

Curriculum Vitae

as of Oct 2009

PERSONAL INFORMATION

Full Name: César A. Hidalgo.

Current Positions: Adjunct Lecturer in Public Policy, Harvard Kennedy School
Research Fellow, Center for International Development, Harvard University.

Mailing Address: Center for International Development, Harvard University,
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EDUCATION

2004 Licenciado en Física, Pontificia Universidad Católica de Chile, Santiago, Chile.

2008 Ph.D. Physics, University of Notre Dame, Notre Dame, IN, U.S.A.

WORK EXPERIENCE

Teaching Experience

At the Pontificia Universidad Católica de Chile (as Teaching Assistant)

2000 Spring

Heat and Waves. Civil Construction. Theoretical.

2001 Fall

Heat and Waves. Civil Construction. Theoretical.

Physics 1. Agronomy, Biology and Agronomy. Experimental.

2001 Spring

Heat and Waves. Civil Construction. Theoretical.

Heat and Waves. Civil Construction. Experimental.

2002 Fall

Classical Mechanics. Civil Construction. Experimental.

2002 Spring

Heat and Waves. Physics and Astronomy. Experimental.

Classical Mechanics. Civil Engineering. Theoretical.

2003 Fall

Physics for Science. Agronomy and Biology. Theoretical.

Classical Mechanics. Physics and Astronomy. Experimental.

2003 Spring

Physics for Science. Agronomy and Biology. Theoretical.

Classical Mechanics. Physics and Astronomy. Experimental

2004 Fall

Statistical Mechanics. Physics and Astronomy. Theoretical.

Electricity and Magnetism. Physics and Astronomy. Experimental.

at the University of Notre Dame (as Teaching Assistant)

2004 Fall

Physics I, Phys 221. Theoretical.

Physics I Phys 115. Theoretical.

2005 Spring

Physics II, Phys 222. Theoretical.

Physics for Poets, Phys 192. Theoretical.

Introductory Astronomy, Phys 110. Theoretical.

2006 Fall

Special Topics, Complex Networks. Theoretical.

2007 Summer

Complex Network Workshop. Institute for Food Research. Norwich U.K.

at Harvard University (as Postdoctoral Research Fellow)

2008 Fall

Networks, Complexity and Economic Development. (7 Lecture mini-course)

at Harvard University (as Adjunct Lecturer in Public Policy)

2009 Spring

API-309 Networks, Complexity and their Applications.

Faculty Positions

2009-present Adjunct Lecturer in Public Policy, Harvard Kennedy School, Harvard University.

Research Positions

2003-2004 Research Assistant for Francisco Claro, Department of Physics, Pontificia Universidad Católica de Chile.

2004 Research Assistant for Carlos Rodriguez-Sickert, Department of Sociology, Pontificia Universidad Católica de Chile.

2005-2008 Research Assistant for A.-L. Barabási, Department of Physics, University of Notre Dame.

2008-present Postdoctoral Research Fellow. Center for International Development. Harvard University.

Consultancy Experience

2008-present Consultant for the Asian Development Bank, Central Asia Regional Economic Cooperation.

Other Positions

2002-2003 President of the Physics Student Council, Pontificia Universidad Católica de Chile.

2004 Head Organizer. Second National Physics Student Symposium, FDI, Gobierno de Chile.

2005-2006 Developer at the NWB project. <http://nwb.slis.indiana.edu/>

2008 Assistant Producer of the Documentary: How Kevin Bacon Cured Cancer. ABC Australia

2009 Member of the Math Awareness Month Advisory Committee. Society for Industrial and Applied Mathematics (SIAM)

Visiting Research Experience

2005 - 2006 Visiting Researcher, DFCI Harvard University.

2006 Visiting Researcher, Center for International Development, Harvard University.

2007 - 2008 Visiting Research Scholar, Center for Complex Network Research, Northeastern University.

