Curriculum Vitae
José Luis Herrera Diestra

Personal Information:

Nationality: Venezuelan
Date of Birth: 11/15/1977
Address: Cubiculo 10, Departamento de Calculo, Escuela Basica, Facultad de Ingenieria, Universidad de Los Andes. La Hechicera. Merida – Venezuela.
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Education:

- Postdoctoral fellowship
  University of Texas at Austin
  Supervisor: Dr. Lauren Meyers.
  From Dec. 2012 – Dec. 2013.

- Doctor in Fundamental Physics, 2012.
  Universidad de Los Andes. Mérida, Venezuela.
  Thesis: “Models of social dynamics on coevolving networks”.
  Supervisor: Dr. Mario Cosenza.

- Magister Scientiae in Fundamental Physics, 2007.
  Universidad de Los Andes.Mérida, Venezuela.
  Thesis: “A model of stratified economic exchange with local interactions”.
  Supervisor: Dr. Mario Cosenza.

- Licenciado in Physics, 2005.
  Universidad de Los Andes. Mérida, Venezuela.
  Thesis: “A model of the influence of the neighborhood in social small world networks”
  Supervisor: Dr. Mario Cosenza.

Scholarships and awards:

- Distinction “Rafael Chuecos Poggioli” for researches under 40 years old with outstanding record. Universidad de Los Andes. Merida – Venezuela, 2013.

- Research Award.Council for Research. Universidad de Los Andes. Merida – Venezuela, 2007 – 2011.

- Scholarship “Misión Ciencia” for doctoral studies. Ministry of Science and Technology. Venezuela. From 2009.

- Active member in the National Researchers Program. Ministry of Science and Technology. Venezuela. From 2008.

Languages:

- Spanish, English.

Invited speaker:

- “Model of economic exchange in a stratified society with local Interactions”.
  III Jornadas Andinas de Dinámica No Lineal.
  Lima, Peru 2007.

- “The new science of networks”.
  International Year of Physics.
  Universidad Nacional Experimental del Táchira.
  San Cristobal, Venezuela 2005.

- “The effect of local broadcasting in social networks”.
  International Year of Physics.
  Universidad Nacional Experimental del Táchira.
  San Cristobal, Venezuela 2005.

Oral presentations in conferences:

- “General coevolution of topology and dynamics in networks”.
  Summer School of Statistical Physics of Complex and Small Systems.
  IFISC, Palma de Mallorca, Spain 2011.

- “Stratified economic exchange in networks”.
  Jornadas de Modelado y Simulación.
  Mérida, Venezuela 2011.

Poster presentations in conferences:

- “Disease surveillance on complex social networks”.
  MIDAS meeting.
  Austin – Texas, USA. May 2013.

- “Models of social and economic interactions in coevolving networks”.
  VI Interdisciplinary School and Workshop on Complex Systems.

Margarita Island, Venezuela 2008.

- “Dynamical model of the influence of the neighborhood in Small World Networks”.
  V Interdisciplinary School and Workshop on Complex Systems.
  Margarita Island, Venezuela 2005.

- “Pattern Formation in a model of social networks”
  IV Jornadas de Estudiantes de Física.
  Universidad Simón Bolívar, Caracas, Venezuela 2004.

Academic positions:

- Group Coordinatior
  Group of Multidisciplinar Mathematics.
  Engineering department.
  Universidad de Los Andes. Merida – Venezuela.
  From January 2014 to present.

- Assistant Professor
  Engineering department.
  Universidad de los Andes. Mérida – Venezuela.
  From January 2010 to present.

- Tenure track.
  Engineering department
  Universidad de Los Andes. Merida – Venezuela.
  From January 2008 to January 2010.

Research Projects:

- “*Control of spreading disease on the social network formed by the students of the Engineering Department at Universidad de Los Andes, Merida – Venezuela.*”
  Council for Research, Universidad de Los Andes.
  Individual Project.

- *“Stratified economic exchange model in dynamical networks”.*
  Council for Research, Universidad de Los Andes.
  Individual Project.

- *“Analysis and characterization of the social network of the students in the* Engineering Department at Universidad de Los Andes”.
  Council for Research, Universidad de Los Andes.
  Individual Project.

