

CURRICULUM VITAE

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Appointments

2017-Present	Associate Research Professor , Department of Plant Biology, School of Environmental and Biological Sciences, Rutgers University, New Brunswick, NJ
2011-2017	Assistant Research Professor , Department of Plant Biology and Pathology, School of Environmental and Biological Sciences, Rutgers University, New Brunswick, NJ
2014-Present	Adjunct Professor , Hainan University, Hainan, China
2003-2011	Assistant Research Professor , Biotechnology Center for Agriculture and the Environment, School of Environmental and Biological Sciences, Rutgers University, New Brunswick, NJ
1997- 2002	Research Associate , Biotechnology Center for Agriculture and the Environment, School of Environmental and Biological Sciences, Rutgers University, New Brunswick, NJ
1992-1996	Postdoctoral Scholar , Dept. of Plant Pathology, and Dept. of Agronomy, University of Kentucky, Lexington, KY
1986-1992	Graduate Research Assistant , Dept. of Plant Pathology, Iowa State University, Ames, IA
1983-1985	Assistant Lecturer , Dept. of Plant Protection, South China College of Tropical Crops (SCCTC), Hainan, P. R. China

Education

Ph.D.	1992	Plant Virology, Iowa State University, Iowa (Advisor: W Allen Miller)
M.S.	1989	Plant Virology, Iowa State University, Iowa (Advisor: John Hill)
B.S.	1983	Plant Protection, South China College of Tropical Crops, Hainan, P.R. China

Patents

Di, R. (100% contribution) Jan. 26, 2017. Compositions and methods for inducing resistance to soybean cyst nematode via RNAi. WO 2017/015621 A1.

- Di, R.** (85% contribution) and Tumer, N. E. June 17, 2014. Methods of treating hepatitis C virus. Patent # US8,753,642 B2.
- Tumer, N.E. and **R. Di** (85% contribution). Sept. 27, 2011. Transgenic plants expressing L3 delta proteins are resistant to trichothecene fungal toxins. Patent # US8,026,410 B2.
- Tumer, N. E. and **R. Di** (85% contribution). Nov. 25, 2010. Nontoxic Shiga-like toxin mutant compositions and methods. U.S. Application #60/978,280. Patent # US2010/0298238 A1.
- Tumer, N. E. and **R. Di** (50% contribution). Jan. 5, 2006. Transgenic tobacco plants expressing truncated proteins L3 and pokeweed antiviral protein are resistant to trichothecene fungal toxins. Patent # US2006/0005271 A1.
- Tumer, N. E., T. Leustek, **R. Di** (50% contribution), M. Lee and J. Kim. Nov. 23, 2004. Method for selecting transformed plant cells using ethionine and cystathionine gamma synthase as the selection agent and marker gene. U.S. Patent #6,821,781 B1.

Chapters in published books

- Di, R.** and N. E. Tumer. 2015. Pokeweed antiviral protein: Its cytotoxicity mechanism and applications in plant disease resistance. *Toxins (Special Issue)* 7(3):755-772; doi:10.3390/toxins7030755. B. Magun and J. D. Robertus, eds. (Di: corresponding; initiation; 100% writing, 85% editing)
- Ma, L., R. Gu, L. Tang, Z. Chen, **R. Di** and C. Long. 2015. Important poisonous plants in Tibetan ethnomedicine. *Toxins (Special Issue)* 7:138-155; doi:10.3390/toxins7010138. B. Magun and J. D. Robertus, eds. (Di: 50% editing)
- Di, R.** 2007. Increasing the methional content in potato through biotechnology. pp 185-193 in *Biotechnology in flavor production*. D. Havkin-Frenkel, and F. Belanger, eds. (Di: by invitation; 100% writing and editing)
- Tumer, N. E., K. Hudak, **R. Di**, C. Coetzer, P. Wang and O. Zoubenko. 1999. Pokeweed antiviral protein and its applications. pp 139-158 in *Current topics in microbiology and immunology Vol.240. Plant biotechnology: new products and applications*. J. Hammond, P. McGarvey, and V. Yusibov, eds. (Di: 15% writing and editing)

