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EDUCATION

Degrees:

University of Florida, Gainesville, FL
Ph.D. in Biochemistry and Molecular Biology **August 2006**
Dissertation: "Detailed Analysis of FMRFamide-Like Neuropeptides and Other Natural Products by NMR and Bioinformatics"

Oklahoma State University, Stillwater, OK
B.S. Biochemistry and Molecular Biology Cum Laude **May 2001**
Areas of Concentration: Molecular Biology, Protein Structure, Enzymology
Minors: Mathematics, Chemistry
Honors Thesis: "Exploration of Kinetics of Several Dehydrogenases Both in the Presence and Absence of Others and the Possibility of Physical Associations"

Workshops and Other Training:

"Write Winning Grant Proposals"; University of Florida, IFAS, March 19, 2012

Food + Health Entrepreneurship Academy; University of California Davis; Davis, CA; February 5-10, 2012.

SBIR Workshop; Florida Innovation Hub, University of Florida, Gainesville, FL; all day; October 20, **2011**.

Applying to the NIH SBIR Phase I Program for First-Time Applicants; Online from the National Council of Entrepreneurial Tech Transfer; 2-night sections; October 19-20, **2011**.

Workshop on Molecular Evolution; Woods Hole Oceanographic Institute, Marine Biology Laboratory, Woods Hole, MA; August **2004**.

Summer course work toward BS degree; Rose State College, Midwest City, OK; Summer **2000**.

POSITIONS HELD

Founder/President; Invertebrate Studies Institute; Athens, GA; June 2013 – PRESENT.

President, Founder and Owner; All Things Bugs; Athens, GA, USA; July 2011 – PRESENT.

Research Entomologist; United States Department of Agriculture (USDA), Agriculture Research Service (ARS), Gainesville, FL, USA; July 17, 2010 – July 17, 2012.

Postdoctoral Research Associate; Department of Biochemistry and Molecular Biology, College of Medicine, University of Florida, Gainesville, FL, USA; September 2006 – 2010.

HONORS AND AWARDS

- Editors' Choice Award for "Best Paper", Entomological Society of America **2010**
- International Society of Chemical Ecology (ISCE) Conference Travel Award **2008**
- NSF "Pan American Advanced Studies Institute" (PASI) Fellowship **2008**
- Jack L. Beal Award for "Best Paper by Young Investigator" in Journal of Natural Products **2007**
- Scholarship toward Tuition Awarded (Woods Hole MBL) **August 2005**

- Student Travel Award – Experimental Nuclear Magnetic Resonance Conference (ENC) **2004**
- Grinter Fellowship (UF) **2001-2004**
- Outstanding Senior Award from the Department of Biochemistry (OSU) **2001**
- Lew Wentz Foundation Research Project Fellowship (OSU) **2000-2001**
- Freshman Research Scholar's Program (OSU) **1996-1997**

GRANTS AND FUNDING

- United States Department of Agriculture. Small Business Innovation Research (SBIR); Phase II; **Dr. Aaron T. Dossey (Principal Investigator)**; Title: Reducing Cost, Improving Efficiency and Productivity of Farming Crickets as Food Ingredients; Funding amount: $600,000; Funding Period: September 1, 2016 – August 31, 2018.

- United States Department of Agriculture. Small Business Innovation Research (SBIR); Phase I; **Dr. Aaron T. Dossey (Principal Investigator)**; Title: Reducing Cost, Improving Efficiency and Safety of Farming Crickets as Food Ingredients; Funding amount: **$100,000**; Funding Period: July 1, 2015 – February 29, 2014.

- United States Department of Agriculture. Small Business Innovation Research (SBIR); Phase II; **Dr. Aaron T. Dossey (Principal Investigator)**; Title: Low Crawling Fruit: High Quality, Clean, Sustainable Protein Created From Insects; Funding amount: **$450,000**; Funding Period: September 1, 2014 – August 31, 2016.

- United States Department of Agriculture. Small Business Innovation Research (SBIR); Phase I; **Dr. Aaron T. Dossey (Principal Investigator)**; Title: Ready to Use Therapeutic Food Product to Alleviate Malnutrition in Children Using Insects; Funding amount: **$100,000**; Funding Period: July 1, 2013 – February 28, 2014.

- Bill & Melinda Gates Foundation; Grand Challenges Explorations; Round 7; Explore Nutrition for Healthy Growth of Infants and Children; Title: Good Bugs: Sustainable Food for Malnutrition in Children; **Dr. Aaron T. Dossey (Principal Investigator)**; Funding Amount: **$100,000** for 18 months; Funding Period: May 1, 2012 – October 31, 2013.

- Citrus Research Board; Project Title: Breaking citrus trade barriers using novel postharvest fumigations: high-concentration phosphine at low temperature (Horn method); Project Leader: Spencer S. Walse; Co-Investigators: Beth Grafton-Cardwell, Michael E. Rogers, **Aaron T. Dossey**; Funding Amount: **~$80,000**; Funding approved for second year of a three year project – **2009-2010**.

PATENTS

- **Aaron T. Dossey**, INSECT PRODUCTS AND METHODS OF MANUFACTURE AND USE THEREOF, U.S. Patent Application Number: 14/537,960; International Patent Application Number: PCT/US14/64920.

- **Aaron T. Dossey**, Spencer S. Walse, Oskar V. Conle, Arthur S. Edison, Susan Matthew, and Hendrik Luesch, Parectadial Compounds, Methods of Synthesis, and Methods of Use, Provisional Patent, Serial No. 60/909,827, UF-12486, April 3, 2007 – April 3, 2008.

