CURRICULUM VITA

Timothy Paul Craig

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**EDUCATION:**

B.S. 1980 Biology, Kansas State University, Manhattan, Kansas.

 Adviser: Dr. Christopher C. Smith

M.S. 1984 Biology, Northern Arizona University, Flagstaff, Arizona.

 Thesis: "Resource Regulation by a Stem-galling Sawfly."

 Thesis adviser: Dr. Peter W. Price

Ph.D. 1987 Zoology, Northern Arizona University, Flagstaff, AZ.

 Dissertation: "Oviposition Strategies in a Three-Trophic-Level System."

 Dissertation adviser: Dr. Peter W. Price

**PROFESSIONAL EXPERIENCE:**

 2010- Professor of Biology, Department of Biology, University of Minnesota Duluth, Duluth, MN

 2000-2009 Associate Professor of Biology, Department of Biology, University of Minnesota Duluth, Duluth, MN

 2007 Japan Society for the Promotion of Science Research Fellow

 2007 Visiting Professor, Center for Ecological Research Kyoto University, Otsu, Japan

 1995-2000 Associate Professor of Zoology, Arizona State University West, Phoenix, AZ

 1991-2000 Affiliated Associate Professor of Zoology, Arizona State University, Tempe, AZ

 1997 Foreign Visiting Fellow, The Institute of Low Temperature Science, Hokkaido University, Sapporo, Japan.

 1996 Adjunct Associate Professor of Biology, New Mexico State University, Las Cruces, NM

 1990-95 Assistant Professor of Zoology, Arizona State University West, Phoenix, AZ.

 1989-90 David Burpee Post-Doctoral Fellow and National Science Foundation Post-doctoral Research Fellow, Department of Biology, Bucknell University, Lewisburg, PA.

 1988 Post-Doctoral Research Associate and Instructor, School of Forestry, Northern Arizona University, Flagstaff, AZ.

 1987-88 Research Associate, Museum of Northern Arizona, Flagstaff AZ.

 1982-87 Research Assistant, Department of Biological Sciences, Northern Arizona University, Flagstaff, AZ.

 1982 Research Assistant, volunteer, University of Queensland, Queensland, Australia.

 1981 Research Assistant, Division of Biology, Kansas State University, Manhattan, KS.

 1981 Research Assistant, volunteer, Department of Animal Science, Kansas State University, Manhattan, KS.

 1979-80 Biological Technician G.S.-5, Ozark National Scenic Riverways, Van Buren, MO.

**PEER REVIEWED PUBLICATIONS**

Craig, T. P. 2018. “Ecological Speciation" in Oxford Bibliographies in Evolutionary Biology. In Press

Sakata, Y., T. P. Craig, J. K. Itami, M. Yamasaki, and T. Ohgushi. 2017. Parallel environmental factors drive variation in insect density and plant resistance in the native and introduced ranges. Ecology 98: 2873-2884

Craig, T. P. Geographic Mosaic of Coevolution. 2016. *The Encyclopedia of Evolutionary Biology* (vol. 2, pp. 201-207). Amsterdam: Elsevier. doi: doi:10.1016/B978-0-12-800049-6.00194-3.

Helmberger, M. S., & Craig, T. P. 2016. Effects of drought stress on oviposition preference and offspring performance on the lace bug Corythucha marmorata on its goldenrod host, Solidago altissima. *Entomologia Experimentalis et Applicata, 160*, 1-10. doi: 10.1111/eea.12449

Hafdahl, C. E. and T. P. Craig. 2013. Flowering phenology in *Solidago altissima*; adaptive strategies against temporal variation in temperature. Journal of Plant Interactions DOI:10.1080/17429145.2013.777478

Craig, T. P., J. K. Itami, M. D. Dixon, and T. R. Hams. 2012. Indirect evolutionary interactions in a multitrophic interaction. Ecology and Evolution of Trait-mediated Indirect Interactions: Linking Evolution, Community, and Ecosystem. *in* T. Ohgushi, O. Schmitz, and R. D. Holt eds. Cambridge University Press.

Utsumi, S., Y. Ando, T. P. Craig, and T. Ohgushi. 2011*.* Plant genotypic diversity increases population size of an herbivorous insect. Proceedings of the Royal Society Series B. 278:3108-3115.

Craig, T. P., T. Ohgushi, J. K. Itami, Y. Ando, and S. Utsumi. 2011. Bridges and barriers to herbivory resulting from host plant genotypic variation. Journal of Plant Interactions 6:141-146.

Ohgushi, T., Y. Ando, S. Utsumi, and T. P. Craig. 2011. Indirect interaction webs on tall goldenrod: community consequences of herbivore-induced phenotypes and genetic variation in plants. Journal of Plant Interactions 6:147-150.

Ando, Y. S. Utsumi, T. P. Craig, J.K. Itami and T. Ohgushi. 2011. How are arthropod communities organized on an introduced plant *Solidago altissima*? Journal of Plant Interactions 6:169-171.

Ikemoto, M., T. Ohgushi, and T. P. Craig. 2011 Space-dependent effects of floral abundance on flower visitors. Journal of Plant Interactions 6:177-179.

Craig, T. P. and J. K. Itami. 2011. Divergence of *Eurosta solidaginis* in response to host plant variation and natural enemies. Evolution: 64:802-817.

Craig, T. P. 2010. The resource regulation hypothesis and positive feedback loops in plant-herbivore interactions. Population Ecology 54:461-473.

