Autónoma de Nuevo León, México)
    Sequential normal scores in statistical process control.