PUBLICATIONS

Published and In Review:

- **BOOK: Aaron T. Dossey**, Juan A. Morales-Ramos and M. Guadelupe Rojas (Editors); (2016) *Insects as Sustainable Food Ingredients: Production, Processing and Food Applications*, Elsevier (Publisher), Academic Press, San Diego, 402 Pages, ISBN 9780128028568, http://dx.doi.org/10.1016/B978-0-12-802856-8.00001-6.

- **Aaron T. Dossey**, J. Tyler Tatum and Wendy Lu McGill, Modern Insect-Based Food Industry: Current Status, Insect Processing Technology, and Recommendations Moving Forward, In *Insects as Sustainable Food Ingredients: Production, Processing and Food Applications*, edited by Aaron T. Dossey, Juan A. Morales-Ramos and M. Guadalupe Rojas, Academic Press, San Diego, 2016, Pages 113-152, ISBN 9780128028568, http://dx.doi.org/10.1016/B978-0-12-802856-8.00005-3.

- Jocelyn G. Millar, Kenneth F. Haynes, **Aaron T. Dossey**, J. Steven McElfresh, Jeremy D. Allison, Sex Attractant Pheromone of the Luna Moth, *Actias luna* (Linnaeus), (2016). ***Journal of Chemical Ecology***, IN PRESS (Available online now). J Chem Ecol (2016). doi:10.1007/s10886-016-0751-6.

- Vijay C. Antharam , Daniel C. McEwen, Timothy J. Garrett, **Aaron T. Dossey**, Eric C. Li, Andrew N. Kozlov, Zhubene Mesbah, Gary P. Wang, An Integrated Metabolomic and Microbiome Analysis Identified Specific Gut Microbiota Associated with Fecal Cholesterol and Coprostanol in Clostridium difficile Infection, (2016), ***PLoS ONE*** 11(2): e0148824. doi: 10.1371/journal.pone.0148824.

- **Aaron T. Dossey**, Why Insects Should Be in Your Diet, (2013), ***The-Scientist***, *27*, 22-23. Accompanied by featured biography: Contributors.

- Marianne Shockley and **Aaron T. Dossey**; Insects for Human Consumption; (2014); In: Mass Production of Beneficial Organisms Invertebrates and Entomopathogens; Juan A. Morales-Ramos, M. Guadeluoe Rojas and David I. Shapiro-Ilan (Eds.); Chapter 18; pp.617-652.

- Andrea Choe*, Tatsuji Chuman*, Stephan H. von Reuss*, **Aaron T. Dossey***, Joshua Yim, Ramadan Ajredini, Adam A. Kolawa, Hans T. Alborn, Peter E. Teal, Frank C. Schroeder, Paul W. Sternberg, and Arthur S. Edison, Sex-specific mating pheromones in the nematode *Panagrellus redivivus*; ***Proceedings of the National Academy of Sciences***, *109*, (51), 20949-20954, (December 18, 2012).

- **Aaron T. Dossey**, John M. Whitaker, Maria Cristina A. Dancel, Robert Vander Meer, Ulrich R. Bernier, Marco Gottardo and William R. Roush, Defensive Spiroketals from *Asceles glaber* (Phasmatodea): Absolute Configuration and Effects on Ants and Mosquitoes, (2012), ***Journal of Chemical Ecology***, *38*, (9), 1105-1115, (September, 2012).

- Valerie C. Clark, Liva R. Harinantenaina, Martin Zeller, William Ronto, James Rocca, **Aaron Dossey**, Daniel Rakotondravony, David G. I. Kingston and Chris Shaw, An Endogenous Bile Acid and Dietary Sucrose from Skin Secretions of Alkaloid-Sequestering Poison Frogs, (2012), ***Journal of Natural Products***, *75*, (3), 473–478.

- Romano Dallai, David Mercati, Marco Gottard, **Aaron T. Dossey**, Ryuichiro Machida, Yuta Mashimo and Rolf G. Beutel, The male and female reproductive systems of *Zorotypus hubbardi*, Caudell 1918 (Zoraptera), (2012), ***Arthropod Structure and Development***, *41*, (4), 337-359, (March 23, 2012).

- Tiffany L. Weir, Scott Newbold, Jorge M. Vivanco, Megan van Haren, Christopher Fritchman, **Aaron T. Dossey**, Stefan Bartram, Wilhelm Boland, Eric G. Cosio, and Waltraud Kofer, Plant-Inhabiting Ant Utilizes Chemical Cues for Host Discrimination, (2011), ***Biotropica***, *44*, (2), 246-253. Article featured in ***ScienceDaily*** News online **May 12, 2011** and in the ***New York Times***.

- **Aaron T. Dossey**, Chemical Defenses of Insects: A Rich Resource for Chemical Biology in the Tropics, (2011) in *Chemical Biology of the Tropics: An Interdisciplinary Approach*, Jorge Vivanco and Tiffany Weir (Eds.), pp. 27-57, Springer, Heidelberg, Dordrecht, London, New York.

- Steven L. Robinette, Ramadan Ajredini, **Aaron T. Dossey** and Arthur S. Edison, Hierarchical Alignment and Full Resolution Pattern Recognition of 2D NMR Spectra: Application to Nematode Chemical Ecology, (2011), ***Analytical Chemistry***, *83*, (5), 1649–1657.

- **Aaron T. Dossey**, Insects and Their Chemical Weaponry: New Potential for Drug Discovery, (2010) Invited review in ***Natural Product Reports***, *27*, (12), 1737-1757. Article is also featured on the **cover of the December issue** of NPR in which this article appears.

