

CURRICULUM VITAE



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Education Beyond High School

2008-2011 Ph.D. Entomology, Auburn University, U.S.A.
1999-2002 Master of Science, Kenyatta University, Kenya.
1996-1999 Bachelor of Science in Biochemistry and Zoology,
Kenyatta University, Kenya.

Employment

- April 2014-Present:** Postdoctoral Researcher, Department of Entomology and Plant Pathology, Auburn University, Auburn, Alabama.
- October 2013-April 2014:** Research Fellow, Department of Entomology and Plant Pathology, Auburn University, Auburn, Alabama.
- January 2013-September 2013:** Postdoctoral Researcher, Department of Entomology and Plant Pathology, Auburn University, Auburn, Alabama.
- October 2011-December 2012:** Postdoctoral Researcher, School of Biology, Georgia Institute of Technology, Atlanta, Georgia.
- January 2008-May 2011:** Graduate Research Assistant, Department of Entomology and Plant Pathology, Auburn University, Auburn, Alabama.
- May 2005-December 2007:** Research Assistant, Department of Plant Soil and Entomological Sciences, University of Idaho, Moscow, Idaho.
- March 2003-May 2005:** Research Assistant, Department of Food Sciences, Agricultural Research Organization, Israel.
- September 2002:** Consultant for the Review and Evaluation of the Achievements and Impact of ICIPE's IPM Programs with a Significant Social Science Input ICIPE, Nairobi, Kenya.
- August 1999-August 2002:** M.S. Graduate Student, Kenyatta University/ International Center of Insect Physiology and Ecology, Nairobi, Kenya.

Patents

- US Patent NO. 9,282,745 B2-Inoculants including *Bacillus simplex* for Inducing Production of Volatile Organic Compounds in Plants-Patent Issued March, 2016.
- US Patent NO. 8,445,255 B2-Inoculants including *Bacillus* Bacteria for Inducing Production of Volatile Organic Compounds in Plants-Patent Issued May, 2013.

Peer Reviewed Publications

- Ngumbi E. and Kloepper, J.W. (2016). Bacterial-mediated drought tolerance: Current and future prospects. **Applied Soil Ecology**. 105: 109-125.
- Ngumbi, E. and Fadamiro, H.Y. (2014). Comparative responses of four *Pseudacteon* phorid fly species to host fire ant alarm pheromone and analogs. **Chemoecology**. 25: 85-92.
- Sims, S.R., Balusu, R.R., Ngumbi, E.N. and Appel, A.G. (2014). Topical and vapor toxicity of saturated fatty acids to the german cockroach (Dictyoptera: Blattellidae) - **Journal of Economic Entomology** 107: 758-763.
- Ngumbi, E. and Fadamiro, H.Y. (2012). Species and sexual differences in behavioural responses of a specialist and generalist parasitoid species to host-related volatiles -**Bulletin of Entomological Research**. 102: 710-718.
- Ngumbi, E., Jordan, M., and Fadamiro, H.Y. (2012). Comparison of associative learning of host-related plant volatiles in two parasitoids with different degrees of host specificity, *Cotesia marginiventris* and *Microplitis croceipes*. **Chemoecology**. 22: 207-215.
- Ngumbi, E., Chen, L. and Fadamiro, H.Y. (2010). Electroantennogram (EAG) responses of *Microplitis croceipes* and *Cotesia marginiventris* and their lepidopteran hosts to a wide array of odor stimuli: Correlation between EAG response and degree of host specificity? **Journal of Insect Physiology**. 56: 1260–1268.
- Ngumbi, E., Chen, L. and Fadamiro, H.Y. (2009). Comparative GC-EAD responses of a specialist (*Microplitis croceipes*) and a generalist (*Cotesia marginiventris*) parasitoid to cotton volatiles induced by two caterpillar species. **Journal of Chemical Ecology**. 35: 1009-1020.
- Medina-Ortega, K.N., Bosque-Perez, N.A., Ngumbi, E., Jimenez-Martinez, E.S. and Eigenbrode, S.D. (2009). *Rhopalosiphum padi* (Hemiptera: Aphididae) responses to volatile cues from Barley yellow dwarf virus-infected wheat. **Environmental Entomology**. 38: 836-845.
- Ngumbi, E., Eigenbrode, S.D., Bosque-Perèz, N.A., Ding, H. and Rodriguez, A. (2007). *Myzus persicae* is arrested more by blends than by individual compounds elevated in headspace of PLRV-infected potato. **Journal of Chemical Ecology**. 33: 1733-1747.
- Kostyukovsky, M., Trostanetsky, A., Ngumbi, E., Zohar, D., Kitain, S., Naftaliyahu, U. and Melamed, Y. (2006). The sunn pest *Eurygaster integriceps* in Israel: harmfulness and control. In: Abstracts of presentations at the 24th congress of the Israeli entomological society, May 17, 2005 ARO, The Volcani Center, Bet Dagan, Israel. **Phytoparasitica**. 34: 380-400.

Ngumbi, E.N., Ngi-Song, A.J., Njagi, E.N., Torto, R., Wadhams, L.J., Birkett, M.A., Pickett, J.A., Overholt, W.A. and Torto, B. (2005). Responses of the stem borer larval endoparasitoid *Cotesia flavipes* (Hymenoptera: Braconidae) to plant derived synomones: laboratory and field cage experiments. **Biocontrol Science and Technology Journal**. 15: 271-279.

In Submission (Accepted, January 30, 2017)

Joseph, D.O., Zebelo, S., **Ngumbi, E.** and Fadamiro, H.Y. cis-Jasmone primes defense pathways in tomato via emission of volatile organic compounds and regulation of genes with consequences for *Spodoptera exigua* oviposition. Journal – **Arthropod-Plant Interactions**.

In Submission

Ngumbi, E., Spahn, R., Ferrara, L. and Kloepper, J.W. Screening for bacterial-mediated drought tolerance in maize. Journal - **Canadian Journal of Microbiology**.

