

## Biographical Sketch

### Gustavo C. MacIntosh

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## Education

National Univ. of Mar del Plata, Argentina	Biological Sciences	M.S., 1993
University of Buenos Aires, Argentina	Biological Chemistry	Ph.D., 1997
Michigan State University	Plant Molecular Biology	1997-2001

## Appointments

2012-current	Associate Professor, Department of Biochemistry, Biophysics and Molecular Biology, and Plant Sciences Institute, Iowa State University	
2003-2012	Assistant Professor, Department of Biochemistry, Biophysics and Molecular Biology, and Plant Sciences Institute, Iowa State University	
2002-2003	Associate Scientist, Delaware Biotechnology Institute, University of Delaware	
1997-2001	Visiting Postdoctoral Research Associate, Research Advisor: Pamela J. Green, Professor. MSU-DOE Plant Research Laboratory, Michigan State University	

## Publications related to the project (five)

1. Hesler LS, Chiozza MV, O' Neal ME, **MacIntosh GC**, Tilmon KJ, et al. (2013) Performance and prospects of Rag genes for management of soybean aphid in soybean. *Entomol Exp Appl*, 147: 201–216.
2. Studham ME, **MacIntosh GC** (2013) Multiple phytohormone signals control the transcriptional response to soybean aphid infestation in susceptible and resistant soybean plants. *Mol Plant Microbe Interact*. 26:116-29
3. McCarville MT, Kanobe C, O'Neal ME, **MacIntosh GC**, Tylka GL (2012) Effects of an insect–nematode–fungus pest complex on grain yield and composition of specialty low linolenic acid soybean. *Crop Protection* 42: 210-216
4. Studham ME, **MacIntosh GC** (2012) Phytohormone signaling pathway analysis method for comparing hormone responses in plant-pest interactions. *BMC Res Notes* 5:392
5. McCarville MT, O'Neal M, Tylka GL, Kanobe C, **MacIntosh GC** (2012) A nematode, fungus, and aphid interact via a shared host plant: implications for soybean management. *Entomol Exp Appl* 143: 55-66

## Publications (five other)

6. Floyd BE, Morriss SC, **MacIntosh GC**, Bassham DC (2012) What to Eat: Evidence for Selective Autophagy in Plants. *J Integrative Plant Biology* 54: 907–920
7. **MacIntosh GC**, Bassham DC (2011) The connection between ribophagy, autophagy and ribosomal RNA decay. *Autophagy*, 7: 662-663

8. Hillwig MS, Contento AL, Meyer A, Ebany D, Bassham DC, **Macintosh GC** (2011) RNS2, a conserved member of the RNase T2 family, is necessary for ribosomal RNA decay in plants. *Proc Natl Acad Sci USA* 108: 1093-1098
9. Haud N, Kara F, Diekmann S, Henneke M, Willer JR, Hillwig MS, Gregg RG, **Macintosh GC**, Gärtner J, Alia A, Hurlstone AF (2011) rnaset2 mutant zebrafish model familial cystic leukoencephalopathy and reveal a role for RNase T2 in degrading ribosomal RNA. *Proc Natl Acad Sci USA* 108: 1099-1103
10. Hillwig MS, Liu X, Liu G, Thornburg RW, **MacIntosh GC** (2010) Petunia nectar proteins have ribonuclease activity. *J Exp Bot* 61: 2951-2965

### **Synergistic Activities**

- Member, Minority Affairs Committee, American Society for Plant Biologists (ASPB), 2012-2015
- Secretary/Treasurer, Midwestern Section of the American Society of Plant Biologists, 2013-2015
- Review Panel Member, MCB-Cellular Dynamics and Function Program, National Science Foundation, 2014
- Co-organizer of the 14th Biennial Molecular Biology of the Soybean Conference, Des Moines, August 2012
- Member of the advisory team that developed the “Strategic Plan for Advances in Soybean Research: Planning for Iowa’s Growth in Global Soybean Production” for the Iowa Soybean Association, 2009
- Reviewer for *The Plant Cell*, *Journal of Plant Physiology*, *Journal of Molecular Evolution*, *Plant Physiology*, *Plant Molecular Biology*, *Biochemistry*, *Planta*, *Plant Cell Reports*, *In Silico Biology*, *Journal of Experimental Botany*, *Autophagy*, *EMBO Journal*, etc.

### **Current Collaborators**

Matthew O’Neal (Iowa State U.); Gregory Tylka (Iowa State U.); John Tooker (Penn State U.), Georg Jander (Cornell U.), Diane Bassham (Iowa State U.), Steve Whitham (Iowa State U.), Michelle Graham (USDA), Asheesh Singh (Iowa State U.), Young-Jin Lee (Iowa State U.), Santosh Pandey (Iowa State U.), Ariel Goldraij (U. Nacional de Cordoba, Argentina); Linda Ambrosio (Iowa State U.).

### **Graduate and Postdoctoral Advisors**

Thesis advisor: María T. Téllez-Iñón (U. de Buenos Aires, and National Research Council, Argentina).

Postdoctoral advisor: Pamela J. Green (University of Delaware)

### **Thesis Advisor and Postgraduate-Scholar Sponsor**

Melissa Hillwig (Ph.D. student, Iowa State U., 2004-2009, Postdoc 2010); Saralyn Ohanian (MS. student, Iowa State U., 2004- 2007); Ludmila Rizshsky (Postdoctoral scholar, Iowa State U., 2006- 2007), Matthew Studham (Ph.D. student, Iowa State U., 2007-2010), Alexander Meyer (Ph.D. student, Iowa State U., 2007-2009), Charles Kanobe (Ph.D. student, Iowa State U, 2007-2012), Mariana Chiozza (M.S.. student, Iowa State U, 2007-2009), Stephanie Morriss (Ph.D. student, Iowa State U, current), Jessica Hohenstein (Ph.D. student, Iowa State U, current), Martha Ibore (Ph.D. student, Iowa State U, current), Ayesha Riaz (M.S. student, Iowa State U, current), Khoi Nguyen (M.S. student, Iowa State U, current), Xiaoyi Liu (Postdoctoral scholar, Iowa State U., current).