- **Aaron T. Dossey** and Spencer S. Walse, USDA-ARS, Mortality and removal of Asian citrus psyllid, Diaphorina citri, on California fresh citrus during postharvest cleaning and packing, November 2010, (***Interagency report for USDA-APHIS***).

- H.R. 1545, Resolution: Expressing support for designation of the week beginning on the third Monday in September as `National Postdoc Appreciation Week', ***United States House of Representatives***, **Status: PASSED September 23, 2010** at 4:47 PM EST, Author: **Aaron T. Dossey** on behalf of the National Postdoctoral Association, Sponsor: Rep. Cliff Stearns (R-FL).

- **Aaron T. Dossey**, Marco Gottardo, John Whitaker, William R. Roush, and Arthur S. Edison, Alkyldimethylpyrazines in the Defensive Spray of *Phyllium westwoodii*: A First for Order Phasmatodea, (2009), ***Journal of Chemical Ecology***, *35*, (8), 861-870. This article also **featured on the cover** of the issue in which it appeared.

- Bing Wang, **Aaron T. Dossey**, Spencer S. Walse, Arthur S. Edison, and Kenneth M. Merz, Jr., Relative Configuration of Natural Products Using NMR Chemical Shifts, (2009), ***Journal of Natural Products***, *72*, (4), 709-713.

- Oskar V. Conle, Frank H. Hennemann, and **Aaron T. Dossey**, Survey of the Color Forms of the Southern Twostriped Walkingstick (Phasmatodea: Areolatae: Pseudophasmatidae: Pseudophasmatinae: Anisomorphini), With Notes on Its Range, Habitats, and Behaviors, (2009), ***Annals of the Entomological Society of America***, *102*, (2), 210-232. Featured on the **cover** of the **March, 2009 issue**. **Awarded "Editors' Choice Award" for best paper of 2009**.

- Fatma Kaplan, Dayakar V. Badri, Cherian Zachariah, Ramazan Adjerdini, Fransisco Sandoval, Sanja Roje, Lanfang Levine, Fengli Zhang, Steve Robinette, Hans Alborn, Wei Zhao, Jagan Srinivasan, Paul W. Sternberg, Mike Stadler, Rathika Nimalendran, **Aaron T. Dossey**, Rafael Brüschweiler, Jorge M. Vivanco, Arthur S. Edison, *Caenorhabditis elegans* Metabolomics: Bacterial Attraction and Quorum Sensing Inhibition, (2009), ***Journal of Chemical Ecology***, *35*, (8), 878-892.

- **Aaron T. Dossey**, Spencer S. Walse, and Arthur S. Edison, Developmental and Geographical Variation in the Chemical Defense of the Walkingstick Insect *Anisomorpha buprestoides*, (2008), ***Journal of Chemical Ecology***, *34*, (5), 584-590.

- **Aaron T. Dossey**, Spencer S. Walse, Oskar V. Conle, and Arthur S. Edison, Parectadial: A Novel Monoterpenoid from the Defensive Spray of *Parectatosoma mocquerysi*, (2007), ***Journal of Natural Products***, *70*, (8), 1335-1338.; Made **Hot Article** for ***Journal of Natural Products***; Featured in ***Chem Eng News***, Raychelle Burks, Insect's Venom Eyed For Cancer Defense: Walkingstick's novel monoterpene shows activity against tumor cells, Aug. 9, 2007, p. 44.; Selected for the 2007 Jack L. Beal Award for Best Paper in the Journal of Natural Products, American Chemical Society and American Society of Pharmacognosy.

- Fengli Zhang, **Aaron T. Dossey**, Cherian Zachariah, Arthur S. Edison, and Rafael Brüschweiler, Strategy for Automated Analysis of Dynamic Metabolic Mixtures by NMR. Application to an Insect Venom, (2007), ***Analytical Chemistry***, *79*, (20), 7748-7752.

- Michael P. McLeod, **Aaron T. Dossey**, and M. Khalique Ahmed, Application of attenuated total reflection infrared spectroscopy in the study of *Peruphasma schultei* defensive secretion, (2007) ***Spectroscopy***, *21*, (3), 169-176.

- Orin McMonogle and **Aaron T. Dossey**, Skeleton Stick, (2007), March Issue, ***Invertebrates Magazine***.

- **Aaron T. Dossey**, Spencer Walse, James R. Rocca, Arthur S. Edison, Single Insect NMR: A New **Tool** to Probe Chemical Biodiversity, (2006) ***ACS Chemical Biology***, *1*, (8), 512-514.; Featured on the **cover** of the **September 2006 issue**. Featured in ***Chem Eng News***, Ivan Amato, Individual Insects Make Signature Venoms: Walking stick study hints at chemical biodiversity in these insects, Sept. 25, 2006, p. 15.; **A. T. Dossey** featured in ***ACS Chemical Biology***, Introducing our Authors, (2006), *1*, (8), p. 473.

- **Aaron T. Dossey**, Vincenzina Reale, Heather Chatwin, Cherian Zachariah, Mario deBono, Peter D. Evans, and Arthur S. Edison, NMR Analysis of *C. elegans* FLP-18 Neuropeptides: Implications for NPR-1 Activation, (2006) ***Biochemistry***, 45, 7586-7597.

Submitted:

- None at the moment.

In Preparation:

- John M. Whitaker, Aaron T. Dossey, Marco Gottardo, Maria Cristina A. Dancel and William R. Roush, Synthesis of Defensive Spiroketals from the Stick Insect *Asceles glaber*, **In Preparation for the *Journal of Organic Chemistry*, (2012)**.