Dixon M. D. T. P Craig, and J. K. Itami. 2009. The geographic mosaic of co-evolution and the natural enemies of *Eurosta* *solidaginis*. Evolutionary Ecology Research 11:871-887.

Horner, J. D. T. P. Craig, and J. K. Itami. 2008. The effects of host race, gender, and host-plant dispersion on alighting behavior, mating, and oviposition in *Eurosta solidaginis.* Entomologia Experimentata et Applicata 128:274-282*.*

Etterson, J. R., D. E. Delf, T. P. Craig Y. Ando, T. Ohgushi. 2008. Parallel patterns of clinal variation in *Solidago altissima* in its native range in central U.S.A. and its invasive range in Japan. journal of botany 86:91-97.

Craig, T. P. and J. K. Itami. 2008. The resource constraints hypothesis and the evolution of preference and performance relationships. Pages 20-39 *in* K. Tilmon ed. The evolution of plant-insect interactions. University of California Press, Berkley, CA.

Craig, T. P., J. K. Itami and J. V. Craig. 2007. Host plant genotype influences survival of hybrids between *Eurosta solidaginis* host races. Evolution 61:2607-2613.

Craig, T. P., J. K. Itami, J. D. Horner. 2007. Geographic variation in the evolution and coevolution of a tritrophic interaction. Evolution 61:1137-1152.

Craig, T. P. 2007. Evolution of plant-mediated interactions among natural enemies. Pages 331-353 *in* T. Ohgushi, T. P. Craig, and P. W. Price, editors, Ecological Communities: Plant mediation in indirect interaction webs. Cambridge University Press, Cambridge.

Ohgushi, T., T. P. Craig, and P. W. Price. 2007. Introduction. Pages 1-16, *in* T. Ohgushi, T.P. Craig, and P. W. Price, editors, Ecological Communities: Plant mediation in indirect interaction webs.. Cambridge University Press, Cambridge.

Ohgushi, T., T. P. Craig, and P. W. Price. 2007. Indirect interaction webs propagated by herbivore-induced changes in plant traits. Pages 379-410 *in* T. Ohgushi, T.P. Craig, and P. W. Price, editors, Ecological Communities: Plant mediation in indirect interaction webs. Cambridge University Press, Cambridge.

Price, P.W., T. Ohgushi, H. Roininen, M. Ishihara, T. P. Craig, J. Tahavanainen and S. M. Ferrier. 2004. Release of phylogenetic constraints through low resource heterogeneity: the case of gall-inducing sawflies. Ecological Entomology 29:467-481.

Marchosky, R. J. Jr. and T. P. Craig. 2004. Gall-size Dependent Survival for *Asphondylia atriplicis* (Diptera: Cecidomyiidae) on Salt Bush *Atriplex canescens*. Environmental Entomology 33:709-719.

Craig, T. P. and T. Ohgushi. 2002. Preference and performance in the spittlebug, *Aphrophora pectoralis* on four species of willow. Ecological Entomology 27:529-540.

Craig, T. P., J. D. Horner and J. K. Itami. 2001. Genetics, experience and host plant preference in *Eurosta solidaginis*: implications for host shifts and speciation. Evolution 55:773-782.

Cronin, J. T., W. G. Abrahamson, and T. P. Craig. 2001. Temporal variation in herbivore host-plant preference and performance: constraints on host-plant adaptation. Oikos 93:312-320.

Fernandes, G.W., P. W. Price, S. J. Goncalves-Alvim, T. P. Craig and D. Yanega. 2000. Response of the galling insect *Aciurina trixa* Curran to host plant quality. Annals of the Entomological Society of Brazil 29:423-432.

Craig, T. P., J. K. Itami, C. Schantz, W. G. Abrahamson, J. D. Horner and J.V. Craig. 2000. The influence of host plant variation and intraspecific competition on oviposition preference in the host races of *Eurosta solidaginis.* Ecological Entomology 25:7-18.

Horner, J. D. T. P. Craig and J.K. Itami. 1999. The influence of oviposition phenology on survival in the host races of *Eurosta solidaginis*. Entomologia Experimentata et Applicata 93:121-129.

Craig, T. P., J. K. Itami, W. G. Abrahamson, and J. D. Horner. 1999 Oviposition preference and offspring performance of *Eurosta solidaginis* on genotypes of *Solidago altissima*. Oikos 86:119-126.

Dixon, K. A., R. L. Lerma, T. P. Craig, and K. Hughes. 1998. Gall morphology and community composition in *Asphondylia flocossa* (Cecidomyiidae) galls on *Atriplex polycarpa* (Chenopodiaceae). Environmental Entomology 27:592-599

Price, P. W., T. P. Craig and M. D. Hunter. 1998. Population Ecology of a gall-inducing sawfly, *Euura lasiolepis*, and relatives. Pages 323-340 *in* J. P. Dempster and I. F. G. McLean, editors, Insect Populations in theory and practice. Chapman and Hall, London, U.K.

Itami, J. K., T. P. Craig and J. D. Horner. 1998. Factors affecting gene flow between the host races of *Eurosta* *solidaginis*. Pages 375-407 *in* Susan Mopper and Sharon Strauss, editors, Genetic Variation and local adaptation in natural insect populations: Effects of ecology, life history and behavior. Chapman and Hall, New York.

Craig, T. P., J. K. Itami and J. D. Horner. 1997. Hybridization studies on the host races of *Eurosta solidaginis*: Implications for sympatric speciation. Evolution 51:1552-1560.