Preparation (Manuscript Written. Being Reviewed by Co-Authors)

Zebelo, S., **Ngumbi, E.,** Nangle, K., Song, Y., Kloepper, J.W. and Fadamiro, H.Y. Plant growth-promoting rhizobacteria (PGPR) induce resistance in cotton plants against beet armyworm (*Spodoptera exigua*). Journal - **Plant Cell and Environment**.

Ngumbi, E. and Hay, M. Can optimal defense theory be used to predict defenses in younger versus older leaves of fresh water plants. Target Journal - **Ecology**.

Awards, Scholarships and Other Achievements

2017: Winner and Recipient, Emerging Sustainability Leaders Award. Award to be conferred in January 27, 2017, World Sustainability Forum, Cape Town, South Africa.

2017: Appointed to serve as an advisory board member for Development in Gardening.

2017: Selected as a Clinton Global University Initiative Commitment Mentor for Agriculture

2016: Appointed to serve as an advisory Board Member for Soils4Climate, Thetford, VT.

2016: Invited to participate in The White House meeting on Trauma-Informed Approaches in School: Supporting Girls of Color and Rethinking Discipline. September, 19, Washington, DC.

2016: Appointed to serve as a judge for The Science Ambassador Scholarship. The Winner receives full tuition coverage for up to four years.

2016: Outstanding Leadership Award, Association of Kenyan Diaspora Organizations Inc. June 25, Atlanta, GA.

2016: Invited to participate in The White House United State of Women Summit, June 14 & 15 Washington, DC.

2016: Invited to participate in the Inaugural World Food Prize Alabama Youth Institute, June 17, Tuskegee, Alabama.

- 2016:** Invited to Participate in the Inaugural International Entomology Leadership Summit, Orlando, Florida, Sept 27-28.
- 2016:** Invited to serve as a MasterCard Foundation Scholars Mentor.
- 2016:** Appointed by Entomological Society of America President to serve on Entomological Society of America Science Policy Committee for 2 years (2016-2018). My role will be to advise the Governing Board on policy priorities, oversee the policy statement development process, and to select ESA Science Policy Fellows.
- 2015:** Invited to participate in New Voices in the African Agricultural Sector, Aspen Institute Ideas Spark Incubator, moderated by Lisa Mensah, United States Department of Agriculture Tuesday, November, 10, 2015, Washington, DC.
- 2015:** Invited to participate in Aspen Institute Food Security Strategy Group Meeting, July 7-9, Milan, Italy.
- 2015:** Food Security Fellow, Aspen Institute, New Voices Fellowship.
- 2014:** Invited to serve as a Faculty Expert, 2014 World Food Prize Global Youth Institute, October, 18, 2014.
- 2014:** Selected to serve as a Judge, The Agricultural Innovation Prize, The University of Wisconsin-Madison, April, 25-26, 2014.
- 2014:** Invited to serve as a Judge, Entomological Society of America Student Activity Awards Panel.
- 2014:** Science Teacher, Restoring Inspiration through Science and Artistic Expression, Virginia Commonwealth University, July 14-18, 2014, Richmond, Virginia.
- 2014:** Invited to attend The Chicago Council on Global Affairs 2014 Global Food Security Symposium. Advancing Global Food Security in the Face of Weather Volatility and Climate Change, Washington, DC.
- 2014:** Selected to serve as a Clinton Global University Initiative Commitment Mentor, Agriculture Commitments.
- 2014:** Speaker, Clinton Global University Initiative Meeting. Building Your Team: Strengthening Organizational Leadership and Capacity Skills Session. March 21-23, Arizona State University.
- 2013:** Invited to serve as a Judge for The Agricultural Innovation Prize (AIP): AIP will Seek Student Innovations that will improve the National Food System. Top Four Teams will receive \$25,000 in Prize Money with a Grand Prize Winner Taking Home \$100,000 to Launch their Idea. Competition will Take Place at The University of Wisconsin-Madison, April 25-26, 2014.
- 2013:** Co-inventor (25%) for a US Patent NO. 8,445,255 B2-Inoculants including Bacillus Bacteria for Inducing Production of Volatile Organic Compounds in Plants-Patent Issued May, 2013.
- 2013:** Invited to attend The Chicago Council on Global Affairs 2013 Global Food Security Symposium 2013. Capitalizing on the Power of Science, Trade, and Business to End Hunger and Poverty, Washington, DC.
- 2013:** Distinguished Honoree, 4th Annual Awards Gala, Leaders Recognizing Leaders Inc., FL, USA.

- 2013:** Invited to Present the Opening Talk at the 2013 Annual Women’s Leadership Conference, Auburn.
- 2013:** Selected to serve as a Clinton Global University Initiative Commitment Mentor (Conservation and Ecology).
- 2013:** Invited as a Speaker for the Third Annual Conference of The International Alliance of Women Scientists and Scholars for a Better World to be held July 4-6, 2013, Netherlands.
- 2013:** Appointed to serve as an Advisory Board member for Pamoja Kenya Mentorship Alliance Inc.
- 2013:** Appointed to serve as an Advisory Board member for Just Save One Inc.
- 2013:** Appointed to serve as an advisory Board member for Youth ARISE initiative.
- 2013:** Selected to Serve in the Entomological Society of America Student Activity Award Panel that Decides the Winner of Student Activity Award.
- 2013:** Invited to serve as a Judge for President Clinton Global Hunger Leadership.
- 2012:** Invited to be a Reviewer for Forest Ecology and Management Journal.
- 2012:** Invited by Kenyan Embassy in DC to speak on mentoring the Youth to develop leadership Competencies in Kenya.
- 2012:** Invited by Auburn University to speak to incoming Fresh Women in Science Workshop.
- 2012:** Selected to Serve in the Entomological Society of America Student Activity Award Panel that Decides the Winner of Student Activity Award- Sponsored by Monsanto Company.
- 2012:** Invited by Kansas State University to Speak at The Kansas Hunger Dialogue Conference.
- 2012:** Invited by United Nations to attend a series of special briefings. UN Headquarters, New York City.
- 2011:** Faculty for the Future Fellow, Schlumberger Foundation.
- 2011:** Auburn’s University’s Distinguished Doctoral Outstanding Student.
- 2011:** Invited to be a Reviewer for Journal of Agricultural Science and Technology.
- 2011:** Invited to be a Reviewer for African Journal of Food, Agriculture, Nutrition and Development.
- 2011:** Selected to Serve in the Entomological Society of America Student Activity Award Panel that Decides the Winner of Student Activity Award- Sponsored by Monsanto Company.
- 2011:** Listed as 100 Women: The Unseen Powerful Women Who Change the World-One World Action.
- 2011:** Appointed to serve in the Advisory Board for Benedictine University Women’s Institute for Global Leadership, Naperville, IL.
- 2011:** Selected as a volunteer for Annual Clinton Global Initiative Meeting, New York City.
- 2011:** Founder, Young Thinkers Kenya, *Creative and Innovative Towards Sustainable Development.*