- **Aaron T. Dossey**, Marco Gottardo, Maria Christina A. Dancel, Ulrich R. Bernier and Robert K. Vander Meer, Sulcatone in the Chemical Defense Spray of *Lopaphus sphalerus* and its Effects on Ants and Mosquitoes, **In Preparation for the *Journal of Natural Products*, (2012)**.

- **Aaron T. Dossey** and Spencer S. Walse, Systems Based Evaluation of Citrus Packing House Treatment on Removal and Mortality of Asian Citrus Psyllid (*Diaphorina citri*), In Preparation for ***Postharvest Biology and Technology***, (**2012**).

SELECTED MEDIA AND PRESS

- Many press articles on my company All Things Bugs LLC: http://cricketpowder.com/news/
- **Dan Rather Reports:** "PhDon't"; March 5, 2013; AXS TV.
- **Forbes (Online):** "The Next New Miracle Superfood: Insects, Scientists Say"; July 11, 2014.
- **Food Navigator (Online):** "Process tweak yields a superior cricket protein, developer says"; February 12, 2014.

COLLABORATIONS

Current and Ongoing:

- **USDA-ARS**, Stoneville, MS; Drs. Juan Morales-Ramos and Guadalupe Rojas; Research in the area of insect mass rearing/production/farming for human food consumption, animal feed or other applications. We have submitted several grant applications and are continuing to collaborate in the interim.

- **Minnesota State University Moorhead;** Dr. Vijay Antharam (Department of Chemistry & Biochemistry); metabolomics of clinical human gut microflora samples. I provide chemistry (NMR, GC-MS, LC-MS, sample preparation) and experimental design expertise.

- **USDA-ARS**, Gainesville, FL; Dr. Ulrich R. Bernier; identifying natural products derived from insect chemical defenses and other sources with efficacy as mosquito repellents. I provide experience and expertise in sample preparation, target source species identification entomology, ecology, NMR spectroscopy and experimental design.

- **USDA-ARS**, Gainesville, FL; Dr. Robert K. Vander Meer; identifying natural products derived from insect chemical defenses and other sources with efficacy as fire ant repellents; I provide experience and expertise in sample preparation, target source species identification entomology, ecology, NMR spectroscopy and experimental design.

JOURNALS REVIEWED

- Journal of Natural Products – 2009-present.
- Journal of Chemical Ecology – 2007-present.

JOURNAL COVERS

- Journal of Natural Products, July-December 2011 issues.
- Natural Product Reports, December 2010 issue.
- Journal of Chemical Ecology, August 2009 issue.
- Annals of the Entomological Society of America, March 2009 issue.
- ACS Chemical Biology, September 2006 issue.

MEETINGS AND PRESENTED WORK

Oral Presentations:

- Florida Food and Nutrition Symposium (FANS); Florida Academy of Nutrition and Dietetics (FAND); July 27, 2016; Tampa Marriott Waterside Hotel and Marina; Tampa, FL, USA; ***PAID Invited*** Oral Presentation and Panel Discussion: “Protein: Market Potential, Sourcing and Quality Assessment”; A “New” Family of Sustainable Protein Food Ingredient Commodities from Insects; **Aaron T. Dossey**.

- Institute of Food Technologists (IFT) Annual Meeting & Food Expo; July 16-19, 2016; McCormick Place South, Chicago, IL, USA; Symposium Speaker; Roadblocks and Bumps on the Road to Insect Ingredient Commercialization; in the symposium titled "Edible Insects: Moving Beyond Sensationalism to Industrialization; **Aaron T. Dossey**.

- Eating Insects Detroit; May 26-28, 2016; Wayne State University; Detroit, MI, USA; Critical Concepts for the Insect Based Commodity Industry Including Processing; **Aaron T. Dossey**.

- Food Vision USA; October 27-29, 2015; The Drake Hotel, Chicago, IL, USA; **Invited** Participation in Expert Panel; **Aaron T. Dossey**.

- Supply Side West (SSW); October 5-9, 2015; Mandalay Bay Convention Center, Las Vegas, NV, USA; **Invited** Oral Presentation and Panel Discussion: “Protein: Market Potential, Sourcing and Quality Assessment”; Low Crawling Fruit: High-Quality, Healthy, Sustainable Protein Created From Crickets; **Aaron T. Dossey**.

- Institute of Food Technologists (IFT) Annual Meeting & Food Expo; July 16-20, 2015; McCormick Place South, Chicago, IL, USA; Symposium Speaker; Real Life Experiences: Developing Insect Based Ingredients and Processed Foods; **Aaron T. Dossey**.

- Institute of Food Technologists (IFT) Annual Meeting & Food Expo; July 11-14, 2014; New Orleans Morial Convention Center, New Orleans, LA, USA; Symposium Speaker; Low Crawling Fruit: Insects as the Clean Sustainable Protein of the Future; **Aaron T. Dossey**.

- Institute of Food Technologists (IFT) Annual Meeting & Food Expo; July 11-14, 2014; New Orleans Morial Convention Center, New Orleans, LA, USA; Symposium Speaker; Insect-Based Food Technology and Entrepreneurship as an Alternative Science Career; **Aaron T. Dossey**.

- **Entomological Society of America (ESA) 59th Annual Meeting**; November 13-16, 2011; Atlantis Resort and the Convention Center, Reno, NV, USA; Oral Research Presentation; Stick insect chemical defenses: Potential for Useful Chemistry (Order Phasmatodea); **Aaron T. Dossey**, Marco Gottardo, Robert Vander Meer, Ulrich R. Bernier, John Whitaker, Maritta Kunert, Wilhelm Boland and William Roush.

