2016 Curriculum Vitae

NAME: Jan P. Nyrop
DEPARTMENT/UNIT: Entomology
TITLE: Professor and Associate Dean
CAMPUS ADDRESS: 343 Roberts Hall
PHONE: 607-255-2552, 315-787-2355
EMAIL: jpn2@cornell.edu
WEB PAGE: http://entomology.cals.cornell.edu/people/jan-nyrop

EDUCATION

B.S.	1977	Wildlife Ecology	University of Maine
M.S.	1979	Entomology	Michigan State University
M.S.	1982	Systems Engineering	Michigan State University
Ph.D.	1982	Entomology	Michigan State University

ACADEMIC RANKS (year achieved)

Professor: 1999
Associate Professor: 1992
Assistant Professor: 1985

PROGRAM OVERVIEW

Research (25%): The goal of my research is to improve management of plant feeding arthropods. I am interested in improving the effectiveness of natural enemies, in improving how decisions are made to control pests, and in applying quantitative tools to better understand the ecology of arthropod pests and the plants they feed upon. Recent work has focused on the basis for and outcomes of plant mediated interactions between pest and predator mites; the optimal allocation of resources to monitor invasive species; and how pest attraction to and retention in a trap crop influence the overall effectiveness of trap cropping as a pest management strategy.

Teaching (15%): I currently co-teach a course on biological invasions. The purpose of this course is for students to learn about the biology and ecology of invasions, the expanding problems caused by invasive species and how invasions are mitigated and managed. These topics are grounded in biology; however, they have social, economic and philosophical implications. I enjoy teaching the course because it integrates fundamental biology, applications of biological understanding, and social and economic issues. This breadth lends itself to a variety of teaching styles and active, participatory learning.

Extension: I have worked with several extension programs to provide practitioners with knowledge and tools to improve pest management. Clients have ranged from fruit and grape growers to producers of biological control agents. Currently, I work to advance economic development in the region and state by expanding the production and value of food and agricultural systems.
(60%) Administrative: Between 2007 and 2015 I served as a senior associate dean of the college. My responsibilities included faculty affairs, department and program reviews, sponsored research oversight, management of core research funds, and academic aspects of facilities and human resources. I now serve as Director of the Cornell University Agricultural Experiment Station where I work to align experiment station programs and activities with college priorities by administering federal funding to support agricultural and life sciences research, by overseeing research program development, and by promoting integration of research and its application to improve communities and peoples' lives.

AREAS OF ACADEMIC EXPERTISE

Insect ecology, integrated pest management, biological control, sampling and decision making, risk assessment, quantitative population ecology, invasive species

PROFESSIONAL EXPERIENCE

Year	Experience
1977-80	Research Assistant, Department of Entomology, Michigan State University, East Lansing, MI
1978-80	Forest Insect Specialist, Michigan DNR, Forest Management Division, East Lansing, MI
1981-82	Research Assistant, Department of Entomology, Michigan State University, East Lansing, MI
1982-85	Extension Associate, IPM Program, Cornell University, Geneva, NY
1985-1992	Assistant Professor, Department of Entomology, New York State Agricultural Experiment Station, Cornell University, Geneva, NY
1992-1999	Associate Professor, Department of Entomology, New York State Agricultural Experiment Station, Cornell University, Geneva, NY
1999-	Professor, Department of Entomology, New York State Agricultural Experiment Station, Cornell University, Geneva, NY
2004-2007	Chair, Department of Entomology, Cornell University, Ithaca, NY
2007-2015	Senior Associate Dean, College of Agriculture and Life Sciences, Cornell University
2015-	Director Cornell University Agricultural Experiment Station and Assoicate Dean

HONORS AND AWARDS

1999	Excellence in IPM Award – presented by NY IPM Program
1994	Research Fellowship, Wageningen Agricultural University, Wageningen, the Netherlands
1982	Entomological Society of America John Henry Comstock Award for graduate studies

1982 Dr. Robert R. Dreisbach Award, Department of Entomology, Michigan State University
1980 Dr. Paul Wooley Award, Department of Entomology, Michigan State University
1976 Dr. Robert Ashman Award, School of Forestry, University of Maine