2011: Co-Founder, and Board of Directors, ReEnvision Your Future Team.

2011: Appointed to serve as Board of Directors for Caribbean Education Initiative, The Virgin Islands.

2011: Selected to attend Leading Edge Institute Dynamic Leadership Training, Judson, Alabama.

2011: Selected to attend 2011 Annual Meeting, Clinton Global University Initiative, UC San Diego.

2011: Co-Founder, WISE Partnerships in Kenya. Mentoring High School Students in Kenya.

2010: Winner, Student Debate against Penn State, Entomological Society of America Annual Meeting.

2010: Invited to be a Reviewer for PSYCHE Journal – Hindawi Publishing Corporation.

2010: Faculty for the Future Fellow, Schlumberger Foundation.

2010: Invited to Serve in 2011 Women’s Leadership Conference Planning Committee.

2010: Selected to Attend Professional Development Workshop-Sponsored by Monsanto Company.

2010: Travel Award by Clinton Global University Initiative.

2009: Winner, Student Debate, Against University of Florida, Entomological Society of America Annual Meeting.

2009: Finalist, President Clinton Global Hunger Leadership Award.

2009: Travel Award by the International Society of Chemical Ecology.

2009: The Calvin Jones Endowment Award.

2008: Graduate Student Assistantship, Auburn University.

2007: International Fellowship -American Association of University Women Educational Foundation.

2007: Gene and Marlene Easton PSES scholarship, University of Idaho.

2007: Future Leaders Scholarship-Association for International Agriculture and Rural Development.

2007: Distinction in Presentation, Graduate and Professional Student Association, University of Idaho.

2007: Senate Leadership Award -Graduate and Professional Student Association, University of Idaho.

2006: Senate Leadership Award- Graduate and Professional Student Association, University of Idaho.

2005: Research Assistantship- University of Idaho.

2003: State of Israel/Ministry of Agriculture Research Assistantship.

2002: State of Israel/Ministry of Agriculture (Center for International Cooperation) Scholarship.

1999: Scholarship by International Center of Insect Physiology and Ecology (ICIPE), DRIP Scholar.

1993: A Trophy for Being the Best Overall Top Performing Student- Matuga Girls High School, Kenya.

Participation in Training Programs and Other Meetings

2017: The New Voices, Aspen Institute Strategic Review Meeting, Washington, DC.

2016: The White House United State of Women Summit, Washington, DC.

2016: Kenya Diaspora Conference, Atlanta, GA.

2016: World Food Prize Alabama Youth Institute, Tuskegee, AL.

2016: Clinton Global University Initiative. UC Berkley.

2015: New Voices in the African Agricultural Sector, Aspen Institute Ideas Spark Incubator, Tuesday, November, 10, 2015, Washington DC.

2015: Aspen Institute Food Security Strategy Group Meeting, July 7-9, Milan, Italy.

2014: The 2014 World Food Prize and 2014 World Food Prize Global Youth Institute, October, 18, 2014, Des Moines, Iowa.

2014: The Chicago Council on Global Affairs 2014 Global Food Security Symposium. Advancing Global Food Security in the Face of Weather Volatility and Climate Change, May 22, 2014, Washington, DC.

2014: Global Food Security Consortium: Closing the Yield Gap, April 29-30, Ames, Iowa.

2014: The Agricultural Innovation Prize, The University of Wisconsin-Madison, April 25-26, 2014.

2014: Clinton Global University Initiative meeting, March 21-23, Arizona State University

2013: Incoming Fresh Women in Science Workshop, Auburn University, Women in Science and Engineering Institute.

2013: The Chicago Council on Global Affairs 2013 Global Food Security Symposium. Capitalizing on the Power of Science, Trade, and Business to End Hunger and Poverty, Washington, DC.

2013: Annual Women's Leadership Conference, Auburn University, Alabama.

2013: Clinton Global University Initiative Meeting, St. Louis, MO.

2012: Incoming Fresh Women in Science Workshop, Auburn University, Women in Science and Engineering Institute.

2012: The Chicago Council on Global Affairs Symposium on Global Agriculture and Food Security: Advancing Food and Nutrition Security at the 2012 G8 Summit.

2012: Kenya Diaspora Conference USA, 2012: Shaping the Destiny of Kenya.

2012: The Kansas Hunger Dialogue Conference, Kansas State University.

2011: Schlumberger Foundation Faculty for the Future Conference, October, 18-20, Boston, MA.

2011: Leading Edge Institute Dynamic Leadership Training, June, 13-19, Judson, Alabama.

2011: White House Community Leaders Briefing Series, December 9, White House. Washington, DC.

2011: Clinton Global Initiative Annual Meeting, September 20-22, New York City.

2011: Clinton Global University Initiative Annual Meeting, April, 1-3, UC San Diego.

2011: 5th Annual Women Leadership Conference, Auburn University.

2010: Annual Entomological Society of America Meeting, San Diego California.

2010: Women's Leadership Conference Planning Committee, Auburn University.

2010: Volunteer, South's BEST Annual Competition.

2010: Volunteer, Get under the Surface (GUTS) Outreach program, Auburn University.