- **American Society of Pharmacognosy (ASP) and Phytochemical Society of North America**; **52nd Annual Meeting**; July 31, 2011; Paradise Point Resort & Spa, San Diego, CA, USA; Oral Contributed Talk; Insects and their Chemical Weaponry: Great Potential and New Discoveries from the Order Phasmatodea; **Aaron T. Dossey**, John M. Whitaker, Marco Gottardo, Robert K. Vander Meer, Ulrich R. Bernier, Maritta Kunert, Wilhelm Boland and William R. Roush.

- **Invited Seminar Presentation: University of Florida Department of Entomology and Nematology Seminar Series**; January 27, 2011; Gainesville, FL; Drugs from bugs: the vast unexplored reservoir of natural products from insects for medicinal and other applications; **Aaron T. Dossey**.

- **Entomological Society of America (ESA) 58th Annual Meeting**; December 12-15, 2010; Town and Country Hotel and Convention Center, San Diego, CA, USA; Oral Research Presentation; IPMIS Section: Physiology and Reproduction; Stick insect chemical biodiversity, biosynthesis and applications (Order Phasmatodea); **Aaron T. Dossey**, Marco Gottardo, John M. Whitaker, Robert Vander Meer, Ulrich R. Bernier, Maritta Kunert, Wilhelm Boland, and William R. Roush.

- **American Society of Pharmacognosy (ASP) and Phytochemical Society of North America**; **51st Annual Meeting**; July 11, 2010; Tradewinds, Island Grand Beach Resort, St. Petersburg Beach, FL, USA; Oral Research Presentation; New Discoveries in Stick Insect Chemical Biodiversity and Biosynthesis (Order Phasmatodea); **Aaron T. Dossey**, John M. Whitaker, Marco Gottardo, Robert Vander Meer, Maritta Kunert, William R. Roush, and Wilhelm Boland.

- **South East Regional Meeting of the American Chemical Society (SERMACS)**; October 21-24, 2009; San Juan, PR, USA; Oral Research Presentation; Insects and Chemical Ecology: Huge Potential for New Natural Product Discovery; **Aaron T. Dossey**.

- **National High Field Magnet Lab (NHFML)**; User Committee Annual Meeting; October 2, 2009; Tallahassee, FL, USA; Invited presentation representing external NHFML spectroscopy users of the University of Florida's Advanced Magnetic Resonance Imaging and Spectroscopy (AMRIS) facility; "Micro-Sample NMR and a Fruitful Application to Insect Chemistry: International Collaborations, Awards, Press, and Potential for Outreach"; **Aaron T. Dossey**.

- **American Society of Pharmacognosy (ASP)**; **50th Anniversary Annual Meeting**; June 30, 2009; Sheraton Waikiki, Honolulu, HI, USA; Oral Research Presentation; Walkingsticks as Models for Chemical Biodiversity and Biosynthesis (Order Phasmatodea); **Aaron T. Dossey** and Arthur S. Edison.

- Biomedical Sciences Grand Rounds; IDP (Interdisciplinary Program in Biomedical Sciences, University of Florida); Sept. 8, 2008, "**Medicines from Nature: More Common Than You Think**"; **Aaron T. Dossey**.

- **Pan-American Advanced Studies Institute (PASI): Interdisciplinary Studies in the Chemical Biology of the Tropics**; May 26 – June 5, 2008; Lima and Tambopata National Reserve, PERU; Lecture Presented, Workshop Participation, and **Invited Book Chapter**; "Milking them for all they're worth: Chemical Biology of Walkingsticks and Other Insects"; **Aaron T. Dossey**.

- **American Chemical Society (ACS) 82nd Annual Florida Meeting and Exposition FAME**; 2006; Orlando, FL; Oral presentation; "NMR Analysis of Defensive Spray from Individual Stick Insects (*Anisomorpha buprestoides*)"; **A. T. Dossey**, S. S. Walse, J. R. Rocca, and A. S. Edison.

Meetings Attended as a Participant:

- Institute of Food Technologists (IFT); Chicago, IL, USA; July 13-16, 2013; Annual Meeting and Food Expo; Invited attendance through the University of Nebraska.

- United Nations (UN), Food and Agriculture Organization (FAO); Lebanon Room (D209); Rome, Italy; January 23-25, 2012; "**Assessing the Potential of Insects as Food and Feed in assuring Food Security**"; **Invited participation**.

- **USA Science and Engineering Festival**; Washington DC, USA; October 24-25, 2010; **'Unsummit' on "Shifting the Effort/Reward Ration in Scinece"**; Hosted by Yamana Science and Technology.

Poster Presentations:

- **IV Congreso Latinoamericano de Aracnología y XLIX Congreso Nacional de la SME**; Sociedad Mexicana de Entomología; July 20-25, 2014; Centro cultural Universitario y Primitivo y Nacional de San Nicolás de Hidalgo Universidad Michoacana de San Nicolás de Hidalgo; Morelia, Michoacán; "LOS INSECTOS COMO UNA FUENTE DE PROTEINA LIMPIA Y SUSTENTABLE PARA EL FUTURO" (Low Crawling Fruit: Insects as the Clean Sustainable Protein of the Future); Aaron T. Dossey and Ingrid Raquel Méndez-Gutiérrez.

- **Grand Challenges | Explorations Agricultural Development (Round 8 & 9) and Nutrition (Round 7 & 8)**; Bill & Melinda Gates Foundation Campus; March 13-15, 2013; Seattle WA, USA; **Poster Session and Meeting**. "Good Bugs: Sustainable Food for Malnutrition in Children"; **Dr. Aaron T. Dossey**.