Price, P.W., T. P. Craig, and H. Roininen. 1995. Working toward a theory on galling sawfly population dynamics. Pages 321-338 *in* N. Cappuccino and P. W. Price, editors, Population dynamics: New approaches and synthesis. Academic Press, San Diego.

Stein, S., P. W. Price, T. P. Craig and J. K. Itami. 1994. Importance of dispersal in the population dynamics of a shoot-galling sawfly. Journal of Animal Ecology 63:666-676.

Craig, T. P., J. K. Itami, J. D. Horner and W. G. Abrahamson. 1994. Host shifts and speciation in gall-forming insects. Pages 194-207 *in* P. W. Price, W. Mattson, and Y. Baranchikov, editors. The ecology and evolution of gall-forming insects. USDA Forest Service, North Central Experiment Station. General Technical Report NC-174.

Abrahamson, W. G., J. M. Brown, S. K. Roth, D. V. Summerford, J. D. Horner, M. D. Hess, S. T. How, T. P. Craig, R. A. Packer and J. K. Itami. 1994. Gallmaker speciation: and assessment of the roles of host-plant characters and phenology, gallmaker competition, and natural enemies. Pages 208-222 *in* P. W. Price, W. Mattson, and Y. Baranchikov, editors. The ecology and evolution of gall-forming insects. USDA Forest Service, North Central Experiment Station. General Technical Report NC-174.

Craig, T. P. 1994. Effects of intraspecific plant variation on Parasitoid communities. Pages 205-227 *in* B. D. Hawkins and W. Sheehan, editors. Parasitoid communities. Oxford University Press.

Craig, T. P., J. K. Itami, W. G. Abrahamson and J. D. Horner. 1993. Behavioral evidence of host race formation in *Eurosta solidaginis.*  Evolution 47:1696-1710.

How, S. T., W. G. Abrahamson and T. P. Craig. 1993 Role of host-plant phenology in host use by *Eurosta solidaginis* (Diptera: Tephritidae) on *Solidago* (Compositae). Environmental Entomology 22:388-396.

Craig, T. P., P. W. Price and J. K. Itami. 1992 Facultative sex ratio shifts in response to host plant quality in an herbivorous insect. Oecologia 92:153-161.

Craig, T. P., and S. Mopper. 1992. Sex ratio variation in sawflies. Pages 61-92 *in*, M.R. Wagner and K.F. Raffa, editors. Sawfly adaptations to woody plants. Academic Press, New York.

Wagner, M. R., T. P. Craig, and R. E. Larson. 1992. Ecology and silvics of New Mexican Locust, *Robinia neomexicana* with an emphasis on the arboreal form. Pages 53-57 *in* J. Hanover, K. Miller and S. Plesko, editors. Black Locust: biology, culture, and utilization. Proceedings of the International conference on Black Locust. Department of Forestry, Michigan State University, East Lansing.

Craig, T. P., M. R. Wagner, D. W. Frantz and D. M. McCullough. 1991. Long term effects of induced plant moisture stress on *Neodiprion* sawflies. Forest Ecology and Management, 39:247-261.

Craig, T. P., L. Araújo, J. K. Itami, G. W. Fernandes. 1991 Development of the community centered on a leaf-bud gall on *Xylopia aromatica*. Revista Brasileira de Entomologie 35:311-317

Craig, T. P., J. K. Itami and P. W. Price. 1990. The window of vulnerability for a shoot-galling sawfly to attack by a parasitoid. Ecology 71:1471-1482.

Craig, T.P., J.K. Itami and P.W. Price. 1990. Intraspecific competition and facilitation by a shoot-galling sawfly. Journal of Animal Ecology 59: 147-159.

Price, P. W., N. Cobb, T. P. Craig, G. W. Fernandes, J. K. Itami, S. Mopper and R. W. Preszler. 1990. Insect herbivore population dynamics on trees and shrubs: new approaches relevant to latent and eruptive species and life table development. Pages 1-38 *in* E. A. Bernays, editor. Focus on Insect-Plant Interactions. Volume 2, CRC Press, Boca Raton.

Craig, T. P., J. K. Itami and P. W. Price. 1989. A strong relationship between oviposition preference and larval performance in a shoot-galling sawfly. Ecology 70:1691-1699.

Price, P. W., G. L. Waring, R. Julkunen-Titto, J. Tahvanainen, H. A. Mooney and T. P. Craig. 1989. The carbon/nutrient balance hypothesis in within species phytochemical variation of *Salix* *lasiolepis*. Journal of Chemical Ecology 15:1117-1131.

Itami, J. K. and T. P. Craig. 1989. Life history of *Styloxus bicolor* (Coleoptera: Cerambycidae) on *Juniperus monosperma* in Northern Arizona. Annals of the Entomological Society of America 82:582-587.

Craig, T. P., J. K. Itami and P. W. Price. 1988. Plant wound compounds from oviposition scars used in oviposition discrimination by a stem-galling sawfly. Journal of Insect Behavior 1:343-356.

Craig, T. P., P. W. Price, K. M. Clancy, G. L. Waring and C. F. Sacchi. 1988. Forces preventing coevolution in the three-trophic-level system: willow, a gall-forming herbivore, and parasitoid. Pages 57-80, *in* K. C. Spencer, editor. Chemical Mediation of Coevolution, Academic Press, New York.

Sacchi, C. F., P. W. Price, T. P. Craig and J. K. Itami. 1988. Impact of shoot galler attack on sexual reproduction in the arroyo willow. Ecology 69:2021-2030.

