

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 research: Purification of various cytochrome b₅ 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, Paramagnetism,
Insect/Plant nutritional physiology
- 1994-1997 **Doctoral Candidate-** University of Florida
Research: Cat flea larva behavior, bioelectromagnetics
- 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

- 2012 **Lecturer (guest), “*The Business of Scientific Patents*”**
MAN 4723- Strategic Management
University of Florida
- 2007-present **Lecturer (guest), “*Insect Olfaction*”**
GMS 6074- Comparative and Evolutionary Neurobiology
University of Florida
- 1999-present **Laboratory Coordinator (guest), *Insect Neurobiology***
GMS 6074- Comparative and Evolutionary Neurobiology
University of Florida
- 2002-2006 **Laboratory Coordinator (guest), *Insect Behavior***
ENY 3005- Principles of Entomology
University of Florida
- 1999 **Lecturer (guest), “*The Nervous System of Insects*”**
GMS 6074- Comparative and Evolutionary 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

INVITED LECTURES

- 2017 **Farming Beyond the Textbooks**
Back to Your Roots Annual Growers Meeting, Saskatoon, SK, CAN
- 2016 **An Overview of Brix**
Electrical Conductivity in Soil
Gathering Energy
Back to Your Roots Annual Growers Meeting, Saskatoon, SK, CAN
- 2015 **Growing Citrus, Citrus Diseases, and Citrus Pests**
Soil Works LLC Annual Sales Meeting, Phoenix, AZ
- 2015 **Electrical Conductivity in Agriculture**
Soil Works Annual Grower’s Workshop, Yankton, SD
- 2015 **Electrical Conductivity in Agriculture**
Brix Chart- generalized markers
Back to Your Roots Annual Growers Meeting, Saskatoon, CAN

- 2015 **What Insects Tell Us About the Health of Our Soils**
Soil Health Symposium, Saint-Hyacinthe, Quebec, CAN
- 2014 **Why We Use Brix to Test Plants**
Plant Elevators: movement of plant sap
Heavy Metals- but not the big-hair bands
Soil Works Annual Sales Meeting, Scottsdale, AZ
- 2014 **Toward a New Bioelectromagnetic Theory of Insect Olfaction**
University of Florida-ECE seminar series, Gainesville, FL
- 2014 **Brix, Aiming For a Higher level of Sugar, and What Does That Mean?**
Soil Works Annual Grower's Workshop, Yankton, SD
- 2014 **Why Plant Feeding Insects Need Unhealthy Plants to Survive**
IFAO Conference, London, Ontario, CAN
- 2014 **Harnessing Earth's Electromagnetic Fields**
Bio-Ag Symposium, Spokane, WA
- 2014 **Introducing Brix to Farmers and Energy in Agriculture**
Back to Your Roots- Sales Meeting, Saskatoon, CAN
- 2013 **Energy in Agriculture**
Soil Works LLC Annual Sales Meeting, Colorado Springs, CO
- 2013 **Insects to Unhealthy Plants and Energy in Agriculture**
Uncle Matt's Organic, Clermont, FL
- 2013 **Insects to Unhealthy Plants**
Symbionature, St. Remi, Quebec, CAN
- 2013 **Energy in Agriculture**
Soil Works LLC Annual Spring Meeting, Yankton, SD
- 2013 **Insects to Unhealthy Plants**
Symbionature, Florida, NY
- 2013 **Insects to Unhealthy Plants**
Back to Your Roots Workshop, Regina, SK, CAN
- 2012 **The Business of Scientific Patents**
MAN 4723, "Strategic Management",
Warrington College of Business Administration, University of Florida
- 2012 **What Do Insects Like To Eat?**
"Soil Safari", Organized by Soil Works, LLC, Yankton, SD
- 2012 **Challenging Paradigms in Insect Olfaction: New Evidence**
Annual Conference of the Society for Scientific Exploration
Boulder, CO
- 2012 **Why Insects Do Not Eat Healthy Plants**
Soil Works, LLC, Annual Spring Meeting, Yankton, SD
- 2012 **Paramagnetism in Agriculture**
Back to Your Roots Workshop, Regina, SK, CAN
- 2012 **Insects Do Not Like Healthy Plants**
Back to Your Roots Workshop, Regina, SK, CAN
- 2011 **Insect Olfaction: Beyond the Textbooks**
Think Tank organized by Dr. Arden Andersen, Tampa, FL
- 2009 **Stem Cell Research: Adult vs. Embryonic**
CUF meeting organized by attorney Thomas Pernice