Published journal articles

46. **Di, R.**, L. Li and E. Davis. 2017. Transgenic soybean plants with root-expressing siRNAs specific to *HgRPS23* gene are resistant to *Heterodera glycines*. *Int. J. Agr. Res. Crop Sci.* 1 (2):1-8. (Di: initiation; 100% writing, 90% editing)
45. Graf, B. L., S. Kamat, K. Cheong, S. Komarnytsky, M. Driscoll and **R. Di**. 2017. Phytoecdysteroid-enriched quinoa seed leachate enhances healthspan and mitochondrial metabolism in *Caenorhabditis elegans*. *J. Func. Foods* 37:1-7. DOI: 10.1016/j.jff.2017.07.016 (Di: 33% initiation; 50% editing)
44. **Di, R.**, M. S. Vakkalanka, C. Onumpai, H. Chau, A. K. White, R. A. Rastall, K. Yam and A. T. Hotchkiss, Jr. 2017. Orange pectic oligosaccharides inhibit *Escherichia coli* O157:H7 adhesion and reduce Shiga toxin cytotoxicity in HT29 cells. *Food Chem.* 227:245-254.

- (Di: 50% initiation; 75% writing and editing)
43. **Di, R.**, Q. Huang, M. Stulberg, L. Zhao and L. Levy. 2016. Detection of plant quarantine pathogen *Ralstonia solanacearum* r3b2 with portable POKKIT and BLITZ systems. *J. Basic and Applied Pl. Sci. (J. Plant Health)* 1(1):103-111.
(Di: initiation; 100% writing, 85% editing)
42. **Di, R.** 2016. Complete genome sequence of pokeweed mosaic virus-New Jersey isolate and its comparison to PkMV-MD and PkMV-PA. *Genome Announcements* 4(5):e00929-16. DOI:10.1128/genomeA.00929-16.
(Di: corresponding; 100% initiation, writing and editing)
41. Xie, L., Y. Liu, H. Wang, W. Liu, **R. Di**, W. Miao, F. Zheng. 2016. Characteristics of harpinXoo induced hypersensitive responses in non-host plant, tobacco. *J. Plant Biochem. Biotech.* DOI:10.1007/s13562-016-0363-9.
(Di: 50% writing, 85% editing)
40. Wang, S., Z. Li, S. Li, **R. Di**, C.-T. Ho and G. Yang. 2016. Ribosome-inactivating proteins (RIPs) and their important health promoting property. *RSC Advances* 6: 46794-46805. DOI:10.1039/c6ra02946a.
(Di: 50% editing)
39. Huang, M., L. Fu, X. Sun, **R. Di** and J. Zhang. 2016. Rapid and highly efficient callus induction and plant regeneration in the starch-rich duckweed strains of *Landoltia punctata*. *Acta Physiologiae Plantarum* 38:122-136. DOI:10.1007/s11738-016-2142-6.
(Di: 30% editing)
38. Endraiyani, V., R. D. Ludescher, **R. Di**, M. V. Karwe. 2016. Total phenolics and antioxidant capacity of cocoa pulp: processing and storage study. *J. Food Proc. Preserv.* DOI:10.1111/jfpp.13029.
(Di: 30% editing)
37. Gan, L., **R. Di**, Y. Chao, L. Han, X. Chen, S. Yin. 2016. *De novo* transcriptome analysis for Kentucky bluegrass dwarf mutants induced by space mutation. *PLoSOne* 11(3): e0151768. DOI:10.1371/journal.pone.0151768.
(Di: 50% writing, 50% editing)
36. Li, X., Z. Bi, **R. Di**, P. Liang, Q. He, W. Liu, W. Miao and F. Zheng. 2016. Identification of powdery mildew responsive genes in *Hevea brasiliensis* through mRNA differential display. *Int. J. Mol. Sci.* 17:181-197. DOI:10.3390/ijms17020181.
(Di: 50% writing, 85% editing)
35. Hintz, T., K. K. Matthews and **R. Di**. 2015. The use of plant antimicrobial compounds for food preservation. *BioMed Research International*, vol. 2015. DOI:10.1155/2015/246264.
(Di: corresponding; initiation; 33% editing)
34. Sun, Y., P. Liang, Q. He, W. Liu, **R. Di**, W. Miao and F. Zheng. 2015. Cloning and expression of the pathogenicity genes of *O. heveae*. *J. of Pl. Path. Microbiol.* S1:001; DOI: 10.4172/2157-7471.S1-001.
(Di: 50% writing, 50% editing)
33. Wang, L., M. Xing, **R. Di** and Y. Luo. 2015. Isolation, identification and antifungal Activities of *Streptomyces aureovorticillatus* HN6. *J. of Pl. Path. Microbiol.* 6:281-285. DOI: 10.4172/2157-7471.1000281.