PUBLICATIONS

Papers (in reverse chronological order)

15 “The Building Blocks of Economic Complexity”

C.A. Hidalgo, R Hausmann

Proc. Natl. Acad. Sci. (2009) 106(26):10570-10575

14 “Understanding the spreading patterns of mobile phone viruses”

P. Wang, M.C. Gonzalez, **C.A. Hidalgo**, A.-L. Barabási

Science (2009) 324:1071-1076

13 “A dynamic network approach for the study of human phenotypes”

C.A. Hidalgo, N. Blumm, A.-L. Barabási, N. Christakis

PLoS Computational Biology (2009) 5(4):e1000353

12 “Thinking Outside the Cube”

C.A. Hidalgo

Physics World (2008) 21(12):34-37

11 “A Network View of Economic Development”

C.A. Hidalgo, R. Hausmann

Developing Alternatives (2008) 12(1):5-10

10.- “Understanding Individual Human Mobility Patterns”

M.C. Gonzalez, **C.A. Hidalgo**, A.-L. Barabási

Nature (2008) 453:779-782

9.- “The Dynamics of a Mobile Phone Network”

CA Hidalgo, C. Rodriguez-Sickert

Physica A (2008), 387(12):3017-3024

8.- “The Product Space and its Consequences for Economic Growth”

C.A. Hidalgo, B. Klinger, A.-L. Barabási and R. Hausmann.

Science (2007) 317:482-487

7.- “Genome-scale analysis of in vivo spatiotemporal promoter activity in *C. elegans*”

D. Dupuy*, N. Bertin*, **C.A. Hidalgo***, K. Venkatesan, D. Tu, D. Lee, J. Rosenberg, N. Svrzikapa, A. Blanc, A. Carnec, A.-R. Carvunis, R. Pulak, J. Shingles, J. Reece-Hoyes, R. Newbury, R. Viveiros, W.A. Mohler, C. Le Peuch, I.A. Hope, R. Johnsen, D. Moerman, A.-L. Barabási, D. Baillie & M. Vidal.
These authors contributed equally.

Nature Biotechnology **25**, 663 - 668 (2007) Cover Story

6.- “Transcription Factor Modularity in a Gene-Centered *C. elegans* Protein-DNA Interaction Network”

V. Vermeirssen, M.I. Barrasa, **C.A. Hidalgo**, J. Aurielle. B. Babon, R. Sequerra, L. Doucette-Stamm,

A.-L. Barabási, A.J.M. Walhout
Genome Research (2007)17:1061-1071

5.- "The effect of social interactions in the primary life cycle of motion pictures"
C.A. Hidalgo, A. Castro and C. Rodríguez-Sickert
New J. Phys. **8** p52 (2006)

4.- "Conditions for the Emergence of Scaling in the Inter-Event Time of Uncorrelated and Seasonal Systems"
C.A. Hidalgo
Physica A. **369(2)** p877-883 (2006)

3.- "Panorama docente de las matemáticas en Enseñanza Media"
F. Claro y **C.A. Hidalgo**.
Boletín de Investigación Educativa, **19(2)** p163-171 (2004)

2.- "Stationary States of a Random Copying Mechanism over a Complex Networks"
C.A. Hidalgo, F. Claro, P.A. Marquet
Physica A **353** p674 (2005)

1.- "Panorama Docente de las Ciencias Naturales en Educación Media"
F. Claro, **C.A. Hidalgo**
Revista Educación **307** p13-22 (2003)

Posters:

1.- "Estudio de Fe(30nm) sobre MgO, SiO₂, SiO₂/Ag(10nm) y franjas de Ag(10nm) con efecto magneto óptico AC-Kerr". **C.A. Hidalgo**, P. Soza O., F. Pacheco R., E. Cisternas J., E.F. Valderrama, M. Pino, J. Swerts, U.G. Volkmann, K. Temst y C. Van Haesendock.
Presented at the XIII National Symposium of the: Sociedad Chilena de Física (Sochifi). September (2002)
Presented at the APS March Meeting (2003).