- *“Interdisciplinary applications of complex networks”.*
  Council for Research, Universidad de Los Andes.
  Group Project (Coordinator).

Publications:

1. *Local versus global interactions in nonequilibrium transitions: A model of social dynamics.*
   J.C. González-Avella, V.M. Eguíluz, M.G. Cosenza, K. Klemm, **J.L. Herrera** and M. San Miguel.
   Physical Review E 73, 046119 (2006).

2. *Economic exchange in a stratified society with local interactions.*
   J. L. Herrera, M. G. Cosenza, K. Tucci.
   Revista Científica UNET 21, 8 (2009).

3. *Stratified economic exchange on networks.*
   J. L. Herrera, M. G. Cosenza, K. Tucci.
   Physica A 390, 1453 (2011).

4. *General coevolution of topology and dynamics in networks.*
   J. L. Herrera, M. G. Cosenza, K. Tucci, J. C. González-Avella.
   European Physics Letters 95, 58006 (2011).

5. *Influence of the local versus global interactions in a model of economic exchange.*
   J. L. Herrera, M. Escalona-Morán, R. Parra, C. Parra, M. G. Cosenza.
   Revista Ciencia e Ingeniería. Special Edition: “Jornada de Modelado y Simulación” pp. 95-100 , Universidad de Los Andes (2011).

6. *Model of infectious diseases on a social dynamical network.*
   J. L. Herrera, Gilberto González-Parra.
   Revista de la Facultad de Ingeniería – UCV, Vol. 27, No 2, pp. 5-20 (2013)

7. *Emergence and persistence of communities in coevolutionary networks.*
   J. C. González-Avella, **J. L. Herrera**, K. Tucci, M. G. Cosenza.
   European Physics Letters 107, 28002 (2014)

8. *Characterization and analisys of the social network formed by the students in the Engineering Department at Universidad de Los Andes, Merida – Venezuela.*
   J.L. Herrera, Idai Gutierrez.
   Accepted for publication, Revista Ciencia e Ingenieria, Universidad de Los Andes.

9. *Disease surveillance on complex social networks.*
   J. L. Herrera, Alison Galvani, Lauren Ancel Meyers.
   Editing stage (March 2015).

Thesis Supervised:

- *Vaccination and control strategies of epidemic disease spreading in the social static network of students in the Engineering Department at Universidad de Los Andes.*
  Engineering department, Universidad de Los Andes.
  Student: Francys Ramirez (Engineering Department). In progress.

- *Proposing strategies for disease eradication in the temporal network os students in the Engineering Department at Universidad de Los Andes.*
  Engineering department, Universidad de Los Andes.
  Student: Eleazar Dugarte (Engineering Department). In progress.

- *Characterization and analysis of the social network of students of the Engineering.*
  Engineering department, Universidad de Los Andes.
  Student: Idaí Gutiérrez (Engineering Department). 2012.

Research in progress:

- Temporal network approach for the eradication of epidemic diseases in the population of students in the Engineering Department at Universidad de Los Andes, Merida – Venezuela.

- Study of the effects of epidemic diseases on the static network of students from Engineering Department at Universidad de Los Andes, Mérida – Venezuela.

- Formation of community structure driven by rewiring of links in social networks.

- Effect of external and autonomous fields in social coevolving networks.

- Avoiding an epidemic outbreak: competition between local and global information sources.

Computational Experience:

- Linux OS.
- C Language.
- Basic Python.

- Windows OS.
- Gnuplot.
- Latex

Research interests.

- Chaos and Complex systems.
- Complex Networks.
- Sociophysics.
- Econophysics.
- Opinion formation.
- Coevolving Networks.
- Communities in complex networks.
- Epidemic disease propagation.
- Temporal networks.
- Real world networks.

References:

- Dr. Lauren A. Meyers.
  University of Texas at Austin.
  laurenmeyers@austin.utexas.edu

- Dr. Mario Cosenza.
  Universidad de Los Andes.
  mcosenza@ula.ve

- Dr. Kay Tucci.
  Universidad de Los Andes.
  kay@ula.ve