GRANT SUPPORT (last 5 years)

USDA PMAP Habitat and Resource Management to Enhance Biological Control in Greenhouses	9/1/2011-2/28/2013 $90,617
USDA NEIPM Habitat and Resource Management to Enhance Biological Control in Greenhouses	9/1/2010-8/14/2011 $58,844

ACADEMIC RESPONSIBILITIES

ADMINISTRATIVE RESPONSIBILITIES

Director Cornell University Agricultural Experiment Station

RESEARCH RESPONSIBILITIES

Research Professionals Supervised: Karen Wentworth
Recent Research Accomplishments:

- Discovered that leaf trichomes promote phytoseiid mite abundance primarily through the behavioral response of the mites; factors that likely drive the evolution of this behavior are reduced risk of predation and increased capture of alternate foods.
- Determined that carbon balance in apple trees integrates the affects of multiple stresses.
- Determined that mite injury to grapes can result in reduced quality; however, high mite numbers are needed. Also showed that pest mites can be managed using biological control.
- Evaluated reduced risk management tactics for apple insect pests and determined that key pests can be controlled with these tools.
- Developed methods for assessing the quality of mass-produced biological control agents.
- Developed novel tools for managing onion maggot including risk assessment, planting date manipulation and insecticidal baits.
- Determined that the effectiveness of trap cropping for whitefly management in greenhouses is strongly dependent on patterns of whitefly mortality on the cash crop and the retention of whitefly adults on the trap crap.

- Discovered that phytoseiid predators of western flower thrips cause invulnerable adults to avoid habitats with predators and induce up to 50% reductions in net oviposition compared to adult thrips not exposed to predators.
- Using optimal control theory to calculate time-dependent invasive species surveillance policies that minimize costs, determined that the best strategies often use intense early sampling, followed by reduced sampling effort.

TEACHING AND ADVISING RESPONSIBILITIES

ENT 2020 Invasions, Trading Species in a Shrinking World (taught yearly with Dr. Ann Hajek)

The purpose of this course is for students to learn about the biology and ecology of invasions, the expanding problems caused by invasive species and how invasions are mitigated and managed. These topics are grounded in biology; however, they have social, economic and philosophical implications. I enjoy teaching the course because it integrates fundamental biology, applications of biological understanding, and social and economic issues. This breadth lends itself to a variety of teaching styles and active, participatory learning.

EXTENSION RESPONSIBILITIES

Currently, I work to advance economic development in the region and state by expanding the production and value of food and agricultural systems.

EXTENSION ACTIVITIES

- I assist the producers and users of mass-produced biological control agents in understanding the issues surrounding quality control and in developing methods for assessing the quality of products. This is a world-wide group of constituents.
- I make presentations on and help to develop recommendations based on my research in various horticultural cropping systems. Constituents are primarily in New York and the northeast.
- I work with regional econcomic development councils, entrepreneurs and established businesses to develop strategies and tactics for expanding the food and agriculture sector of the New York economy.

GRADUATE FIELD MEMBERSHIP

Entomology

GRADUATE MAJORS

Name	Degree	Date

Doo Hyung Lee	PhD	2011
Mark Sarvary	PhD	2006

GRADUATE MINORS

Name	**Degree**	**Date**
Mathew Holden	PhD	2015
Elaine Fok	Ms	2013
Sarah Jandricic	PhD	2012
Rebecca Loughner	PhD	2007
Maria Diaz	Ms	2006

OTHER PROFESSIONAL ACTIVITIES

PROFESSIONAL SOCIETIES

Entomological Society of America
Phi Kappa Phi
AAAS

EDITORIAL BOARDS

2002-2003	Subject editor, Environmental Entomology
1996-2001	Associate editor, Entomologia Experimentalis et Applicata
1994-1996	Subject editor, Experimental and Applied Acorology
1990-1991	Subject editor, Journal of Economic Entomology