Clancy, K. M., P. W. Price and T. P. Craig. 1986. Life history and natural enemies of an undescribed sawfly near *Pontania pacifica* (Hymenoptera: Tenthredinidae) that forms leaf galls on the arroyo willow, *Salix lasiolepis*. Annals of the Entomological Society of America 79:884-892.

Craig, T. P., P. W. Price and J. K. Itami. 1986. Resource regulation by a stem-galling sawfly, on the arroyo willow. Ecology 67:419-425.

Price, P. W. and T. P. Craig. 1984. Life history, phenology, and survivorship of a stem-galling sawfly, *Euura lasiolepis* (Hymenoptera: Tenthredinidae), on the arroyo willow, *Salix lasiolepis*, in Northern Arizona. Annals of the Entomological Society of America 77:712-719.

Craig, J. V., T. P. Craig and A. D. Dayton. 1983. Fearful behavior by caged hens of two genetic stocks. Applied Animal Ethology 10: 263-273.

**BOOKS**

Ohgushi, T, T.P. Craig, and P. W. Price, editors 2007. [Ecological Communities](http://www.cambridge.org/uk/catalogue/catalogue.asp?isbn=0521850398): Plant Mediation in Indirect Interaction Webs. Cambridge University Press, Cambridge, UK.

## BOOK REVIEWS

Craig, T. P. 2008. Evolutionary Ecology of Parasites, second edition. Book Review. Systematic Biology 57:182-183.

Craig, T. P. 2006. The Art of Being a Parasite. Book Review. Ecology 87:1606-1607.

Craig, T. P. 2002. Parasites and the Behavior of Animals. Book Review. Ecology 83:3527-3528

Craig, T. P. 2001. Parasitoid Population Biology. Book Review. Ecology 82:2083-2084.

Craig, T. P. 1996. The Coevolutionary Process. Book review. Ecology 77:329-330.

**NON-PEER REVIEWED PUBLICATIONS:**

Cave Creek Wash Preservation Boundary Study. 1996. Co-authored with faculty members from the Arizona State University West Department of Life Sciences and Arizona State University School of Planning and Landscape Architecture. Prepared for the City of Phoenix Parks, Recreation and Library Department

**MANUSCRIPTS IN REVISION OR PREPARATION**

Hams, T. P. and Craig, T. P. Downy woodpecker (*Poecile pubescens*) and Black-capped Chickadee (*Parus atricapillus*) preferences for goldenrod (*Solidago altissima*) galls by morphological characteristics, insect larvae, and biome of origin. To be submitted to Condor.

Craig, T. P., J. K. Itami, Y. Ando, and T. Ohgushi. Resource regulation and population dynamics of the lacebug *Corythuca marmorata* on *Solidago altissima.* To be submitted to Ecological Entomology.

Lindberg-Livingston, A. J. and T. P. Craig. A geographic mosaic of speciation in *Eurosta solidaginis.* To be submitted to Evolution

**INVITED SYMPOSIA:**

2017 Craig, T. P. "Host shifts and the geographic mosaic of evolution," Cedar Creek Ecosystem Science Reserve 75th Anniversary Symposium, University of Minnesota Cedar Creek Science Reserve, East Bethel, Minnesota, United States.

2016 Craig, T. P. Itami, J. K. "Host shifts and the geographic mosaic of coevolution," 25th International Congress of Entomology, Entomological Society of America, Orlando, Florida, United States.

2012 “Oviposition preference in lacebugs *Corythuca marmorata*: A dynamic ideal free distribution” Studies on ecological interaction networks that promote biodiversity– From gene to ecosystem – Symposium Japanese Society for the Promotion of Science Core-to-Core Program October 15-16, Max Planck Institute for Chemical Ecology, Jena, Germany T. P. Craig, J. K. Itami, T. Ohgushi.

2012 “Local adaptation of reproductive strategies in *Solidago altissima*” Studies on ecological interaction networks that promote biodiversity– From gene to ecosystem – Symposium Japanese Society for the Promotion of Science Core-to-Core Program October 15-16, Max Planck Institute for Chemical Ecology, Jena, Germany Claire Hafdahl and T. P. Craig

2011 “An experimental test of the geographic mosaic theory of coevolution” Studies on ecological interaction networks that promote biodiversity– From gene to ecosystem – Symposium Japanese Society for the Promotion of Science Core-to-Core Program September 9-10, 2011, University of Neuchâtel, Switzerland. T*.* P. Craig and J. K. Itami.

2011 “Genetic differentiation of forest and prairie populations of *Eurosta solidaginis* Studies on ecological interaction networks that promote biodiversity– From gene to ecosystem – Symposium Japanese Society for the Promotion of Science Core-to-Core Program September 9-10, 2011, University of Neuchâtel, Switzerland. J. K. Itami and T. P. Craig

2011 “Reproductive isolation between two host races of a gall-inducing fly, *Eurosta solidaginis,* across the prairie-forest boundary in southern Minnesota, USA.” A. J. Lindberg-Livingston and T. P. Craig Studies on ecological interaction networks that promote biodiversity– From gene to ecosystem – Symposium Japanese Society for the Promotion of Science Core-to-Core Program September 9-10, 2011, University of Neuchâtel, Switzerland.

2011 “The Geographic Mosaic of Speciation” “T. P. Craig and J. K. Itami. Evolutionary Ecology Across Three Trophic Levels.” Symposium Bucknell University, Lewisburg, PA. June 13-14, 2011

2010 “Tritrophic interactions and host-associated differentiation in *Eurosta solidaginis*” 58th Annual Meeting of the Entomological Society of America, San Diego, California.

