

FERNANDO EZEQUIEL MIGUEZ

Curriculum Vitæ

Home Address

707 E. Hawthorne Dr.
Urbana, IL 61801
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<https://netfiles.uiuc.edu/miguez/www/>

Dept. Address

Energy Biosciences Institute
Institute for Genomic Biology
University of Illinois
1206 W. Gregory Dr.
Urbana, IL 61801

Education	University of Illinois, Urbana Ph.D. in Crop Sciences, 2007.	Urbana, IL
	University of Illinois, Urbana M.S. in Applied Statistics, 2007.	Urbana, IL
	University of Illinois, Urbana M.S. in Crop Sciences, August, 2004.	Urbana, IL
	University of Buenos Aires (UBA) Ing. Agr. (Ag. Eng.), August, 2001.	Buenos Aires, Argentina

Publications (5 –includes accepted)

5. Multivariate Analysis and Visualization of Soil Quality Data for No-till Systems. María Bonita Villamil, **Fernando E. Miguez** and Germán A. Bollero. *Accepted. Journal of Environmental Quality*.
4. Meta-Analysis of the Effects of Management Practices on *Miscanthus* × *giganteus* growth and biomass production. **Fernando E. Miguez**, María Bonita Villamil, Stephen P. Long and Germán A. Bollero. 2008. *Agriculture Forest Meteorology*. Vol. 148. Issue 8-9. 4 July 2008. pg 1280-1292. doi:10.1016/j.agrformet.2008.03.010.
3. Wasp brain gene expression supports an evolutionary link between maternal behavior and eusociality. Amy L. Toth, Kranthi Varala, Thomas C. Newman, **Fernando E. Miguez**, Stephen K. Hutchison, David A. Willoughby, Jan Fredrik Simons, Michael Egholm, James H. Hunt, Matthew E. Hudson and Gene E. Robinson. *Science*. 19 October 2007: Vol. 318. no. 5849, pp. 441 - 444
2. Miguez FE and Bollero GA. 2006. Winter Cover Crops in Illinois: Evaluation of Ecophysiological Characteristics of Corn. *Crop Sciences*. 46:1536-1545.

1. Miguez FE and Bollero GA. 2005. Review of Corn Yield Response under Winter Cover Cropping Systems Using Meta-Analytic Methods. *Crop Sciences*. 45:2318-2329.

Book chapter (in spanish)

Biocombustibles (Biofuels). Fernando E. miguez y Fernando H. Miguez. 2008. pg 33-56. En: *Agrosistemas: Impacto Ambiental y Sustentabilidad*. Editora: Lidia Giuffré. 1^{ra} ed. Buenos Aires: Universidad de Buenos Aires, 2008. ISBN: 978-950-29-1061-1

In Preparation

BioCro: an R package for biomass crops. **Fernando E. Miguez** and others.

Mathematical modeling of *Miscanthus* × *giganteus* photosynthesis and dry biomass accumulation. **Fernando E. Miguez**, Xin-Guang Zhu, Stephen P. Long and Germán A. Bollero.

Hairy Vetch and Nitrogen Effects on *Miscanthus* × *giganteus* and *Panicum virgatum* growth with Germán Bollero and Stephen P. Long.

Grants

Model development to predict feedstock production of Miscanthus and Switchgrass as affected by climate, soils, and nitrogen management. PIs: Germán Bollero, Stephen P. Long, **Fernando E. Miguez** and Fabián Fernández. Two-years. US\$ 140,000.

Work Experience

Post Doctoral Research Associate 01/2008–present
Energy Biosciences Institute, Insitute for Genomic Biology, UIUC.
Model development to predict feedstock production of Miscanthus and Switchgrass as affected by climate, soils, and nitrogen management.

Research Assistant 08/2004–12/2007
Department of Crop Sciences, UIUC.
Statistical and Mathematical Models for *Miscanthus* × *giganteus* biomass potential in Illinois under the direction of Dr. Bollero.

Research Assistant 08/2001–05/2004
Department of Crop Sciences, UIUC.
Winter Cover Crops: Meta-Analysis and Field Study under the direction of Prof. Bollero.

Teaching Assistant

08/2004–05/2007

Department of Crop Sciences, UIUC.

Led lab sections, held office hours, and graded exams for CPSC 440 Applied Statistical Methods I, CPSC 540 Applied Statistical Methods II and CPSC 499 Applied Multivariate Statistics.

Lab Assistant

03/08/2007

Microarray Analysis Workshop, UIUC.

by Dr. Jenny Drenvich (drenvich@uiuc.edu), Functional Genomics Bioinformatics Specialist, W.M. Keck Center.

Assisted students with R and Bioconductor

Oral Presentations

Upcoming: “Non-linear Mixed-Effects Models in Agriculture”. **Fernando E. Miguez**. ASA Meetings. Oct 8th 2008.

Abstract: <http://a-c-s.confex.com/crops/2008am/webprogram/Paper41493.html>

Upcoming: “Understanding Statistical Modeling of Combined Experiments”. Germán Bollero, **Fernando E. Miguez** and Donald Bullock. ASA Meetings. Oct 8th 2008.

Abstract: <http://a-c-s.confex.com/crops/2008am/webprogram/Paper44938.html>

“Parameter estimation in mathematical models for biomass crops”. 93rd ESA Annual Meeting. Milwaukee, WI. August 6th. 2008. **Invited**.