2010: Women's Philanthropy Board 8th Annual Spring Symposium, April 26, Auburn University.

2010: Exploring Alternative Foods for World Hunger: The Potential of Edible Insects International Conference at SIFAT, April 23-24, SIFAT, Lineville, Alabama.

2010: Clinton Global University Initiative Annual Meeting, April, 16-18, University of Miami.

2010: 5th Annual War on Hunger summit, February, 26-28, 2010, Auburn University.

2009: 1st Annual Speaker Series and NW District Meeting, November, 14, Texas Tech University.

2009: 4th Annual War on Hunger summit, February, 26-28, 2009, Auburn University.

2009: 3rd Annual Women Leadership Conference, Auburn University.

2007: Workshop on Advancing Student Engagement. June 19-20, 2007, Moscow, Idaho.

2007: Future Leaders Forum and Annual Meeting for the Association for International Agriculture and Rural Development. June 3-7, 2007, Washington DC, U.S.A.

2007: Graduate Student's Expo Conference. April 11, 2007, University of Idaho.

2007: First Annual Latah County Forum on Food Security. March 24, 2007, University of Idaho.

2007: 2nd Annual War on Hunger Summit. February 23-25, Auburn University.

2006: Universities Fighting World Hunger Initiative conference. October 16, 2006, Georgetown University, Washington DC.

2006: Summit on Hunger and Food Insecurity in Idaho: Making a place at the Table for ALL Idahoans. October 27, 2006, Boise, Idaho.

2006: Graduate Student's Expo. April 12, 2006. University of Idaho, Moscow, Idaho.

- 2003:** International Conference on "Sustainable Agriculture and Food Security in the 21st Century: The Contribution of Plant Biotechnology". The Hebrew University of Jerusalem, Rehovot, Israel.
- 2002:** Workshop on the Review of ICIPE's Social Science Unit with a significant input in Integrated Pest Management. ICIPE, Nairobi.
- 2002:** Postgraduate Seminar. October 14-17, 2002, Kenyatta University, Nairobi, Kenya.
- 2000:** International conference on The Status and Advances in Biological Control of Cereal stem borers in the Eastern and Southern Africa, held at ICIPE, Nairobi, Kenya.
- 2000:** Workshop and Training on the Basic Techniques in GIS for IPM-ICIPE, Nairobi, Kenya.

International Training

- June 2002:** Research and Development in Integrated Biological Pest Management, State of Israel.
- October 2000:** Workshop on Basic Techniques in GIS for IPM, held at ICIPE, Nairobi, Kenya.

Professional Papers Presented in Conferences

- Ngumbi, E.N., Fadamiro, H.Y. and Kloepper, J.W.** Evaluating the effects of drought stress on cotton plant volatile emissions. Annual Entomological Society of America Meeting. November 15-18, Portland, Oregon. **2014.**
- Meghan, R., Ferrara, L., **Ngumbi, E.N.** and Kloepper, J.W. Evaluating the Direct Insect Effects of Plant Growth-Promoting Rhizobacteria. Research Week. April 14-17, Auburn, Alabama. **2014.**
- Ferrara, L., Meghan R., **Ngumbi, E.N.** and Kloepper, J.W. Inoculation of cotton plants with Plant Growth-promoting Rhizobacteria induces species-specific systemic resistance. Research Week. April 14-17, Auburn, Alabama. **2014.**
- Disi, J., Zebelo, S., **Ngumbi, E.N.** and Fadamiro, H. Y. Exogenous application of cis-jasmone influences emission of tomato plant and affects feeding performances of beet armyworm larvae, *Spodoptera exigua*. The Alabama Academy of Science Meeting. March 12-14, Auburn, Alabama. **2014.**
- Disi, J., Zebelo, S., **Ngumbi, E.N.** and Fadamiro, H. Y. Cis-jasmone inhibits lipoxygenase pathway and induces defense of tomato plant against chewing herbivore. South Eastern Branch of the Entomological Society of America Meeting. March 2-5, Greenville, South Carolina, **2014.**
- Ngumbi, E.N. and Fadamiro, H.Y.** Electroantennogram and behavioral responses of *Pseudacteon* phorid flies to alarm pheromone of fire ant, *Solenopsis invicta*. Annual Entomological Society of America Meeting. November 10-14, Austin, Texas. **2013.**
- Disi, J., Zebelo, S., **Ngumbi, E.N.** and Fadamiro, H. Y. Cis-jasmone and lipopolysaccharides (LPS) mediate direct and indirect defense in corn. Annual Entomological Society of America Meeting. November 10-14, Austin, Texas. **2013.**
- Ngumbi, E.N., Barden, S., Das, P.W. and Stephen, C.** Global climate will have a negative effect on arthropod diversity (con side). Annual Entomological Society of America Meeting. December, 12-15, San Diego, California. **2010.**