2010 “The consequences of intraspecific variation for the geographic mosaic of coevolution” JSPS Core-to-Core Research Symposium, Kyoto Japan. T. P. Craig.

2010 “Local adaptation and coevolution in tritrophic interaction” Seventh International Congress of Dipterology, San Jose, Costa Rica. Craig, T.P and J.K. Itami

2010 Genetic differentiation of forest and prairie populations of *Eurosta solidaginis.* Seventh International Congress of Dipterology, San Jose, Costa Rica. Itami, J.K. and T.P. Craig

2009 “Interactions of two native North American species in Japan, goldenrod, *Solidago altissima*, and a lacebug *Corythuca marmorata*.” JSPS Core-to-Core Research Symposium, Amsterdam, The Netherlands. Craig, T.P.

2009 “The evolution of tritrophic interactions involving gall-forming insects” 5th International Symposium on gall-forming arthropods Serra do Cippo, Brazil. Craig, T.P.

2008 “The evolution and coevolution of *Eurosta solidaginis* gall morphology with its host plant and natural enemies” Symposium on gall inducing insects 23rd International Congress of Entomology, Durban South Africa. Craig, T.P.

2008 “Resource regulation revisited: plant mediation of intraspecific interactions and population dynamics” Symposium on trait-mediated indirect effects in insect communities 23rd International Congress of Entomology, Durban South Africa.

2007 “Indirect plant-mediated effects can regulate the population dynamics of herbivorous insects” Symposium on Indirect interactions caused by phenotypic plasticity, Osaka Prefecture University, Sakai, Japan. Craig, T.P.

2006 “Host race formation by *Eurosta solidaginis* on subspecies of *Solidago altissima*” Symposium on Evolutionary Ecology of Phytophagous Diptera. Sixth International Congress of Dipterology Fukuoka Japan. Craig, T.P.

2004 “Evolution of plant-mediated interactions among natural enemies”Symposium on the evolution of plant-mediated interactions in insect communities. 22nd International Congress of Entomology, Brisbane, Australia. Craig, T.P.

2000 “Speciation in gall-forming insects” Ecology and population dynamics: Ecology of gall forming arthropods.” 21st International congress of entomology, Foz do Igauçu, Brazil. Craig, T.P.

1993 "Host shifts and speciation in gall-forming insects." 1st International symposium on gall-forming insects, Krashnoyarsk, Russia. Unable to attend, but paper was published in the conference proceedings. Craig, T.P.

1992 "Effects of intraspecific plant variation on parasitoid communities."Parasitoid communities, symposium of the annual meeting of the Entomological Society of America. Baltimore Maryland. Craig, T.P.

1988 "Evolutionary forces shaping the window of vulnerability for a stem galler to attack by a parasitoid." Evolutionary ecology of gall-forming insects symposium, 18th International Congress of Entomology Vancouver, Canada. Craig, T.P.

1985 "Forces preventing coevolution in the three-trophic-level system: willow, a stem-galling sawfly, and parasitoids." Chemical mediation of coevolution, symposium of the American Institute of Biological Science Gainesville Florida. Craig, T.P.

**INVITED SEMINARS:**

2016 Department of Biological Environment, Akita Prefectural University, Akita, Japan. (August 26, 2016).

2016 Forest Research Center, Hokkaido University, Nayoro, Japan.

2016 Center for Ecological Research, Kyoto University, Otsu, Japan, Japan.

2016 Department of Applied Biological Sciences, Saga, Japan.

2013 Field Science Center for the Northern Biosphere, Hokkaido University, Japan

2013 Department of Biology, Minnesota State University Moorhead, Moorhead Minnesota

2011 Department of Ecology, Evolution and Behavior, University of Minnesota Twin Cities

2010 Department of Biology, Lakehead University, Thunder Bay, Canada

2008 Department of Biology, University of Kentucky, Lexington Kentucky

2008 Department of Entomology, University of Kentucky, Lexington Kentucky

2007 Department of Zoology, Kyoto University, Kyoto Japan

2007 Center for Ecological Research, Kyoto University, Seta Japan

2006 Department of Biology, University of North Dakota, Fargo North Dakota

2005 University of Illinois, Urbana, Illinois

2004 University of Wisconsin-Whitewater, Whitewater Wisconsin

2001 Department of Ecology, Evolution and Behavior, University of Minnesota Twin Cities

2000 Natural Resources Research Institute, Duluth, MN

2000 Department of Biology, University of Minnesota, Duluth, MN

2000 Pest Management and Agricultural Systems Research Unit, Northern Plains Agricultural Research Laboratory, Agricultural Research Center, Sidney, MT