COMMITTEE ASSIGNMENTS

International/National

2002 Member and chair, Journal of Economic Entomology Editorial Review Board
2001 President, Entomological Society of America, Northeast Branch
2000 Program co-chair, Entomological Society of America, Northeast Branch
2001 Panel Manager, USDA NRI Biobased pest management grants review panel
2000 USDA NRI Biobased pest management grants review panel
1999 USDA NRI Biobased pest management grants review panel

University

2000-2003 University Appeals Panel
2005-2007 Committee on Financial Policies

College

2002-2004 NYSAES Computer Committee, chair
2003 NYSAES adhoc committee for webpage development, chair
2003-2004 CALS Strategic Communication ad hoc Committee

2003-2004 CALS Agricultural Science Curriculum Commitee

Department

2001-2003 Department of Entomology Graduate Admissions Committee

RESEARCH PANELS

1999-01 National Research Council Committee on the Scientific Basis for Predicting the Invasive Potential of Non-Indigenous Pests of Plants in the U.S. Panel charged with evaluating the predictability of invasiveness by exotic organisms.

CONSULTING

1995 One week consultancy in Brazil on mite biological control and sampling in apples

1995 One week consultancy (Florida and California Avocado Commissions) on quantitative assessment of the risk of introducing exotic pests by importing Mexican Avocados

RESEARCH AND EXTENSION PUBLICATIONS

Refereed journal articles

Holden, M. P., J. P. Nyrop and S. P. Ellner. 2016. The economic benefit of time-varying surveillance effort for invasive species management. Journal of Applied Ecology. 53:712-721.

Atallah, S. S., M. I. Gomez, J. M. Conrad, and J. P. Nyrop. 2014. A plant-level, spatial, bioeconomic model of plant disease diffusion and control: grapevine leafroll disease. American Journal of Agricultural Economics. doi: 10.1093/ajae/aau032

Lee, D. H., J. P. Nyrop and J. P. Sanderson. 2014 Non-consumptive effects of the predatory beetle *Delphastus catalinae* (Coleoptera: Coccinellidae) on habitat use patterns of adult whitefly *Bemisia argentifolii* (Hemiptera: Aleyrodidae). Applied Entomology and Zoology. 4:599-606.

Gardner, J., M. P. Hoffmann, S. A. Pitcher and J. P. Nyrop. 2012. Recurrent warming to improve cold storage of Trichogrammatids (Hymenoptera: Trichogrammatidae). Biocontrol Science and Technology. 22:261-270.

Holden, M. H., S. P. Ellner, D. H. Lee, J. P. Nyrop, and J. P. Sanderson 2012 Designing an effective trap cropping strategy: the effects of attraction, retention and plant spatial distribution. J. Appl. Ecol. 49:715-722.

Szczepaniec A, S. F. Creary, K. L. Laskowski, J. P. Nyrop and M. J. Raupp. 2011. Neonicotinoid insecticide imidacloprid causes outbreaks of spider mites on elm trees in urban landscapes. PLoS ONE 6(5): e20018. doi:10.1371/journal.pone.0020018

Ugine, T. A., J. P. Sanderson, S. P. Wraight, L. Shipp, K. Wang and J. P. Nyrop. 2011. Binomial sampling of western flower thrips infesting flowering greenhouse crops using incidence-mean models. Environ. Entomol. 40:381-390.

Lee, D. H., J. P. Nyrop and J P. Sanderson. 2011. Avoidance of natural enemies by adult whiteflies, Bemisia argentifolii, and effects on host plant choice. Biological Control.

58:302–309.

B. A. Nault, B. P. Werling, R. W. Straub, and J. P. Nyrop. 2011. Delaying onion planting to control onion maggot (Diptera: Anthomyiidae): efficacy and underlying mechanisms. J. Econ. Entomol. 104:1622-1632.

Lee, D., J. P. Nyrop and J. P. Sanderson. 2010. Effect of host experience of the greenhouse whitefly, Trialeurodes vaporariorum, on trap cropping effectiveness. Entomologia Experimentalis et Applicata. 137:193–203

Loughner, R., K. Wentworth, G. Loeb and J. Nyrop. 2010. Leaf trichomes influence predatory mite densities through dispersal behavior. Entomologia Experimentalis et Applicata. 134:78-88.