- Ngumbi, E.N.,** Kloepper, J.W. and Fadamiro, H.Y. Evaluating the potential of plant growth promoting rhizobacteria on the induction of volatile organic compounds (VOCs) in cotton. Annual Entomological Society of America Meeting. December, 12-15, San Diego, California. **2010.**
- Ngumbi, E.N. and Fadamiro, H.Y.** Comparing behavioral responses of a specialist (*Microplitis croceipes*) and generalist (*Cotesia marginiventris*) parasitoid to different types of host-related volatiles. South Eastern Branch of the Entomological Society of America Meeting. March, 7-10, Atlanta, Georgia. **2010.**
- Ngumbi, E.N. and Fadamiro, H.Y.** Comparing behavioral responses of a specialist (*Microplitis croceipes*) and a generalist (*Cotesia marginiventris*) parasitoid to different types of host-related volatiles. Annual Entomological Society of America Meeting. December, 13-16, Indianapolis, Indiana. **2009.**
- Ngumbi, E.N.,** Akotsen-Mensah, C., Das, P.W., Ratna, B. and Nafziger, T. Industry control of seed science biotechnology usage prevents research necessary to secure a safe food supply (Con side). Annual Entomological Society of America Meeting. December, 13-16, Indianapolis, Indianapolis, Indiana. **2009.**
- Jordan, M., **Ngumbi, E. N.** and Fadamiro, H.Y. Comparing associative learning and priming of response to host-related odor in a specialist and a generalist parasitoid. First International Entomophagous Insects Conference. July 27 – 31, Minneapolis, Minnesota. **2009.**
- Ngumbi, E.N.,** Chen, L., and Fadamiro, H.Y. Electrophysiological response of the specialist parasitoid, *Microplitis croceipes* to volatiles damaged by host (*Heliothis virescens*) versus non-host (*Spodoptera exigua*) caterpillars. South Eastern Branch of the Entomological Society of America Meeting. March, 8-11, Montgomery, Alabama. **2009.**
- Jordan, M., **Ngumbi, E.N.** and Fadamiro, H.Y. Associative learning and priming of behavioral response of parasitoids to host-related odor: do specialist and generalist parasitoids respond differently. South eastern branch of the Entomological Society of America Meeting. March, 8-11, Montgomery, Alabama. **2009.**
- Ngumbi, E.N.,** Chen, L. and Fadamiro, H.Y. GC-EAD responses of *Microplitis croceipes* to headspace volatiles from cotton plants damaged by host (*Heliothis virescens*) and non-host (*Spodoptera exigua*) caterpillars. Annual Entomological Society of America Meeting. November, 16-19, Reno, Nevada. **2008.**
- Ngumbi, E.N.,** Eigenbrode, S.D., Bosque-Perèz, N.A. and Ding, H. *Rhopalosiphum padi* responses to volatile organic compounds from *Barley yellow dwarf virus*-infected wheat plants. Annual Meeting of the Pacific Branch of the Entomological Society of America. March 25-28, Portland, Oregon. **2007.**
- Ngumbi, E.N.** A half-century of excellence in entomology at the University of Idaho. Annual Meeting of the Pacific Branch of the Entomological Society of America. March 25-28, Portland, Oregon. **2007.**
- Ngumbi, E.N.,** Ding, H., Rodriguez, A. Eigenbrode, S.D., Bosque-Perèz, N.A. and Mowry, T.M. Isolation and identification of volatile organic compounds that arrest the green peach aphid *Myzus persicae* to *Potato leafroll virus*-infected plants. Annual Meeting of the Entomological Society of America. December 10-13, Indianapolis, Indiana. **2006.**

Eigenbrode, S.D., **Ngumbi, E.N.**, Ding, H., Mowry, T.M., Rodriguez, A. and Werner, B. Annual Meeting of the Pacific Branch of the Entomological Society of America. Hawaii, U.S.A. **2006.**

Professional Papers Presented in International Conferences

Ngumbi, E.N. and Fadamiro, H.Y. Electroantennogram (EAG) and behavioral responses of a specialist (*Microplitis croceipes*) and generalist (*Cotesia marginiventris*) parasitoid to host-related volatiles. Research Week and International Conference. September 22-24, Egerton University, Kenya. **2010.**

Ngumbi, E.N., Chen L. and Fadamiro, H.Y. Comparative electrophysiological responses of a specialist (*Microplitis croceipes*) and generalist (*Cotesia marginiventris*) parasitoid to cotton volatiles induced by two caterpillar species. 25th Annual Meeting of the International Society of Chemical Ecology. August 23-27, Neuchâtel, Switzerland. **2009.**

Jordan, M., **Ngumbi, E. N.** and Fadamiro, H.Y. Comparing associative learning and priming of response to host-related odor in a specialist and a generalist parasitoid. First International Entomophagous Insects Conference. July 27 – 31, Minneapolis, Minnesota. **2009.**

Bosque-Pérez, N.A., Jiménez-Martínez E.S., Medina-Ortega, K.J., **Ngumbi, E.N.** and Eigenbrode, S.D.. Barley yellow dwarf epidemiology as influenced by aphid vectors and transgenic disease resistance. 9th International Congress of Plant Pathology. August 24-29, Turin, Italy, **2008.**

Ngumbi, E.N., Eigenbrode, S.D., Bosque-Perèz, N.A. and Ding, H. The 10th international plant virus epidemiology (IPVE) symposium themed controlling epidemics of emerging and established plant virus diseases - The way forward. ICRISAT, Hyderabad, India. **2007.**

Teaching/ Mentoring Undergraduate Students

Spring 2016: Mentoring undergraduate student Ryan Spahn and Laryssa Ferrara.

Summer/Fall 2015: Mentoring undergraduate student Ryan Spahn and Laryssa Ferrara.

Spring 2015: Mentoring undergraduate students Laryssa Ferrara, Ryan Spahn, and Heather Gosse

Fall 2014: Mentoring undergraduate student Laryssa Ferrara.

Summer 2014: Mentored undergraduate student Laryssa Ferrara.

Fall 2013: Guest Lecture, Economic Entomology.

Fall and Spring 2013: Mentored and supervised graduate students namely Olufemi Ajayi, and Joe Disi, and undergraduate students, Meghan Reid and Laryssa Ferrara.

Fall 2011 and Spring 2012: Mentored and supervised undergraduate student, John F. Nahabedian III. Research done:-Ecological implications and identification of a freshwater red alga chemical defense was presented as a honors thesis in the school of Biology, Georgia Institute of Technology. John is currently a Scientist at Center for Disease Control (CDC), Atlanta, GA.

Spring 2009: Taught Economic Entomology Undergraduate Course ENTM 4020, Auburn University.

Spring 2009: Guest Lecture to Hunger Minor Class-College of Human Sciences, Auburn University.

Fall 2008-2009: Mentored three women undergraduate students who are underrepresented minority students namely, Maggie Jordan, Jennea Ollie, and Wykitta Johnson. Research results from some of the projects I supervised were presented at National and International Meetings (Jordan et al., 2009) and a publication has been accepted for publication-Chemoecology Journal (Ngumbi, E.N., Jordan, M. and Fadamiro, H.Y. 2012). Maggie Jordan, is pursuing her Master's Degree at Colorado State University.

