

# THOMAS MATTHEW JOHN DYKSTRA

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## EDUCATION

- 1997 *Ph.D., Entomology*  
University of Florida, Gainesville, Florida  
Dissertation: A Behavioral and Perceptual Study of Cat Flea Larvae,  
*Ctenocephalides felis*, and Their Responses to Various Stimuli
- 1994 *M.S., Entomology*  
University of Florida, Gainesville, Florida  
Thesis: Pheromonotropic Activity in the Abdominal Nerve Cord of the  
Tobacco Hornworm, *Manduca sexta*.
- 1990 *B.S., Entomology*  
Cornell University, Ithaca, NY  
Senior thesis: Purification of various cytochrome b<sub>5</sub> and P-450 enzymes in  
the housefly, *Musca domestica*, utilizing SDS-PAGE.
- 1986 *Regents H.S. Diploma*  
James E. Sperry High School, Henrietta, NY

## RESEARCH EXPERIENCE

- 1997-present **Laboratory Director-** Dykstra Laboratories, Inc.  
**Research:** Insect Olfaction, Behavioral and Chemical Ecology  
Bioelectromagnetics, Antenna Physics
- 1994-1997 **Doctoral Candidate-** University of Florida  
**Research:** Cat flea larva behavior
- 1990-1994 **Master's Candidate-** University of Florida  
**Research:** Moth neurobiology
- 1990 **Laboratory Technician-** Cornell University  
**Research:** Protein purification using SDS-PAGE
- 1989 **Laboratory Technician-** Cornell University  
**Research:** Host-parasite interactions

## TEACHING EXPERIENCE

- 2007-present      **Guest Lecturer, “*Insect Olfaction*”**  
GMS 6074- Comparative Neurobiology  
University of Florida
- 1999-present      **Laboratory Coordinator (guest), *Insect Neurobiology***  
GMS 6074- Comparative Neurobiology  
University of Florida
- 2002-2006      **Laboratory Coordinator (guest), *Insect Behavior***  
ENY 3005- Principles of Entomology  
University of Florida
- 1999      **Guest Lecturer, “*The Nervous System of Insects*”**  
GMS 6074- Comparative Neurobiology  
University of Florida
- 1992-1993      **Course Instructor**  
ENY 3005- Principles of Entomology  
University of Florida
- 1991-1992      **Guest Lecturer, “*The Nervous System*”**  
ENY 3005- Principles of Entomology  
University of Florida
- 1990-1992      **Laboratory Coordinator,**  
ENY 3005- Principles of Entomology  
University of Florida
- 1989      **Co-Laboratory Coordinator**  
ENTOM 212- Insect Biology  
Cornell University

## PRESENTATIONS

- 2010      **Insect Olfaction and the Electrostatic Effect**  
Annual Meeting of the Association for Chemoreception Sciences  
St. Petersburg, FL
- 2009      **Pheromone Deposition on Insect Sensilla- electrostatics**  
Annual Meeting of the Entomological Society of America  
Indianapolis, IN
- 2009      **Cat Flea Larvae (*Ctenocephalides felis*) Are Disrupted by Stray  
Electromagnetic Fields Emanating from Appliances**  
Annual Meeting of the Entomological Society of America  
Indianapolis, IN
- 2009      **Can Lepidopterans Smell Odors like Scientists Claim?**  
McGuire Center for Lepidoptera- invited lecture  
Gainesville, FL
- 2009      **Disproving the Current Theory of Insect Olfaction: temporal evidence**  
Society for Scientific Exploration Annual Meeting  
Charlottesville, VA