Loughner, R., K. Wentworth, G. Loeb and J. Nyrop. 2010. Influence of leaf trichomes on predatory mite density and distribution in plant assemblages and implications for biological control. Biol. Con. 54:255-262.

Sarvary, M. A., J. Nyrop and H. Reissig. 2010. Effects of natural enemies and host plants in wild and orchard habitats on obliquebanded leafroller (Lepidoptera: Tortricidae) larval survival. Biological Control 55:110-117.

Agnello, A. M., A. Atanassov, J. C. Bergh, D. J. Biddinger, L. J. Gut, M. J. Haas, J. K. Harper, H. W. Hogmire, L. A. Hull, L. F. Kime, G. Krawczyk, P. S. McGhee, J. P. Nyrop, W. H. Reissig, P. W. Shearer, R. W. Straub, R. T. Villanueva, and J. F. Walgenbach 2009. Reduced-risk pest management programs for eastern U.S. apple and peach orchards: a 4-year regional project. Amer. Entomol. 55:184-197.

Lee, Doo-Hyung, Nyrop, J. P., Sanderson, J. P. 2009. Attraction of *Trialeurodes vaporariorum* and *Bemisia argentifolii* to eggplant, and its potential as a trap crop for whitefly management on greenhouse poinsettia. Entomol. Exp. Appl. 133: 105–116

Loughner R ; Goldman K ; Loeb G ; Nyrop J. 2008 Influence of leaf trichomes on predatory mite (*Typhlodromus pyri*) abundance in grape varieties. Experimental and Applied Acarology 45:111-122

Luczynski A, Nyrop JP, Shi A 2008 Pattern of female reproductive age classes in mass-reared populations of *Phytoseiulus persimilis* (Acari: Phytoseiidae) and its influence on population characteristics and quality of predators following cold storage. Biological Control. 47:159-166

Sarvary, M.A., Nyrop, J., Reissig, H. 2007. Assessment of three techniques for measuring natural enemy inflicted mortality of leafroller larvae in commercial orchards. Biological control. 41(3):312-320.

Sarvary, M. A., Nyrop, J. P., Reissig, H. and K. M. Gifford. 2007. Potential for conservation biological control of the obliquebanded leafroller (OBLR) *Choristoneura rosaceana* (Harris) in orchard systems managed with reduced-risk insecticides. Biological Control. 40:37-47.

Luczynski, A., Nyrop, J.P. and A. Sh. 2007.i Influence of cold storage on pupal development and mortality during storage and on post-storage performance of *Encarsia formosa* and *Eretmocerus eremicus* (Hymenoptera: Aphelinidae) Biological Control. 40:107-117

Reissig, H.; Sarvary, M.; Nyrop, J. 2007. Ecology and management of the obliquebanded leafroller, Choristoneura rosaceana, in New York apple orchards. IOBC-WPRS Bulletin. 30:61-66

Musser F. R., Nyrop J. P. and Shelton A. M. 2006 Integrating biological and chemical controls in decision making: European Corn Borer (Lepidoptera: Crambidae) control in sweet corn as an example. J. Econom. Entomol. 99:1538–1549.

Nault, B. A., Zhao, J. Z., Straub, R. W., Nyrop, J.P., and Hessney, M. L. 2006. Onion maggot (Diptera Anthomyiidae) resistance to chlorpyrifos in New York onion fields. J Econ Entomol. 99:1375-1380.

Nyrop, J. P. and Lakso, A. N. 2006. Modeling from a crop protection decision support perspective what is most important? Acta Hort. 707:187-195.

Renkema, J. M., Nyrop, J. P., Difonzo, C., Sears, M. K. and Schaafsma, A. W. 2006. Control decision rule for European chafer (Coleoptera Scarabaeidae) larvae in field corn. J. Econ. Entomol. 99:76-84.

Werling, B. P., J. P. Nyrop and B. Nault. 2006. Spatial and temporal patterns of onion adult activity and oviposition within onion fields that vary in bordering habitat. Entomol. Exp. Applicat. 118: 49–59