Professional Memberships

1. Entomological Society of America (ESA).
2. American Association of University Women (AAUW).
3. Phi Sigma XI Honor Society.
4. Gamma Sigma Delta, the Honor Society of Agriculture.
5. Black Entomologists (BE).
6. Universities Fighting World Hunger.

Invited Guest Speaker Talks

2016: Speaker, Kenya Diaspora Conference, Atlanta, GA.

2016: Speaker, Aspen Institute New Voices 2016 Cohort, South Africa.

2016: Speaker, Freshman Leadership Challenge Fellows, Auburn University.

2016: Speaker, College of Pharmacy, Auburn University.

2015: Speaker, Forest Trends Board Meeting, Washington, DC.

2015: Speaker, Aspen Institute Board Meeting, Washington, DC.

2015: Speaker, Aspen Ideas Festival, Aspen, Colorado.

2014: Speaker, The George Washington University, School of Engineering and Applied Science.

2014: Speaker, Auburn for Water Chapter, Auburn University.

2014: Speaker, Freshman Leadership Challenge Fellows, Auburn University.

2014: Speaker, Clinton Global University Initiative Meeting, Arizona State University.

2013: Speaker, UAH Women Studies Department, University of Alabama, Huntsville.

2013: Speaker, Incoming Fresh Women in Science Workshop, Auburn University.

2013: Speaker, Leadership Challenge Workshop, Auburn University.

2013: Speaker, American Association of University Women National Convention, New Orleans.

2013: Speaker, 2013 Third Annual Conference of The International Alliance of Women Scientists and Scholars for a Better World to be held July 4-6, 2013, Netherlands.

2013: Speaker, 2013 Women's Leadership Conference, Auburn University.

2012: Speaker, Incoming Fresh Women in Science Workshop, Auburn University.

2012: Speaker, Kenya Diaspora Conference USA, 2012: Shaping the Destiny of Kenya.

2012: Speaker, the Kansas Hunger Dialogue Conference, Kansas State University.

2011: Speaker, Women's Leadership Breakfast Meeting, September, 2011, Auburn University.

2010: Speaker, Harrison School of Pharmacy, October 8, 2010, Auburn University.

2010: Speaker and Panelist, Earth Day, April, 22, 2010, Auburn University.

2009: 1st Annual Speaker Series and NW District Meeting, November, 14, 2009, Texas Tech University.

2008: 2nd Annual Auburn Women's Leadership Conference, March 12, 2008.

2007: North Carolina State University Annual Fall Ethics Event, November, 12, 2007, North Carolina.

2007: Annual Oxfam Hunger Banquet Event, November, 6, 2007, University of Idaho.

2007: University of Idaho Project Hunger: Fashion with a Cause Event, April, 21, 2007.

2007: Student presenter - 2nd Annual War on Hunger Summit. February 23-25, Auburn University.

Programs Initiated

- OYESKA GREENS: Empowering Africa's smallholder Farmers. <http://www.oyeskagreens.com/>
- Spring Break Kenya: Become the change that you want to be. <http://www.springbreakkenya.com/>
- Fruits of Faulu <https://cws.auburn.edu/WISE/cm/programs>

Community and Outreach Service

2016: Volunteer, Mentor for Clinton Global University for Agriculture Commitments.

2016: Volunteer, Mentor for MasterCard Foundation Scholars.

2015: Volunteer, President Obama's Young African Leaders Initiative East Africa Mentor.

2015: Volunteer, Mentor for Clinton Global University Initiative.

2014: Volunteer, Representing College of Agriculture at The Student Government Association Undergraduate Research Fair, Auburn University, October 29, 2014.

2014: Volunteer, College of Agriculture, Ag Roundup and Taste of Alabama Agriculture, September 27, 2014.

2014: Volunteer, Clinton Global University Initiative, Arizona State University, Arizona, March 23, 2014.

2013: Volunteer, Showcasing Entomology in Action to Elementary school Children, Auburn University, October, 2013.

2013: Volunteer, Teaching Entomology to Elementary school Children attending Science Matters Science Camp, Auburn University, July, 19, 2013.

2013: Volunteer, Gateway STEM High School, April 7, 2013, St. Louis, MO.

- 2011:** Volunteer, Teaching Entomology to Elementary School Children at Chewakla Park, Alabama.
- 2011:** Volunteer, Habitat for Humanity, Greensboro, Alabama, June 18, 2011.
- 2011:** Volunteer, San Diego Food Bank, April 3, 2011.
- 2010:** Volunteer, South's Best Robotics Program held at Auburn University, November 18-20, 2010.
- 2010:** Presentation about excelling in academia and scholarship opportunities at the USA to 70 undergraduate and post students at Egerton, University, Kenya, (September, 2010).
- 2010:** Presentation about excelling in school, pursuing ones dreams till they become a reality to over 120 students at Mwambalazi High School, Kikoneni, Kenya (September, 2010).
- 2010:** Presentation about excelling in school, pursuing ones dreams till they become a reality to over 300 students at Franz Josef Secondary School, Mamba, Kenya (September, 2010).
- 2010:** Volunteer, College of Science and Mathematics, Getting Under the Surface Outreach Program.
- 2009:** Presentation about Insects to 100 First Grade Kids at Jeter Elementary School, Opelika-Auburn.
- 2009:** Coordination of Volunteers at the East Alabama Food Bank Community Garden.
- 2008:** Presentation about Insects to 4th Grade Kids at Morris Avenue Intermediate School, Opelika.
- 2007:** Initiated a Sustainable Campus Move-Out Program at the University of Idaho campus. All items collected are distributed to local food banks.
- 2007:** Initiated University of Idaho Food Recovery Initiative-Recovered 4000 Ibs of food of food donated to Local Food Banks.
- 2007.** Project Hunger: Fashion with a Cause – Helped raise money donated to World Food Program.
- 2007:** Volunteer, Nazarene Food Bank. May, 28, 2007- to August, 21, 2007.