Abstract: <http://eco.confex.com/eco/2008/techprogram/P9450.HTM>

Slides: https://netfiles.uiuc.edu/miguez/www/Research/Talks/ESA_Miguez.pdf

“*Miscanthus* yield predictions for Illinois using a mechanistic crop model.” 5th annual symposium on Biomass Feedstocks for Energy Production in Illinois. 01-10-2008. Urbana, IL.

PDF: <http://miscanthus.uiuc.edu/symposium/2008/Miguez.pdf>

Optimizing nitrogen allocation in *Miscanthus* × *gigantueus* for higher biomass production. C₄ and CAM: from molecular diversity to ecological convergence. Department of Plant Sciences. University of Cambridge, UK. July 17-20th 2007. Xin-Guang Zhu and **Fernando E. Miguez**. (talk given by XGZ).

Abstract: <http://www.plantsci.cam.ac.uk/c4cam/AbstractBook.pdf>

“*Miscanthus* Production: Background, Field Trials and Predictions.”
4th annual symposium on Biomass Feedstocks for Energy Production
in Illinois. 01-11-2007. Urbana, IL.

Abstract: <http://miscanthus.uiuc.edu/index.php/symposium/hairy-vetch-and-nitrogen-effects-on-miscanthus/>

“*Miscanthus* Planting and Establishment.” 3rd annual symposium on
Biomass Feedstocks for Energy Production in Illinois. 01-14-2006.
Urbana, IL.

Poster Presentations

Miguez, F.E., Zhu, X.G, Long, S.P., and Bollero, G.A. 2007. Mathematical modeling of *Miscanthus* × *giganteus*. Agron. Abstr. CD-ROM.

Castro JC, Dohleman FG, **Miguez F**, Long SP. 2005. “Improving Projections of Atmosphere-Ecosystem Carbon and Water Exchange for Midwest Cropland in Response to Rising Tropospheric Carbon Dioxide and Ozone: Part I CO₂ delays reproductive development in Soybean.” United States Department of Energy Global Change Education Program End of Summer Workshop. Washington D.C.

Bollero, G.A., **F. Miguez**, M. Ruffo, and D. Bullock. 2004. Corn and soybean yields as affected by long term use of winter cover crops. Agron. Abstr. #5974. CD-ROM.

Miguez, F.E. and G.A. Bollero. 2004. Effects of winter cover crops on corn yield: A Meta-Analysis. Agron. Abstr. #4939. CD-ROM.

Bollero, G. A., and **F. E. Miguez**. 2003. Photosynthesis, yield and yield components of corn growing under a winter cover cropping system. Agron. Abstr. #150239. CD-ROM.

Miguez, F.E. and G.A. Bollero. 2003. Eco-physiological characteristics of corn growing under a winter cover cropping system. Agron. Abstr. #313459. CD-ROM.

Awards and Honors

North American Colleges and Teachers of
Agriculture (NACTA) Graduate Student
Teaching Award

Wooster, OH 2005

Louis V. Logeman Graduate Student
Teaching Award Urbana, IL 2005
ACES, UIUC

Floyd S. Ingersoll Graduate
Research Fellowship 08/2004–07/2007
Department of Crop Sciences, UIUC.

Brockson Graduate Fellowship 08/2003–07/2004
Department of Crop Sciences, UIUC.

Incomplete List of Teachers Ranked as Excellent by Students: Spring
2006, Spring 2004.

Guest Lectures

Lecture for CPSC 440 Applied Statistical Methods I , UIUC, Nov 08
and Nov 11, 2005. Topic: Basic concepts of experimental design:
Blocks, Latin Square, Contrasts and Residuals.

Lecture for CPSC 440 Applied Statistical Methods I , UIUC, Oct 3
and Oct 5, 2005. Topic: two sample t-test.

Teaching Course

ACES Teaching College Course Urbana, IL 2005
Invited participant, ACES, UIUC.

Professional Memberships

Crop Science Society of America
Ecological Society of America
Gamma Sigma Delta (Honor Society of America)

Professional Service

Associate Editor for Agronomy Journal (July 2008 – present)

Skills

Languages: Spanish, English.

Computer Languages: R, C, Perl, \LaTeX .

Statistical Software: R, SAS, GGobi.

Services Oral presentation about *Miscanthus* to argentine farmers Aapresid. UIUC. Urbana, IL. Sep 2nd. 2008.

Oral presentation about *Miscanthus* to the Dudley Smith advisory board. Pana, IL. Oct 19 2006.

Vice-President of the Crop Sciences Graduate Student Organization. 2005-2006.

Member of advisory board of the CAUC (Comunidad Argentina en Champaign Urbana).

References Please contact these people for personal references

Germán Bollero. Advisor. Professor at the University of Illinois in the Department of Crop Sciences. Ph: (217) 333-9475. e-mail: gbollero@uiuc.edu.

Stephen Long. Robert Emerson Professor. Department of Crop Sciences and Plant Biology. University of Illinois at Urbana-Champaign. Deputy Director. Energy Biosciences Institute. Ph: (217) 333-2487. e-mail: slong@uiuc.edu.

Adam Davis. USDA-ARS/Associate Professor at the University of Illinois in the Department of Crop Sciences. Ph: (217) 333-9654. e-mail: adam.davis@ars.usda.gov.