- (Di: 30% writing, 50% editing)
32. Hotchkiss, A., A. Nunez, G. Strahan, H. Chau, A. White, J. Marais, K. Hom, M. Vakkalanka, **R. Di**, K. Yam, C. Khoo. 2015. Cranberry xyloglucan structure and inhibition of *Escherichia coli* adhesion to epithelial cells. *J. Agri. Food Chem.* 63:5622–5633. DOI:10.1021/acs.jafc.5b00730.
(Di: 10% writing and editing)
 31. **Di, R.** and N. E. Tumer. 2015. Pokeweed antiviral protein: Its cytotoxicity mechanism and applications in plant disease resistance. *Toxins* 7(3):755-772; DOI:10.3390/toxins7030755.
(Di: corresponding; initiation; 100% writing, 85% editing)
 30. Ma, L., R. Gu, L. Tang, Z. Chen, **R. Di** and C. Long. 2015. Important poisonous plants in Tibetan ethnomedicine. *Toxins* 7:138-155. DOI:10.3390/toxins7010138.
(Di: 50% editing)
 29. Yu, X., B. Cui, M. Ruan, W. Wen, S. Wang, **R. Di** and M. Peng. 2014. Cloning and characterization of *GbGI*, a DELLA-like gene from cotton (*Gossypium barbadense*). *Plant Growth Regulation* 75:235-244. DOI:10.1007/s10725-014-9947-3.
(Di: 50% writing, 50% editing)
 28. **Di, R.**, L. Zhao and L. Levy. 2014. Detection of quarantine pathogens with bio-layer interferometry-based BLITZ system. *Phytopath.* 104(Suppl. 3):S3.32.
(Di: corresponding; initiation; 100% writing and editing)
 27. **Di, R.** and N. E. Tumer. 2014. The N-terminal 99 amino acids of yeast ribosomal protein L3 inhibits the cytotoxicity of pokeweed antiviral protein in *Saccharomyces cerevisiae*. *Toxins* 6:1349-1361. DOI: 10.3390/toxins6041349.
(Di: corresponding; initiation; 100% writing, 80% editing)
 26. **Di, R.**, L. Zhao and L. Levy. 2013. Detection of plant quarantine pathogens using surface plasmon resonance technology. *Acta Phytopath. Sinica* 43(Suppl.):279.
(Di: corresponding; initiation; 100% writing and editing)
 25. Zhao, L., L. Levy and **R. Di**. 2013. Detection of *Ralstonia solanacearum* using portable surface plasmon resonance technology. *Phytopath.* 103(Suppl. 2):S2.167.
(Di: corresponding; initiation; 100% writing and editing)
 24. Khan, I. J., **R. Di**, P. Patel and V. Nanda. 2013. Evaluating pH-induced gastrointestinal aggregation of *Arachis hypogaea* 1 fragments as potential components of peanut allergy. *J. Agri. Food Chem.* 61:8430-8435.
(Di: 25% editing)
 23. Xin, L-J., R. Yamujala, Y-H. Wang, H. Wang, W-H. Wu, M. A. Lawton, C-L. Long and **R. Di**. 2013. Acetylcholinesterase-inhibiting alkaloids from *Lycoris radiata* delay Paralysis of amyloid beta-expressing transgenic *C. elegans* CL4176. *PLoS One* 8(5):e63874. DOI:10.1371/journal.pone.0063874.
(Di: corresponding; initiation; 100% writing, 80% editing)
 22. Wu, W.-H., **R. Di** and K. Matthews. 2013. Antibacterial mode of action of Ib-AMPI against *Escherichia coli* O157:H7. *Probiotics and Antimicrobial Proteins.* DOI: 10.1007/s12602-013-9127-1.
(Di: 50% initiation; 33% writing and editing)
 21. Ouimet, M. A., J. Griffin, A. L. Carbone-Howell, W.-H. Wu, N. D. Stebbins, **R. Di** and K. E. Uhrich. 2013. Biodegradable Ferulic Acid-containing Poly(anhydride-ester): Degradation products with controlled release and sustained antioxidant activity.