Opinion Pieces 2015

1. **The Guardian**: Responding to the Article If Dreamers Loose
<http://www.theguardian.com/environment/2015/mar/17/ways-to-tackle-climate-change>
2. **Scientific American**-Turning to Bacteria to Fight the Effects of Climate Change
<http://blogs.scientificamerican.com/guest-blog/turning-to-bacteria-to-fight-the-effects-of-climate-change/>
3. **The Hill**: U.S Global nutrition plan should bring nutrition back to earth
<http://thehill.com/blogs/congress-blog/foreign-policy/240573-us-global-nutrition-plan-should-bring-nutrition-back-to>
4. **Thomson Reuters Foundation**: Can Africa's Urban Farms go Vertical?
<http://www.trust.org/item/20150521041513-pm4gj/%C3%82>

5. **Food Tank:** Africa's Agricultural Revolution will be more Silicon Valley than Rift Valley- <http://foodtank.com/news/2015/07/africas-agricultural-revolution-will-be-more-silicon-valley-than-rift-valle>
6. **The Christian Science Monitor** -Could youth interest in agriculture boost Africa's economy? <http://www.csmonitor.com/Business/The-Bite/2015/0713/Could-youth-interest-in-agriculture-boost-Africa-s-economy>
7. **World Policy Blog:** Empowering Farmers on the Kenyan Coast- <http://www.worldpolicy.org/blog/2015/07/21/empowering-farmers-kenyan-coast>
8. **This is Africa:** New tech seeds Africa's agricultural revolution – <http://www.thisisafrikaonline.com/ftauthor/view/Esther+Ngumbi>
9. **The Aspen Journal of Ideas:** Taking smallholder farmers commercial, step by step <http://aspen.us/journal/editions/novemberdecember-2015/taking-smallholder-farmers-commercial-step-step>
10. **The Conversation:** How understanding microbes can help farmers manage Africa's soil crisis- The Conversation <https://theconversation.com/how-understanding-microbes-can-help-farmers-manage-africas-soil-crisis-50469>
11. **NPR:** Dear U.N., Why Is It Mainly A Man's World At The Climate Conference? <http://www.npr.org/sections/goatsandsoda/2015/12/10/459204448/dear-u-n-why-is-it-mainly-a-mans-world-at-the-climate-conference>
12. **World Policy Blog:** The Climate African Farmers Counted On Is Gone. <http://www.worldpolicy.org/blog/2015/12/15/climate-african-farmers-counted-gone>
13. **CNN:** Women, it's time to get rid of "manels" <http://www.cnn.com/2015/12/31/opinions/ngumbi-dsilva-women-in-panels/>

Opinion Pieces 2016

1. **The Huffington Post:** Sixteen reasons to campaign for women's rights in 2016 http://www.huffingtonpost.com/aspen-new-voices-fellowship/sixteen-reasons-to-campai_b_9158138.html
2. **The Good Men Project:** Men: It's Time to Take a Personal Stand <https://goodmenproject.com/featured-content/men-its-time-to-take-a-personal-stand-wcz/>
3. **This is Africa:** Ending gender discrimination in land ownership <http://www.thisisafrikaonline.com/News/Ending-gender-discrimination-in-land-ownership?ct=true>
4. **Los Angeles Times:** African farmers need the tools and technology to adapt to a changing climate <http://www.latimes.com/world/global-development/la-fg-global-african-farmers-oped-story.html>
5. **Chicago Council on Global Affairs:** Helping African youth find opportunity in a changing climate <https://www.thechicagocouncil.org/blog/global-food-thought/helping-africas-youth-find-opportunity-changing-climate>
6. **TIME Magazine:** How dirt can help solve climate change <http://time.com/4338546/dirt-solve-climate-change/>

7. **Mail & Guardian:** African farmers should think local
<http://mg.co.za/article/2016-04-27-african-farmers-should-think-local>
8. **Thomson Reuters Foundation:** For a greener Green Revolution, restore soil health in Africa
<http://news.trust.org/item/20160614065602-osduy/>
9. **This is Africa:** Farming's bottleneck: Youth credit
<http://www.thisisafricaonline.com/Development/Farming-s-bottleneck-Youth-credit>
10. **Medium:** Girls can be Presidents-It begins with education.
<https://medium.com/@EstherNgumbi/girls-can-be-presidents-it-begins-with-education-2ecd41dfd6e7#.nrk305k19>
11. **Medium:** The United State of Women Summit: Girls at the Center: Understanding Obstacles and Exploring Solutions <https://medium.com/@EstherNgumbi/the-united-state-of-women-summit-girls-at-the-center-understanding-obstacles-and-exploring-91fc01d71039#.je39r9k9s>
12. **World Pulse:** Three policy items women in leadership should undertake to improve women's status globally <https://www.worldpulse.com/en/community/users/safecity/posts/69193>
13. **The Conversation:** Africa needs to move faster to deliver life-saving soil science solutions <https://theconversation.com/africa-needs-to-move-faster-to-deliver-life-saving-soil-science-solutions-64757>
14. **BusinessDay Live:** Microbial products hold promise to up crop yields.
<http://www.bdlive.co.za/opinion/2016/09/08/microbial-products-hold-promise-to-up-crop-yields>
15. **Inter Press Service:** To effectively combat climate change, involve women
<http://www.ipsnews.net/2016/09/to-effectively-combat-climate-change-involve-women/>
16. **Farming First:** Driving agricultural innovation at the Kenyan Coast.
<https://farmingfirst.org/2016/09/esther-ngumbi-driving-agricultural-innovation-at-the-kenyan-coast/>
17. **Medium:** White House champions of change celebrations: Extracurricular enrichment for marginalized girls. <https://medium.com/@EstherNgumbi/white-house-champions-of-change-celebrations-extracurricular-enrichment-for-marginalized-girls-2df222490883#.8sos4d6vx>
18. **Medium:** World Food Day Celebrations - <https://medium.com/@EstherNgumbi/world-food-day-celebrations-e5e556e14fc7#.b9xmwn71o>
19. **SciDev.Net:** Time is ripe to predict drought to help African farmers. <http://www.scidev.net/sub-saharan-africa/disasters/opinion/predict-drought-help-african-farmers.html>
20. **Medium:** A statement in support of United Nations World Soil Day-December 5, 2016.
<https://medium.com/@EstherNgumbi/a-statement-in-support-of-united-nations-world-soil-day-december-5-2016-1982cb672114#.3bvixqoo7>
21. **SciDev.Net:** Invest in African research and citizen science. <http://www.scidev.net/global/r-d/opinion/fund-african-research-citizen-science.html>

Opinion Pieces 2017

1. **All Africa:** To discover Africa's biodiversity, look to the soil.