- **18th Annual C. Elegans Meeting**; The Genetics Society of America Conference Series; June 22-26, 2011; University of California, Los Angeles, CA; "Identification of ascr#1 as the female sex pheromone in the free-living nematode *Panagrellus redivivus*", (844C); Andrea Choe, **Aaron T. Dossey**, Tatsuji Chuman, Ramadan Ajredini, D. Kogan, H. Von Reuss, Frank Schroeder, Arthur S. Edison and Paul W. Sternberg.

- **18th Annual C. Elegans Meeting**; The Genetics Society of America Conference Series; June 22-26, 2011; University of California, Los Angeles, CA; "Identification of a New Ascaroside, Female Attracting Pheromone in *Panagrellus redivivus*"; (1232C) Tatsuji Chuman, **Aaron T. Dossey**, Ramadan Ajredini, Andrea Choe, Stephan von Reuss, Frank C. Schroeder, Paul W. Sternberg and Arthur S. Edison.

- **European C. elegans Neurobiology Meeting**; October 9-11, 2010; Fodele Beach, Crete; "Identification of Ascr1 as a Gender Specific Mate-finding Cue in the Free-living Nematode *Panagrellus redivivus*"; Andrea Choe, **Aaron T. Dossey**, Tatsuji Chuman, Ramadan Ajredini, Frank C. Schroeder, Arthur S. Edison and Paul W. Sternberg.

- **American Society of Pharmacognosy (ASP) and Phytochemical Society of North America**; **51st Annual Meeting**; July 11, 2010; Tradewinds, Island Grand Beach Resort, St. Petersburg Beach, FL, USA; "Chemical Communication in Nematodes: Identification of a *Panagrellus redivivus* Mating Pheromone", Tatsuji Chuman, Ramadan Ajredini, Hans Alborn, Andrea Choe, **Aaron T. Dossey**, Fatma Kaplan, Frank C. Schroeder, Paul W. Sternberg and Arthur S. Edison.

- **Southeastern Magnetic Resonance Conference (SEMRC)**; October 17-19, 2008; Florida State University (FSU), Tallahassee, FL; Poster Presented; "Walkingsticks as Models for Chemical Biodiversity and Biosynthesis (Order Phasmatodea)"; **Aaron T. Dossey** and Arthur S. Edison.

- **SEMRC**; October 17-19, 2008; FSU, Tallahassee, FL; Poster Presented; "Developmental and Environmental Metabolomics of *Caenorhabditis elegans*: Interactions Between Worms and Bacteria"; Fatma Kaplan, Dayakar Badri, Jagan Srinivasan, Cherian Zachariah, Ramazan Adjerdini, Hans Alborn, Fransisco Sandoval, Sanja Roje, Lanfang Levine, Fengli Zhang, Steve Robinette, Wei Zhao, Mike Stadler, Rathika Nimalendran, **Aaron T. Dossey**, Rafael Brüschweiler, Peter Teal, Paul W. Sternberg, Jorge Vivanco, Arthur S. Edison.

- **International Society of Chemical Ecology (ISCE)**; 25th Anniversary Meeting of ISCE; August 16-23, 2008; Penn State University, State College, PA; Poster Presented; "Walkingsticks as Models for Chemical Biodiversity and Biosynthesis (Order Phasmatodea)"; **Aaron T. Dossey** and Arthur S. Edison.

- **Experimental Nuclear Magnetic Resonance Conference (ENC)**; April 2008, Asilomar Conference Grounds, Pacific Grove, CA; Poster Presented; "Covariance NMR Metabolomics Web Portal"; Fengli Zhang; Steven L. Robinette; **Aaron T. Dossey**; Cherian Zachariah; Lei Bruschweiler-Li; Arthur S. Edison; Rafael Brüschweiler.

- **16th Annual *C. elegans* Meeting**; June 27 – July 1, 2007; Los Angeles, CA; Poster Presented; "Behavioral/Developmental Metabolomics: Isolation and Characterization of Mating Pheromones from *C. elegans*"; F. Kaplan, J. Srinivasan, R. Ajredini, C. Zachariah, H. Alborn, **A. T. Dossey**, M. Stadler, J. R. Rocca, P. W. Sternberg, P. Teal, A. S. Edison.

- **ENC**; April 2007; Daytona Beach, FL; Poster Presented; "The Isomers of Anisomorphal: A Model System for NMR and Computational Methods for Stereochemical Analysis"; **A. T. Dossey**, S. S. Walse, B. Wang, K. Merz, A. S. Edison.

- **ENC**; April 2007; Asilomar Conference Grounds, Pacific Grove, CA; Poster Presented; "NMR and Mixtures: New Developments for Natural Products and Metabolomics"; F. Zhang, R. Brüschweiler, F. Kaplan, C. Zachariah, K. Sippel, M. Stadler, **A. T. Dossey**, A. S. Edison.

- **SEMRC**; November 3-5, 2006; Gainesville, FL; Poster Presented; “Single Insect NMR: A New Tool to Probe Chemical Biodiversity”; **A. T. Dossey**, S. S. Walse, J. R. Rocca, A. S. Edison.

- **SEMRC**; November 3-5, 2006; Gainesville, FL; Poster Presented; “Identification and Characterization of Pheromones from *C. elegans*”; R. Ajredini, H. Alborn, R. Bruschweiler, **A. Dossey**, A. S.Edison, F. Kaplan, J. R. Rocca, M. Stadler, G. Tavera, P. Teal, C. Zachariah, F. Zhang, K. Sippel.