2000 Department of Biology, Boise State University, Boise, ID

1998 Department of Entomology, Texas A & M University, College Station, TX

1998 The Institute of Low Temperature Science, Hokkaido University, Sapporo, Japan

1998 Department of Entomology, University of California, Riverside, CA.

1998 Department of Biological Sciences, Northern Arizona University, Flagstaff, AZ

1997 The Center for Ecological Studies, Kyoto University, Kyoto, Japan

1997 The Institute of Low Temperature Science, Hokkaido University, Sapporo, Japan

1996 Department of Biological Sciences, New Mexico State University, Las Cruces, NM

1996 Center for Insect Science Hexapodium series, Boyce Thompson Arboretum, Superior, AZ

1994 Association of Minnesota Community College Biologists, Cedar Creek Natural History Area, Bethel, MN.

1994 Department of Biological Sciences, Texas Christian University, Ft. Worth, TX

1992 Department of Biological Sciences, Northern Arizona University, Flagstaff, AZ

1991 Department of Entomology, University of Arizona, Tucson, AZ

1990 Arts and Sciences, Arizona State University - West, Phoenix, AZ

1990 Department of Zoology, Arizona State University, Tempe, AZ

1990 Department of Biology, William Patterson College, Wayne, NJ

1990 Department of Biology, University of Cincinnati, Cincinnati, OH

1989 Division of Biology, Kansas State University, Manhattan, KS

1989 Blandy Experimental Farm, University of Virginia, Boyce, VA

1989 Department of Entomology, University of Delaware, Newark, DE

1989 Department of Biology, Bucknell University, Lewisburg, PA

1988 Departamento de Biologic Geral, Universidade Federal de Minas Gerais, Belo Horizonte, Minas Gerais, Brazil

1988 Department of Biological Sciences, Northern Arizona University, Flagstaff, AZ

**PAPERS PRESENTED AT Professional MEETINGS:**

**Craig, T. P. (Author)**, Medina, L. (Author & Presenter), Ecological Society of America Annual Meeting, "Effects of geographic origin, genotypic variation, and drought on lace bug and goldenrod interaction," Ecological Society of America, Portland, Oregon, United States. (August 9, 2017).

Craig, T. P. (Author), Horne, J. D. (Author & Presenter), Itami, J. K. (Author), Lindberg-Livingston, A. J. (Author), Williams, D. (Author), Korstian, J. (Author), Society for the Study of Evolution Annual Meeting, "Genetic and morphological differentiation among host races of Eurosta solidaginis," Society for the Study of Evolution, Austin, Texas, United States. (June 17, 2016).

2013 “Experimental measurement of the geographic mosaic of coevolution in a plant-galler-natural enemy interaction” T. P. Craig. Ecological Society of America, Annual Meeting, Minneapolis, Minnesota, August 4-8 2013.

2012 “Experimental measurement of the geographic mosaic of coevolution in the interaction of *Solidago altissima*, *Eurosta solidaginis*, and *Eurytoma gigantea*.” T. P. Craig and J. K. Itami. The First Joint Congress on Evolutionary Biology, Ottawa, Canada July 6-10.

2012 “Oviposition Preference of the tree cricket *Oecanthus* *forbesi.*“ W. Licht and T. P. Craig. 2012 Entomological Society of America Annual Meeting, Knoxville, TN.

2011 “A tritrophic mosaic of coevolution and local adaptation in *Eurosta solidaginis*.” T. P. Craig and J. K. Itami. 2011 North Central Branch of the Entomological Society of America Annual Meeting, Minneapolis Minnesota March 13-16.

2011 “Geographical variation in selection on gall morphology in *Eurosta solidaginis”* (Diptera: Tephritidae). M. Noll, W. Licht, E. Kalkbrenner, N. Zarnsdorf, A. Lindsberg-Livingston, J. K. Itami and T. P. Craig. 2011 North Central Branch of the Entomological Society of America Annual Meeting, Minneapolis Minnesota March 13-16.

2011 “Geographical variation of *Mordellistena convicta* (Coleptera: ) an inquiline of *Eurosta solidaginis* (Diptera: Tephritidae) and its natural enemies.” W. Licht, M. Noll, E. Kalkbrenner, N. Zarnsdorf A. Lindsberg-Livingston, J. K Itami and T. P. Craig. 2011 North Central Branch of the Entomological Society of America Annual Meeting, Minneapolis Minnesota March 13-16.

2011 “Differentiation in a gall inducing fly, *Eurosta solidaginis* (Diptera: Tephritidae), across the prairie-forest boundary in southern Minnesota” A. Lindsberg-Livingston and T. P Craig.  2011 North Central Branch of the Entomological Society of America Annual Meeting, Minneapolis Minnesota March 13-16.

2008 “Testing the parapatric speciation hypothesis in *Eurosta solidaginis”* Society for the Study of Evolution, Minneapolis Minnesota. T. P. Craig and J. K. Itami.

2008 Clinal variation of *Eurosta solidaginis.* J. K.Itami and T. P. Craig. Society for the Study of Evolution, Minneapolis Minnesota”

2008 “Comparison of foraging selection by Downy woodpeckers, *Piscoides pubescens*, and black-capped chickadees, *Poecile atricapillus*, on *Eurosta solidaginis* larvae in galls on *Solidago altissima*. Ecological Society of America Annual Meeting, Milwaukee Wisconsin. T. R. Hams and T. P. Craig

2007 “Plant-mediated interactions influence the distribution and population dynamics of *Corythuca marmorata* on *Solidago altissima*.” The 23rd Symposium of the Society for Population Ecology, Sapporo, Japan. T. P. Craig.

2007 “Geographic variation in the evolution and coevolution of a tritrophic interaction.” Horner, J. D., Craig, T. P., and J. K. Itami” Presented at the joint annual international meetings of the Society for the Study of Evolution, the American Society of Naturalists, and the Society for Systematic Biology, Christchurch, New Zealand.

2006 “The effects of experimental manipulation of host-plant distribution on mating between host races of *Eurosta solidaginis*. Horner, J. D., J. K. Itami, and T. P. Craig. Joint national meeting of the Society for the Study of Evolution (SSE), the American Society of Naturalists (ASN), and the Society for Systematic Biology (SSB), State University of New York at Stony Brook.

2006 “Can host-plant presence and dispersion affect gene flow between host races?” J. D. Horner, J. K. Itami, and T. P. Craig. 2006. Symposium on the Genetics of Speciation, organized jointly by the American Genetics Association and Molecular Ecology, the University of British Columbia, Vancouver.