<http://allafrica.com/stories/201701130469.html>

2. **The Conversation:** Why microbes are key to solving Africa's food security crisis.

<https://theconversation.com/why-microbes-are-key-to-solving-africas-food-security-crisis-71719>

3. **Aljazeera:** How to tackle repetitive droughts in the Horn of Africa

<http://www.aljazeera.com/indepth/opinion/2017/02/tackle-repetitive-droughts-horn-africa-170214090108648.html>

4. **World Policy Blog:** Continuing the wins in soil health restoration in Africa

<http://www.worldpolicy.org/blog/2017/02/14/continuing-wins-soil-health-restoration-africa>

Public Impact (Press Coverage)

Auburn alumna receives international award: Opelika Auburn News:

http://www.oanow.com/news/auburn-agriculture-alumna-receives-international-award/article_6ce2adba-ecaa-11e6-b4b3-77c9714ec0b1.html

Auburn University College of Agriculture: Small farm, huge honor

<http://agriculture.auburn.edu/news/small-farm-huge-honor/>

Levers in Heels: New Voices Fellow, Esther Ngumbi: Education is the Gateway to Ending Poverty:

<http://leversinheels.com/featured/new-voices-fellow-esther-ngumbi-education-is-the-gateway-to-ending-poverty/#.V9huRzVvmVM>

Soil4Climate Welcomes Ngumbi, Ohlson to Advisory Board:

<https://soil4climate.org/2016/10/21/soil4climate-welcomes-ngumbi-ohlson-to-advisory-board/>

The PlainsMan: A researcher transcended gender roles, now she wants to help others do the same

<http://www.theplainsman.com/article/2016/07/a-researcher-transcended-gender-roles-now-she-wants-to-help-others-do-the-same>

Auburn University: http://ocm.auburn.edu/newsroom/news_articles/2016/05/auburn-researcher-esther-ngumbi-turning-dreams-into-realities-with-a-passion-for-giving-back-to-her-native-village-in-kenya.htm

Auburn University Graduate School: Auburn researcher, world hunger advocate Esther Ngumbi makes a difference in Africa and beyond <http://grad.auburn.edu/news/2016/esther.html>

Auburn University College of Agriculture. The Season Magazine: In her dreams

https://issuu.com/ourwork/docs/the_season_spring_2016

White House Office of Public Engagement, <http://www.whitehouse.gov/blog/2011/12/20/community-leaders-briefing-series-one-campaign>

Aspen Institute New Voices Fellowship, <http://aspennvoices.org/Fellows/Details/0030/Esther-Ngumbi>

Auburn Opelika News, In lieu of wedding gifts, researcher launches lab campaign
http://www.oanow.com/news/auburnuniversity/in-lieu-of-wedding-gifts-researcher-launches-lab-campaign/article_e55d6f2a-6d5b-11e5-919e-53ad6deae29f.html

The Star Newspaper, Kenya, Village Girl's Dream to Bring a Library home to Kwale, http://www.the-star.co.ke/news/2015/08/27/village-girls-dream-to-bring-a-library-home-to-kwale_c1193424

Cosmopolitan, This Woman's Wedding Registry Will Inspire You to Be a Better Person
<http://www.cosmopolitan.com/sex-love/news/a47499/womans-wedding-registry-will-inspire-you-to-be-better/>

Standard Newspaper, Kenya, Scientist Opens First Public Library in Mabafweni, Kwale,
<http://www.standardmedia.co.ke/lifestyle/article/2000187925/scientist-opens-first-public-library-in-mabafweni-kwale>

Smart Harvest, The Standard Newspaper, Kenya, Project sharpens Kwale farmers,
http://www.standardmedia.co.ke/article/2000160739/project-sharpens-kwale-farmers/?articleID=2000160739&story_title=project-sharpens-kwale-farmers&pageNo=1

Eve Woman, The Standard Newspaper, Kenya,
<http://www.standardmedia.co.ke/lifestyle/article/2000110300/passing-on-the-keys-out-of-poverty>

Huntsville, Alabama Times,
http://www.al.com/living/index.ssf/2013/11/auburn_research_fellow_from_ke.html

Mwakilishi news feature, <http://www.mwakilishi.com/content/articles/2013/01/05/a-kenyan-scientist-in-the-us-selected-as-a-cgi-university-mentor.html>

American Association of University Women Education Foundation Fellowships and Grants 125th Anniversary <https://www.youtube.com/watch?v=WQFv56YYSws>

Jamhuri Magazine, <http://jamhurimagazine.com/index.php/education/3710-spring-break-kenya-by-dr-esther-ngumbi.html>

Clinton Global University Initiative 2013 Service Project, <http://bcove.me/56cqbf8f>

American Association of University Women Education Foundation Alumnae Feature,
<http://www.aauw.org/what-we-do/educational-funding-and-awards/international-fellowships/>

Auburn University Take 5 Series Feature, <http://www.auburn.edu/main/take5/ngumbi.html>

Auburn University College of Agriculture Magazine Feature,
<http://www.ag.auburn.edu/comm/AI/2011/jun.pdf>

One World Action, <http://oneworldaction.wordpress.com/100-unseen-powerful-women/public-service/esther-ngumbi/>

Schlumberger Foundation Faculty for the Future Booklet Cover Picture
http://facultyforthefuture.net/sites/all/files/Faculty_for_the_Future_Booklet.pdf

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<http://iwl.rutgers.edu/Frontpage%20Updates/whysofew-1.pdf>