- 2009 **Can Lepidopterans Smell Odors like Scientists Claim?**
McGuire Center for Lepidoptera, Gainesville, FL
- 2008 **Can the Lock and Key Model Explain Insect Olfaction?**
Utah Valley University, Orem, UT
- 2008 **Towards a Decoding of Insect Olfaction**
Utah Valley University, Orem, UT
- 2005 **Formation of a Scientific Theory: lessons learned from insect olfaction**
Society for Scientific Exploration Annual Meeting, Gainesville, FL
- 2003 **How Effective are Stored Product Moth Traps?**
Heat Treatment Workshop, Manhattan, KS
- 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
- 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

PRESENTATIONS

- 2016 **Two Competing Theories of Insect Olfaction Must Both Be Rejected**
International Congress of Entomology
Orlando, FL
- 2011 **Interaction in the Sensillae between Pheromone Binding Proteins (PBPs) and the Dendritic Membrane**
Annual Meeting of the Entomological Society of America
Reno, NV
- 2010 **Insect Olfaction in Relation to Protein Diffusion Coefficients**
Annual Meeting of the Entomological Society of America
San Diego, CA
- 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 **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 **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
- 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
- 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
- 2000 **Anomalous Field Detection in Insects**
Society for Scientific Exploration Annual Meeting
London, Ontario CAN
- 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

SELECTED CONSULTING

- 2016 **Agricultural Consulting**
For: Iafrate Family of citrus growers, Dade City, FL
- 2016 **Entomological Consulting**
For: beetle infestation at local residence, Gainesville, FL
- 2014-present **Entomological Consulting**
For: Cole, Scott & Kissane, P.A., Jacksonville, FL
- 2014 **Bioelectromagnetic Consulting**
For: LifeWave, San Diego, CA
- 2013 **Entomological and Agricultural Consulting**
For: Symbionature USA
- 2012-present **Entomological, Agricultural, and Bioelectromagnetic Consulting**
For: Soil Works, LLC, Yankton, SD
- 2012-present **Entomological, Agricultural, and Bioelectromagnetic Consulting**
For: Back to Your Roots, Saskatchewan, CAN
- 2011-present **Entomological Consulting**
For: Uncle Matt's Organic., Clermont, FL
- 2005 **Professional Insect Report and Expert Testimony**
For: Benjamin, Certain & Lomax, P.A., Orlando, FL
- 1999-2000 **Professional Termite Reports and Expert Testimony**
For: Midlands Claim Administrators, Oklahoma City, OK

EXTENSION EXPERIENCE

- 2016 **Judge for local Science Fair**
Ocala homeschoolers, Queen of Peace Hall, Ocala, FL
- 2011 **Supervise cockroach dissection**
Requested by UF Neuroscience Club (15 students)
- 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
- 1998 **Making an Insect Collection**
Hansen Nature Center, Tinker Nature Park, Rochester, NY
- 1998 **Bugs, Beetles and Butterflies**
Hansen Nature Center, Tinker Nature Park, Rochester, NY
- 1998 **Business Representative**
Williston Middle School- Career Day, Williston, FL
- 1995 **Guest speaker**
Wayne Middle School, Wayne, NY, Presentations in Entomology
- 1995 **Tour Guide**
UF Entomology & Nematology Department
For: ARC- Association for Retarded Citizens,
- 1995 **Video Narrator and Co-Producer, *Beneficial Insects***
University of Florida Publication # SV 436
Institute of Food and Agricultural Sciences (IFAS)
- 1995 **Video Narrator and Co-Producer, *Mistaken Identities***
University of Florida Publication # SV 458
Institute of Food and Agricultural Sciences (IFAS)
- 1995 **Video Narrator and Co-Producer, *Structural Pests***
University of Florida Publication #SV (discontinued)
Institute of Food and Agricultural Sciences (IFAS)
- 1994 **Guest speaker**
Franklin Douglas Middle School, Rochester, NY
Entomology presentations
- 1994 **Guest Speaker**
UF Entomology & Nematology Department
Presentation followed by Q&A- 7th-8th grade visiting students
- 1994 **Re-certification Training Program**
SW Florida Professional Pest Control Operators and
Florida Pest Control Association (4 presentations)
- 1994 **Extension Entomologist**
Insect Identification Laboratory
University of Florida, Dept. Entomology & Nematology
- 1994-present **Entomological Presentations to local schools (as requested)**
- 1993 **Special invited presenter**
Entomology presentations, November 12, 1993
UF Museum of Natural History, 3rd-5th graders