- **The Conference for Genomes, Evolution, and Bioinformatics**; 2006; Arizona State University, Tempe, AZ; Poster Presented; "Bioinformatic and Phylogenetic Analysis of the FMRFamide Like Multigene Neuropeptide Family in Phylum Nematoda"; **A. T. Dossey**, S. O. Sassi, E. L. Braun, S. A. Benner, and A. S. Edison.

- **University of Florida Bioinformatics Workshop**; 2005; Gainesville, FL; Poster Presented; "Comparative Study of Sequence, Chemical, and Functional Properties of FMRFamide-Like Neuropeptides and Their Precursor DNAs/Proteins in *Caenorhabditis elegans* and *C. briggsae*”; **Aaron T. Dossey** and Arthur S. Edison.

- **ENC**; 2004; Asilomar Conference Grounds, Pacific Grove, CA; Poster Presented; “Differential Activities Of NPR-1 Peptide Ligands are Regulated by Differences in Secondary Structures of the N-Termini”; **A. Dossey**, C. Zachariah, A. S. Edison, M. de Bono, and P. D. Evans.

- **ENC**; 2003; Savannah, GA; Poster Presented; “Optimization of the Production of the Extracellular Domain of the FMRFamide-Gated Sodium Channel for Structural Studies”; **Aaron T. Dossey**, Cherian Zachariah, and Arthur S. Edison.

- **33rd Annual Meeting of the Society of Neuroscience**; Nov. 8-12, 2003; New Orleans, LA; Poster Presented; “Differential Activities of NPR-1 Ligands are Regulated by Differences in Secondary Structures”; Edison, A. S.; **Dossey, A.**; Zachariah, C.; Reale, V.; Chatwin, H.; de Bono, M.; Evans, P. D.

- **32nd Annual Meeting of the Society of Neuroscience**; 2002; Orlando, FL; Poster Presented; “Preliminary Structural Characterization of FaNaCh Receptor and FMRFa Bound to FaNaCh.”; Edison, A. S.; Zachariah, C.; Thomas, S. G.; **Dossey, A. T.**

ACKNOWLEDGMENTS

- **Provided a photograph, technical advice and literature sources for:** Ahna G. Brutlag DVM/MS, Lynn R. Hovda RPH/DVM/MS/DACVIM, Michael A. Della Ripa DVM/DACVIM; Corneal ulceration in a dog following exposure to the defensive spray of awalkingstick insect (*Anisomorpha spp*.), *Journal of Veterinary Emergency and Critical Care*, ***21***, (4), 382-386.

- **Aided in early stages of project and method development for:** Jagan Srinivasan, Fatma Kaplan, Ramadan Ajredini, Cherian Zachariah, Hans T. Alborn, Peter E. A. Teal, Rabia U. Malik, Arthur S. Edison, Paul W. Sternberg, and Frank C. Schroeder, A blend of small molecules regulates both mating and development in *Caenorhabditis elegans*, *Nature Letters*, ***454***, 1115-1118.

- **Provided a photograph of *Anisomorpha buprestoides* for:** Gary R. Mullen, Lance A. Durden, Medical and veterinary entomology, Chapter 1, p. 7.

- **Provided authentic standards of insect defensive compounds and NMR data for:** Gunther Tschuch, Peter Lindemann, and Gerald Moritz, An Unexpected Mixture of Substances in the Defensive Secretions of the Tubuliferan Thrips, *Callococcithrips fuscipennis* (Moulton), (2008), *J Chem Ecol*, ***34***, (6), 742-747.

TEACHING EXPERIENCE

- Biomedical Sciences Grand Rounds; IDP (Interdisciplinary Program in Biomedical Sciences, University of Florida); Sept. 8, 2008, “Medicines from Nature: More Common Than You Think”.

- **Invited Lecture and Workshop given for**: **Pan-American Advanced Studies Institute (PASI): Interdisciplinary Studies in the Chemical Biology of the Tropics**; May 26 – June 5, 2008; Lima and Tambopata National Reserve, PERU; Lecture Presented, Workshop Participation, and **Invited Book Chapter**; "Milking them for all they're worth: Chemical Biology of Walkingsticks and Other Insects"; **Aaron T. Dossey**.

- Teaching Assistant for BCH 6745C: "Molecular Structure and Dynamics by NMR Spectroscopy", Department of Biochemistry and Molecular Biology, College of Medicine, University of Florida, Gainesville, FL; Fall, 2005

- Mentoring undergraduate students; Department of Biochemistry and Molecular Biology, College of Medicine, University of Florida, Gainesville, FL; 2003-present

MEMBERSHIPS

Sigma Xi	**2009-2011**
Entomological Society of America	**2008-2016**
American Association for the Advancement of Science (AAAS)	**2008-2013**
American Chemical Society (ACS)	**2008-2011**
International Society of Chemical Ecology (ISCE)	**2008-2011**
Phasmid Study Group (England, UK)	**2008-present**
Alachua County Democratic Executive Committee	**2008-2013**
Union of Concerned Scientists	**2008-2012**
Oklahoma State University Alumni Association	**2003-2011**

COMMUNITY INVOLVEMENT

- Gainesville Energy Advisory Committee (GEAC) **2007-2010**

OUTREACH AND EDUCATION

- Chief Organizer, **Entomology Section**; USA Science and Engineering Festival; via **Invertebrate Studies Institute** (Dr. Aaron T. Dossey, Founder); Walter E. Washington Convention Center, Washington DC; April 25 (VIP Sneak Peek) and 26-27, 2014.

- Chief Organizer, **Entomology Section**; USA Science and Engineering Festival; via **All Things Bugs** LLC (Aaron T. Dossey, Founder/Owner); Walter E. Washington Convention Center, Washington DC; April 27 (VIP Sneak Peek) and 28-29, 2012.