2003 “Geographic variation in the evolution and coevolution of a tritrophic interaction” T. P. Craig and J.K. Itami Society for the Study of Evolution, Champaign Illinois.

2002 “Host race formation in populations of *Eurosta solidaginis* on *Solidago altissima*.” T. P. Craig, J. K, Itami, and J. D. Horner. Ecological Society of America annual Meeting, Tucson, AZ.

2001 “A strong relationship between preference and performance in a spittlebug.” T. P. Craig and T. Ohgushi. Ecological Society of America annual meeting, Madison WI.

2001 “A strong relationship between preference and performance in a spittlebug.” T. P. Craig and T. Ohgushi. Ecological Society of America annual meeting, Madison WI.

2000 “Impact of urbanization on an insect/plant interaction: Bruchid Beetles on Blue Palo Verde.” L. A. Ramirez, T. P. Craig and J. R. Wallace. Symposium Ecology and population dynamics: Ecology of Gall-forming Arthropods, Proceeding of the International Congress of Entomology, Foz do Igauçu, Brazil.

1998 “The relationship between oviposition preference and offspring performance in a spittlebug, *Aphrophora pectoralis.*” T. P. Craig. Southwest Association of Biologist annual meeting, Portal, AZ.

1996 “Host race formation in *Eurosta solidaginis*.” T. P. Craig, J. K. Itami and J. D. Horner. Endless forms: Species and speciation, a symposium in honor of Guy Bush, Asilomar, CA.

1995 “Are there host races of *Eurosta solidaginis*?” T. P. Craig, J. K. Itami, J. D. Horner. Southwest Association of Biologist annual meeting, Portal, AZ.

1995 “Host plant preference of two host races of *Eurosta solidaginis* and their hybrids.” T. P. Craig, K. E. Cazares, J. K. Itami, and J. D. Horner. Ecological Society of America Annual Meeting, Snowbird, UT

1995 “The influence of phenology of emergence on survival of host races of a gallmaking fly.” J. D. Horner, T. P. Craig, and J. K. Itami. Ecological Society of America Annual Meeting, Snowbird, UT

1994 "Pre-and post-zygotic barriers to gene flow between host races of *Eurosta solidaginis* (Diptera:Tephritidae)." Ecological Society of America Annual Meeting, Knoxville, TN.

1994 "Effects of environmentally induced plant variation on parasitoid communities." Southwest Association of Biologist annual meeting, Portal, AZ.

1992 "Impact of variation in host-plant genotype and phenotype on a tritrophic-level interaction." T. P. Craig, J. K. Itami and B. J. Barton. Ecological Society of America annual meeting, Honolulu, HI.

1991 "Assortative mating and sympatric speciation in a gallmaking fly." Southwest Association of Biologist annual meeting, Prescott, AZ.

1990 "Behavioral evidence for host race formation in *Eurosta solidaginis* (Diptera: Tephritidae)." Ecological Society of America annual meeting, Snowbird, UT.

1990 "Oviposition choice behavior in the goldenrod ball gallmaker." J. Itami, T. Craig. Ecological Society of America annual meeting. Snowbird, UT.

1988 "Hierarchical attack of resources by a shoot-galling sawfly." Ecological Society of America annual meeting. Davis, CA.

1988 "Effects of branch architecture on the Juniper twig pruner's population dynamics." J. Itami and T. Craig. Ecological Society of America annual meeting, Davis, CA.

1988 "Effects of branch architecture on the Juniper twig pruner's success." J. Itami and T. Craig. International Congress of Entomology, Vancouver, B.C., Canada.

1986 "Plant wound compounds used as oviposition deterrents by a stem-galling sawfly." Entomological Society of America annual meeting Reno, NV.

1986 "The window of vulnerability of a stem-galler to attack by a parasitoid." Guild of Rocky Mountain Biologists Annual Meetings. Nederland, CO.

1986 "Life history strategies of *Styloxus bicolor* (Coleoptera: Cerambycidae)." J. K. Itami and T. P. Craig. Entomological Society of America annual meeting Reno, NV.

1985 "Habitat selection by the parasitoid *Lathrostizus euurae*.'' International workshop on entomophagous insects. Tucson, AZ.

1984 "Resource regulation by a stem-galling sawfly." Ecological Society of America annual meetings. Ft. Collins, CO.

1983 "Resource management by a stem-galling sawfly." Guild of Rocky Mountain Population Biologists Annual Meetings. Gothic, CO.

1982 "A new method for evaluating fearful behavior in caged hens." J.V. Craig and T.P. Craig. Presented at the Australian Animal Behavior Society annual meetings. Armidale, New South Wales, Australia.

**RESEARCH AND TEACHING GRANTS:**

2012-2013 REU: Supplement to “Measuring local adaptation to test the geographic mosaic of coevolution theory in a three trophic level interaction, a plant, a galler and a parasitoid.” National Science Foundation, $15,000.

2011-2012 REU: Supplement to “Measuring local adaptation to test the geographic mosaic of coevolution theory in a three trophic level interaction, a plant, a galler and a parasitoid.” National Science Foundation, $7,500.

2010-2015 RUI: Measuring local adaptation to test the geographic mosaic of coevolution theory in a three trophic level interaction, a plant, a galler and a parasitoid. National Science Foundation, $398,931.