- Biomacromolecules 14(3):854-861. DOI:10.1021/bm3018998.
(Di: 10% initiation; 10% writing and editing)
20. Tan, Y. N., K. R. Matthews, **R. Di** and Mohd Khan Ayob. 2012. Comparative antibacterial mode of action of purified alcalase- and tryptic-hydrolyzed palm kernel cake proteins on the food-borne pathogen *Bacillus cereus*. *Food Control* 31:53-58.
(Di: 10% writing and editing)
 19. Tan, Y. N., K. R. Matthews, **R. Di** and M. K. Ayob. 2012. Bacteriostatic mode of action of trypsin-hydrolyzed palm kernel expeller peptide against *Bacillus cereus*. *Probiotics and Antimicrobial Proteins* 4:59-65.
(Di: 10% writing and editing)
 18. **Di, R.** 2011. Using surface plasmon resonance (SPR) technology to detect quarantine plant pathogens. *Phytopath.* 101:S215.
(Di: corresponding; initiation; 100% writing and editing)
 17. **Di, R.**, M.-T. Huang and C.-T. Ho. 2011. Anti-inflammatory activities of mogrosides from *Momordica grosvenori* in murine macrophages and a murine ear edema model. *J. Agri. Food Chem.* 59:7474-7481.
(Di: corresponding; initiation; 100% writing, 95% editing)
 16. Pang, Y-P, J. G. Park, S. Wang, A. Vummenthala, R. K. Mishra, J. E. McLaughlin, **R. Di**, J. N. Kahn, N. E. Tumer, L. Janosi, J. Davis and C. B. Millard. 2011. Small-molecule inhibitor leads of ribosome-inactivating proteins developed using the doorstep approach. *PLoS One* 6(3): e17883. DOI:10.1371/journal.pone.0017883.
(Di: 10% initiation, writing and editing)
 15. **Di, R.**, E. Kyu, V. Shete, H. Saidasan, P. C. Kahn and N. E. Tumer. 2011. Identification of amino acids critical for the cytotoxicity of Shiga toxins 1 and 2 in *Saccharomyces cerevisiae*. *Toxicon* 57:525-539.
(Di: initiation; 100% writing, 80% editing)
 14. **Di, R.**, A. Blechl, R. Dill-Macky, A. Tortora and N. E. Tumer. 2010. Expression of a truncated form of yeast ribosomal protein L3 in transgenic wheat improves resistance to *Fusarium* head blight. *Plant Science* 178:374-380. (submitted and accepted in 2009).
(Di: 100% writing, 75% editing)
 13. **Di, R.** and N.E. Tumer. 2010. Real-time reverse transcription PCR detection of viable Shiga toxin-producing *Escherichia coli* O157:H7 in food. *J. Food Safety* 30:51-66. (submitted and accepted in 2008).
(Di: initiation; 100% writing and 80% editing)
 12. **Di, R.**, A. Blechl, R. Dill-Macky, A. Tortora and N. E. Tumer. 2007. Expression of the N-terminal 99 amino acids of yeast ribosomal protein L3 in transgenic wheat confers resistance to *Fusarium* head blight. *Mol. Plant Breeding* 5:283.
(Di: 100% writing, 80% editing)
 11. **Di, R.** and N. E. Tumer. 2005. Expression of a truncated form of ribosomal protein L3 confers resistance to pokeweed antiviral protein and the *Fusarium* mycotoxin deoxynivalenol. *Mol. Plant Microbe Inter.* 18:762-770.
(Di: 100% writing, 80% editing)
 10. Parikh, B. A., U. Baykal, **R. Di** and N. E. Tumer. 2005. Evidence for retro-translocation of pokeweed antiviral protein from endoplasmic reticulum into cytosol and separation of its activity on ribosomes from its activity on capped RNA.