- 2009 **Movement of Pheromone inside Insect Olfactory Sensillae**  
Annual Meeting of the Association for Chemoreception Sciences  
Sarasota, FL
- 2008 **How Readily Does Pheromone Migrate within the Sensilla?**  
Annual Meeting of the Entomological Society of America  
Reno, NV
- 2008 **Protein Semiconductors in Relation to Insect Olfaction**  
Society for Scientific Exploration Annual Meeting, Boulder, CO
- 2008 **Can the Lock and Key Model Explain Insect Olfaction**  
Utah Valley University- invited lecture  
Orem, UT
- 2008 **Towards a Decoding of Insect Olfaction**  
Utah Valley University- invited lecture  
Orem, UT
- 2008 **Insects and Plant Brix**  
Southeastern Branch Meeting of the Entomological Society of America  
Jacksonville, FL
- 2007 **How Quickly Can Pheromones Enter an Insect Sensilla?**  
Annual Meeting of the Entomological Society of America  
San Diego, CA
- 2007 **Insects and Sick Plants**  
Society for Scientific Exploration Annual Meeting  
East Lansing, MI
- 2007 **Can Dielectric Antenna Theory Help Explain Insect Olfaction**  
Society for Scientific Exploration Annual Meeting  
East Lansing, MI
- 2007 **Movement of Pheromone into Insect Olfactory Sensillae**  
Annual Meeting of the Association for Chemoreception Sciences  
Sarasota, FL
- 2007 **Electromagnetic Fields Influence Behavior in Cat Flea Larvae**  
Southeastern Branch Meeting of the Entomological Society of America  
Knoxville, TN
- 2006 **Problems with the Current Theory of Insect Olfaction**  
Annual Meeting of the Entomological Society of America  
Minneapolis, MN
- 2006 **Problems with the Current Theory of Insect Olfaction**  
Southeastern Branch Meeting of the Entomological Society of America  
Wilmington, NC
- 2006 **Can Dielectric Antenna Theory Help Explain Insect Olfaction**  
Annual Meeting of the Association for Chemoreception Sciences  
Sarasota, FL
- 2005 **Formation of a Scientific Theory: lessons learned from insect olfaction**  
Society for Scientific Exploration Annual Meeting, Gainesville, FL
- 2004 **The Electromagnetic Hypothesis of Olfaction: a study of the mechanisms and an answer to the enantiomer debate**  
Society for Scientific Exploration Annual Meeting, Las Vegas, NV

- 2003 **Cat Flea Larvae, *Ctenocephalides felis*, Exhibit a Strong Taxis Response to a Human Stimulus**  
Annual Meeting of the Entomological Society of America  
Cincinnati, OH
- 2003 **How Effective are Stored Product Moth Traps?**  
Heat Treatment Workshop, Manhattan, KS
- 2002 **A Novel Trap for Stored Product Moths**  
Annual Meeting of the Entomological Society of America  
Fort Lauderdale, FL
- 2002 **The Electromagnetic Hypothesis of Olfaction**  
Society for Scientific Exploration Annual Meeting, Charlottesville, VA
- 2001 **Paramagnetism Roundtable- State of the Art**  
Panel discussion w/Philip S. Callahan, Ph.D., Malcolm Beck, Gary Wilson  
Acres USA National Conference, Minneapolis, MN
- 2000 **Anomalous Field Detection in Insects**  
Society for Scientific Exploration Annual Meeting  
London, Ontario CAN
- 1999 **Biological Antennae**  
Sponsored by Nikken, Inc., Titusville, FL
- 1999 **Paramagnetism and the Shatnez**  
Sponsored by Nikken, Inc., Titusville, FL
- 1998 **Battling Pests with Electromagnetics**  
Acres USA National Conference, Minneapolis, MN
- 1998 **Paramagnetism**  
Bioneers Annual Conference, San Francisco, CA
- 1997 **Fleas and Man: an attractive relationship**  
Knights of Columbus Meeting, Gainesville, FL
- 1994 **Least Toxic Pest Control of Fleas**  
SW Florida Professional Pest Control Operators and  
Florida Pest Control Association (4 diff. counties)
- 1994 **Beneficial Insects**  
Identification of Urban Pests seminar  
University of Florida, Gainesville, FL
- 1994 **General Insect Identification**  
Identification of Urban Pests seminar  
University of Florida, Gainesville, FL