PATENTS

- 2017 **Insect Trap with Reflective Interior Walls**
 U.S. Patent #9,775,334
- 2015 **Radiating Systems for Affecting Insect Behavior-2nd part (co-author)**
 U.S. Patent # 9,173,388
- 2015 **Radiating Systems for Affecting Insect Behavior (co-author)**
 U.S. Patent # 8,984,800
- 2014 **System for Trapping Insects**
 U.S. Patent # 8,893,428
- 2008 **Method and System for Dissipating and Amplifying Natural Emissions from a Resonant Cavity**
 Australian Patent #AU 2003210970 B2

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 25th 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.

INVITED BOOK REVIEWS

- 2009 *The Body Electric* by Robert Becker, M.D. and Gary Seldon (1985) *J. Sci. Explor.* 23(2):232-236. Request from the Society for Scientific Exploration on the occasion of Dr. Becker's passing.
- 2009 *The Body Electric* by Robert Becker, M.D. and Gary Seldon (1985) *Edge Science*, October 2009, pp. 13-14 (republished in abridged version)

NON-AUTHORED PUBLICATIONS

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

MANUSCRIPTS REVIEWED

2002 *Annals of the Entomological Society of America* (1)
2005 *Journal of Economic Entomology* (1)

TRADESHOW BOOTHS ATTENDED

2016 **Acres USA Conference and Tradeshow**
Representing Soil Works LLC
December 1-2, 2016, Omaha, NE

2013 **Citrus Expo Tradeshow**
Representing Preferred Source and Mycorrhizal Applications, Inc.
Products: various
August 14-15, 2013, Ft. Myers, FL

2011 **MOSES Annual Conference**
Representing Technology SG
Product: innTrap®
February 24-26, 2011, Lacrosse, WI

2010 **Entomological Society of America**
Representing Technology SG
Product: innTrap®
December 12-16, 2010, San Diego, CA

2010 **Acres USA Annual Conference**
Representing Technology SG
Product: innTrap®
December 9-11, 2010, Indianapolis, IN

CONFERENCES ORGANIZED

2012 **Society for Scientific Exploration Annual Conference**
Program Committee Chairman
Boulder, CO, June 20-23, 2012

2005 **Society for Scientific Exploration Annual Meeting**
Local Organizer, Program Committee member
Gainesville, FL, May 18-21, 2005

1994 **Identification of Urban Pests**
Local Organizer, Program Coordinator
University of Florida
Gainesville, FL, March 9-11, 1994

PROFESSIONAL SOCIETY MEMBERSHIPS

Society of Catholic Scientists	Association for Chemoreception Sciences
Bioelectromagnetics Society	Acres U.S.A.
Entomological Society of America	Society for Scientific Exploration

HONORARY/AWARDS/ELECTED POSITIONS

2016	<i>Best New Product for the ME market-agriculture</i>	AGRAME
2011-present	<i>Panel Judge (Industry member)</i>	Entomological Society of America- Biochemistry, Toxicology and Molecular
2005-2008	<i>Secretary</i>	Society for Scientific Exploration
2005-2007	<i>Councilor</i>	Holy Faith Catholic Church
2004	<i>All-American (4x)</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

Hometown	Henrietta, New York (suburb of Rochester)
Marital Status	Married (Karen)
Children	Maximilian Kolbe Dykstra † Gregory Samuel Dykstra (2007) Benedict John Dykstra (2008) Lydia Cecilia Dykstra (2010) Leo Albert Dykstra (2013) Teresa Gemma Dykstra (2015) Mary Rose Dykstra (2017)
Country of Citizenship	United States of America
Religious Association	Roman Catholic
Sports	Competitive Swimming, Volleyball
Hobbies	Reading, woodworking, watching movies pencil drawing/scientific illustration