- Biochem. 44:2478-2490.
(Di: 25% writing, 10% editing)
9. Hudak, K. A., B. A. Parikh, R. **Di**, M. Baricevic, M. Santana, M. Seskar and N. E. Tumer. 2004. Generation of pokeweed antiviral protein mutations in *Saccharomyces cerevisiae*: evidence that ribosome depurination is not sufficient for cytotoxicity. Nucleic acids Res. 32:4244-4256.
(Di: 50% initiation; 30% writing, 25% editing)
 8. **Di, R.**, J. Kim, M. N. Martin, T. Leustek, J. Jhoo, C.-T. Ho and N. Tumer. 2003. Enhancement of the primary flavor compound methional in potato by increasing the level of soluble methionine. J. Agri. Food Chem. 51:5695-5702.
(Di: initiation; 100% writing, 75% editing)
 7. **Di, R.**, C.-C. Hu and S. A. Ghabrial. 1999. Complete nucleotide sequence of bean pod mottle virus and its comparisons with other comoviruses. Virus Genes 18(2):129-137.
(Di: initiation; 100% writing, 75% editing)
 6. Trick, H. N., R. D. Dinkins, E. R. Santarem, **R. Di**, V. Samoylov, C. A. Meurer, D. R. Walker, W. A. Parrott, J. J. Finer and G. B. Collins. 1997. Recent advances in Soybean transformation. Plant Tiss. Cult. Biotech. 3:9-26.
(Di: 25% writing and editing)
 5. **Di, R.**, G. B. Collins and S. A. Ghabrial. 1996. Production of transgenic soybean lines expressing the bean pod mottle virus coat protein precursor gene. Plant Cell Rep. 15:746-750.
(Di: 50% initiation; 100% writing, 80% editing)
 4. **Di, R.**, S. P. Dinesh-Kumar and W. A. Miller. 1993. Translational frameshifting by barley yellow dwarf virus RNA (PAV serotype) in *Escherichia coli* and in cell-free extracts. Mol. Plant Microbe Inter. 6(4):444-452.
(Di: 80% writing, 50% editing)
 3. **Di, R.**, J. H. Hill and R. A. Van Deusen. 1993. Antigenic signature analysis reflects differences among plant virus isolates. J. of Virol. Methods, 42:281-292.
(Di: 100% writing, 75% editing)
 2. **Di, R.**, J. H. Hill and A. H. Epstein. 1990. Double-stranded RNA associated with the rose rosette disease of multiflora rose. Plant Disease 74:56-58.
(Di: 50% initiation; 100% writing, 75% editing)
 1. Huang, C., **R. Di** and Y. Ma. 1988. Transmission of black pepper mosaic disease. Chinese J. of Tropical Crops 9:121-125.
(Di: initiation; 50% writing and editing)