## **EXTENSION EXPERIENCE**

- 2008 **Guest speaker at AChemS sponsored event regarding olfaction**  
G.Wiz- The Hands on Science Museum, Sarasota, FL
- 2007 **Guest speaker at grand opening of RoboBugs, the exhibit**  
Museum of Science and Discovery, Fort Lauderdale, FL
- 2005 **Professional Insect Report and Expert Testimony**  
For: Benjamin, Certain & Lomax, P.A., Orlando, FL



## **PUBLICATIONS**

- Dykstra, T.M. (2010) Insects and the Speed of Smell Problem. *Edge Science* 4:9-13.
- Dykstra, T.M. (2000) Can Insects Detect Biofields? *MISAHA newsletter*, 28-29:14-18.
- Dykstra, T.M. (2000) Paramagnetic Effects on Plant Growth. *Acres USA*, 30(9):20-21.
- Dykstra, T.M. (2000) Revised and updated 25<sup>th</sup> Anniversary of *Tuning in to Nature* by Philip S. Callahan, 240 pp, Acres USA. Originally published by Devin-Adair, Old Greenwich, CT
- Dykstra, T.M. (1997) A Behavioral Study of Cat Fleas, *Ctenocephalides felis*, and their response to various stimuli. Ph.D. Dissertation, University of Florida, 290 pp.
- Nation, J.L., B.J. Smittle, K. Milne, and T.M. Dykstra (1995) Influence of irradiation on development of Caribbean fruit fly (Diptera: Tephritidae) larvae. *Ann. Entomol. Soc. Am.* 88(3):348-352.
- Dykstra, T.M. (1995) Insect Identification. Chapter in: *Pests in and Around the Florida Home*. Publication # SP 134, Institute of Food and Agricultural Sciences, University of Florida
- Dykstra, T.M. (1994) Pheromonotropic activity in the abdominal nerve cord of the tobacco hornworm, *Manduca sexta*. M.S. Thesis, University of Florida, 80 pp.

## **NON-AUTHORED PUBLICATIONS**

- Grossman, J. (2004) Building a Better Moth Trap. *The World and I*, April issue. pp. 142-149.

## **CONFERENCES ORGANIZED**

- |      |  |
|------|--|
| 2005 | <b>Society for Scientific Exploration Annual Meeting</b><br>Gainesville, FL, May 18-21, 2005 |
| 1994 | <b>Identification of Urban Pests</b><br>Gainesville, FL, March 9-11, 1994                    |

## **PROFESSIONAL SOCIETY MEMBERSHIPS**

- |              |  |
|--------------|--|
| 2004-present | Association for Chemoreception Sciences        |
| 2005-2006    | International Association of Operative Millers |
| 1998-present | Bioelectromagnetics Society                    |
| 1998-present | Acres U.S.A.                                   |
| 1995-present | Entomological Society of America               |
| 1995-present | Society for Scientific Exploration             |

## HONORARY/AWARDS/ELECTED POSITIONS

2005-2008	<i>Secretary</i>	Society for Scientific Exploration
2005-2007	<i>Councilor</i>	Holy Faith Catholic Church
2004	<i>All-American</i>	US Masters Swimming
2000-present	<i>Adjunct Faculty Member</i>	Union College
2000-2001	<i>Councilor</i>	Society for Scientific Exploration
1997-1999	<i>Councilor</i>	Holy Faith Catholic Church

## PERSONAL INFORMATION

<b>Hometown</b>	Henrietta, New York (suburb of Rochester)
<b>Marital Status</b>	Married (Karen)
<b>Children</b>	Maximilian Kolbe Dykstra † Gregory Samuel Dykstra (2007) Benedict John Dykstra (2008)
<b>Country of Citizenship</b>	United States of America
<b>Religious Association</b>	Roman Catholic
<b>Sports</b>	Competitive Swimming
<b>Hobbies</b>	Pencil drawing/scientific illustration, reading