2.- "Empirical Study of the Stable Behavior of Users and Degree Correlations in a Phone Network."
C.A. Hidalgo
Presented at the "School and workshop on structure and function of complex networks" at the ICTP, Miramare, Trieste, Italy 16-28 May 2005.

3.- " β -Adrenergic Regulation of Sinus Nodal Cells is Mediated by the Ryanodine Receptor." C. Teutsch, J. Lam, J. Stieber, M.F. Llano, **C.A. Hidalgo**, A. Ludwig and K. Chien.
Presented at Keystone Symposia, Keystone, Colorado (2007)

4.- "Stability of Social Ties" **C.A. Hidalgo**, C. Rodríguez-Sickert, A.-L. Barabási.
Presented at the NetSci07 conference, Queens NY (2007)

5.- "Analyzing Business From and Evolutionary Perspective" L. Cuccia, **C.A. Hidalgo**, A.-L. Barabasi

Presented at the NetSci07 conference, Queens NY (2007)

Talks

- 1.- "Acustica Arqueológica: Factores Determinantes". Presented at. Primer Congreso Nacional de Estudiantes de Física. Universidad de Concepción, Chile (2003) and at the Graduate Students Talk Cycle (PUC.).
- 2.- "Biological Integration of Spatial and Temporal Localization of genes in C. Elegans" Presented at the NetSci 2006, Indiana University, Bloomington, In.
- 3.- "The product space and its consequences for economic growth" Presented at the LIEP talk series, Kennedy School of Government, Harvard University, 2006 and the APS March Meeting 2007
- 4.- "Network Dynamics in Social and Economical Systems" Presented at the RIW Network Seminar, April 2007, University of Michigan, Ann Arbor.
- 5.- "The product space conditions the development of nations"
Presented at NetSci07, Queens NY and SFI, Santa Fe, New Mexico 2007
- 6.- "The Human Phenotypic Disease Network"
Presented at the YS3 Conference, Hayama, Japan, November 2007. APS March Meeting, New Orleans, LA March 2008
- 7.- "Complexity, Information, Networks, People and Economic Growth"
Presented at the MIT Media Lab, Cambridge, MA October 2008
- 8.- "Economic Complexity and Growth"
Presented at the Program for Networked Governance Seminar Series at Harvard Kennedy School of Government, Cambridge, MA, October 2008. Presented at the Asian Development Bank, Manila, Philippines, November 2008.
- 9.- "The Product Space and Economic Complexity"
Presented at ISCV, Valparaiso, Chile (2009). Presented at UMCE, Santiago, Chile (2009).
- 9.- "Networks Complexity and Economic Development"
Presented at NetSci09, Venice, Italy (2009). Presented at Winworkshop, NYU, New York (2009), Future Networks, MIT, Massachusetts (2009).

Keynotes

Keynote Speaker at the 11th Annual Greater Boston Area Statistical Mechanics Meeting (2009).

AWARDS

Center for Research Computing Award for Computational Sciences and Visualization,
College of Science, University of Notre Dame (2008)

Hellen Kellogg Institute Supplemental Graduate Student Award,
Kellogg Institute, University of Notre Dame (2004-2008).

Outstanding Graduate Student Teacher Award for Excellence in Teaching
Kaneb Center, University of Notre Dame (2007).

Outstanding Teaching Assistant,
American Association of Physics Teachers (2007).

MEDIA APPEARANCES AND ART EXHIBITS

More than 100 media appearances including: The New York Times, The Financial Times, Science News, Nature News, La Repubblica, El Pais, BBC, AFP, Reuters, ABC, CNN.
Links to the articles can be found at [http : //www.chidalgo.com](http://www.chidalgo.com).

Has exhibited artwork in seven different art exhibits, including museums and magazines.
Links to the exhibits can be found at my personal webpage [http : //www.chidalgo.com](http://www.chidalgo.com).