- **September 16-17, 2011**; Volunteer; **"Bugfest"**; Largest Insect themed event in the USA; Volunteer at 3 different sections teaching the public about 1) Arthropods in general, 2) Insects as human food and 3) Orthoptera/Phasmatodea/Mantodea; North Carolina Museum of Natural Sciences, Raleigh, NC.

- **September 23-24, 2011**; Participant, invited/paid; **"Insectival"**; Helped prepare food and set up displays for the "Insect Café", teaching people about insects as a sustainable food source; worked with Daniella Martin of "Girl Meets Bug" and Prof. Marianne Shockley (UGA Entomology); The State Botanical Gardens of Georgia; University of Georgia; Athens, GA.

- **2008**: Demonstrations of techniques in entomology and chemistry for local high school teachers; Gainesville, FL.

- **2003**: Educational demonstration using live and preserved insects; Prairie View Elementary School; Gainesville, FL.

RELATED EXPERIENCE

Southern Texas – Big Bend National Park and several state parks
Research Field Expedition – Collection and Study of the several stick insect species. **September 2009**
Collecting, photography, and observation expedition with one of the world's leading team of experts (Oskar V. Conle and Frank H. Hennemann from Germany) on stick insects. I applied for and obtained permits for the national and state parks, collected specimens for molecular phylogenetic analysis (DNA) and took photographs. I also applied for USDA live insect transport permits for this collaboration.
Gainesville and Ocala National Forest, Florida
Collaboration – *Anisomorpha buprestoides* – Nature Filming **October 2008**
Several days helping a BBC Natural History Unit filming crew take high-speed high-definition video of the defensive chemical spraying mechanism of *A. buprestoides* – film to appear on the BBC series "Life" in Fall, 2009.

California Institute of Technology
Training in Techniques – *Caenorhabditis elegans* – culture and experimental **Summer 2005**
Two week summer training in the lab of Prof. Paul Sternberg in *C. elegans* culture, worm transfer techniques, chemotaxis and other bioassays, worm video tracking, and general worm behavior observation.

South Florida, Florida Keys, and the Dry Tortugas
Research Field Expedition – Collection and Study of the walkingstick insect *Aplopus mayeri*. **Sept. 2007**
Research was conducted at, and permits obtained from, several state and national parks independently.

SCIENTIFIC INTERESTS

The central theme of my research is to capitalize on the chemical and biological diversity which exists among arthropods for a host of applications including drug discovery, identifying new insect repellents and how insects might contribute to a more sustainable human food supply.

Entomology – 1995 to Present
In addition to my research goals, I am very interested in utilizing arthropods in education, outreach and conservation efforts. To this end I hope one day to establish a public **insect zoo** coupled with a mass rearing and research facility. Arthropods are unique in their ability to inspire creativity and spark interest in people who are able to observe and learn about them. So far I have pursued my passion for insects through volunteer help rearing insects at OSU Insectary with Mike Doss, donating specimens for educational display at the OSU Entomology Museum curated by Don Arnold, and giving educational demonstrations for elementary school children. I have also independently maintained insect cultures for my own research in insect chemical biology. I am also an avid armature nature photographer with a special emphasis on insects. I continue to seek opportunities to interact with other entomologists and share my love and enthusiasm for insects and the natural world at any given opportunity.

Invertebrate Studies Institute - Entomology/Nematology
Founding and leadership of the Invertebrate Studies Institute (ISI); Running an Invertebrate Zoo through ISI (goal to be the largest live exotic insect collection in the US); Mentoring Undergraduate and Graduate students; Education and outreach activities focused on invertebrates, particularly insects; Collaboration on research projects in insect husbandry and insect chemical defense research, insect rearing and Entomophagy. I provide expertise on insect rearing, running an organization, acquisition of exotic insects from all over the world, plant rearing and insect feeds/foodplants, Chemistry, Biochemistry and general laboratory and greenhouse techniques.

Chemical Ecology – Natural Products Chemistry
The research program I began in 2006 emerged from my life-long passion for entomology and interest in understanding and utilizing the biochemical mechanisms that underlie natural processes. In that work I have been working on an exciting series of projects determining the chemical makeup of walkingstick insect (Order Phasmatodea) chemical defenses. Throughout this research I have independently conceived, designed, conducted, and managed each of the various projects involved. Additionally, I have maintained several national and international collaborations on these projects. My work has led to award winning publications as well as press articles and a number of speaking engagements at meetings and institutions. I am also interested in mechanisms of natural product biosynthesis, evolution of chemical defense, and ecological implications of chemical compounds produced by insects.

Entomophagy – Insects as a Sustainable Human Food Source
In addition to my interests in insect chemistry I also believe that there is substantial potential for insects to become the sustainable livestock of the future and to help combat world hunger and malnutrition. As the human population grows, it is ever more important to sustain rather than increase our levels of consumption and harvesting materials from the planet and its ecosphere. The United Nations expects the population to grow to more than 9 billion people by 2050, adding approximately twice the current population of China. Because of this, it is important to find ways to carry out our livelihoods which do not continue adding harmful materials to our environment, demolishing limited and ever dwindling habitat or abusing natural ecosystems or other valuable natural resources. The FAO estimates there are at least 1,000 species of edible insects in the world. Insects possess a number of features which make them attractive targets for exploration as a more sustainable food source. Projects: development of cricket powder, cricket flour, Griopro Cricket Powder www.cricketpowder.com .

REFERENCES

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Additional references available upon request.