2010-2013 Japan Society for the Promotion of Science, Core to Core Program, **“**Biological interaction networks that promote co-existence of many species - from gene to ecosystems”- Junji Takabayashi, Kenji Matusi, Yoichi Kainoh, Takayuki Ohgushi, Atsushi Yamauchi, Wilhelm Boland, Timothy Craig, Monika Hilker, Maurice Sabelis and Jeremy McNei, $500,000.

2007 Kyoto University Center for Ecological Research Grant. “Plant-mediated intraspecific interactions influence the distribution and population dynamics of *Corythuca marmorata* on *Solidago altissima*” $20,000

2007 Japan Society for the Promotion of Science Grant. “Indirect plant-mediated effects can regulate the population dynamics of herbivorous insects” ~$20,000

2000-02 “Speciation in the gall-inducing fly *Eurosta solidaginis*.” T. P. Craig, P.I. Grant-in-Aid of Research, Artistry, and Scholarship; University of Minnesota TC Graduate School; January 2001-June 2002. $24,415

1999-01 “Networking our research legacy: Infrastructure to document and access ecological data resources.” P. H. McCartney P. I., T. P. Craig, C. Gries, N.B. Grimm, C. L. Redman. National Science Foundation, $720,489

1997-2000 “Patterns of biological diversity in herbivorous insect communities.” T. P. Craig and T. Ohgushi, Co-P.I.s. Japan Ministry of Education, Science and Culture. Salary, travel and research support approximately $5,000 yearly

1998 “The impact of urbanization on a native plant-insect-natural enemy interaction.” T. P. Craig, P.I. ASU West Council for Scholarly and Instructional Activity. $5,500

1998 “Student internship to develop experimental protocols for K-12 LTER collaboration.” T. P. Craig. CAP LTER National Science Foundation, $1,500

1998 “A workshop to develop CAP LTER K-12 collaboration in environmental education.“ CAP LTER National Science Foundation Grant, T. Craig, $1,400

1997 “Effects of urbanization on biological communities: GLOBE protocol development for arid and semiarid lands.” S. Scheiner and F. A. Staley P. I., T. P. Craig Co-P.I. submitted to the National Science Foundation. $538,000 (requested, not funded). A.S.U. Research Incentive Award, $5,000.

1997 “Studies on insect-plant interactions.” T. P. Craig and T. Ohgushi, Co-P.I.s. Japan Ministry of Education, Science and Culture. January 13 1997- July 27, 1997 research fellowship salary approximately $42,000 plus additional research support approximately $21,000.

1996 “Cave Creek Wash Preserve Study.” T. P. Craig and S. Scheiner, Co-P.I.s. City of Phoenix, $10,000.

1995-96 “Three-trophic-level interactions and parasitoid community structure.” T. Craig, P.I., K. Hughes, and K. Dixon, Co- P.I.s. Arizona State University West Scholarship, Research and Creative Activities (SRCA) Grant, $10,632

1994-95 “Ecological genetics of gall characteristics” K. Hughes, K. Dixon and T. P. Craig, Co- P.I.s. Arizona State University West Faculty Grant-in-Aid, $2,871.

1994-95 “Three-trophic-level interactions and parasitoid community structure.” K. Dixon, K. Hughes and T. P. Craig, Co- P.I.s. Arizona State University West Grant, $2,500

1993-95 "Ecological and behavioral factors affecting genetic differences and gene flow in host-associated populations." T. P. Craig, P.I. and J. K. Itami. National Science Foundation Supplement Grant BSR-9111433, $41,768.

1993-95 "Ecological and behavioral factors affecting genetic differences and gene flow in host-associated populations." T. P. Craig, P.I. and J. K. Itami. National Science Foundation, Research Experience for Undergraduates, supplement to grant BSR-9111433, $5,000.

1991-95 "Ecological and behavioral factors affecting genetic differences and gene flow in host-associated populations." T. P. Craig, P.I. and J. K. Itami. National Science Foundation, BSR-9111433, $147,000.

1991 "The impact of host plant variation on parasitoid population dynamics." T. P. Craig, P.I. Arizona State University, Faculty-Grant-in-Aid, $5,000.

1991 "The impact of host plant variation on parasitoid population dynamics." T. P. Craig, P.I. Arizona State University West, Summer Grant, $2,000

1989-91 "Genetic differentiation of the goldenrod ball gallmaker along host plant lines." National Science Foundation Supplement For Research at LTER sites, supplement to W. G. Abrahamson, P. I.’s grant: (BSR-8614768), "Physiological mechanisms and populations parameters in the evolution of a plant-insect interaction." T. P. Craig wrote the supplement grant proposal and received a post-doctoral salary from the grant, $40,000

1987 "Evolutionary and coevolutionary forces in a three-trophic-level interaction." T. P. Craig, P.I. National Science Foundation, Predoctoral Dissertation Improvement Grant, $9,300.

1984 "The adaptive nature of growth form in willows." T. Craig, P. I. Sigma Xi, The Scientific Research Society. $200.

1984 "Comparison of growth form of willow species in different habitats." T. Craig, P.I. Northern Arizona Organized Research Committee, $200.

**TEACHING:**

**University of Minnesota Duluth**

2000-2006 BIOL4801 Evolution

2000- BIOL 5401 Coevolution with lab

2000- BIOL 4731 Entomology with lab

2000- BIOL 3994 Undergraduate Research

2000-2006 BIOL 3998 Seminar II

2002 BIOL 3997 Seminar I

2006- BIOL 8012 Integrated Evolutionary Processes

2008- BIOL 4802 Evolution

**Arizona State University West Department of Life Sciences**

1990-1999 BIO 591 - Graduate Seminar (Coevolution)

 BIO 445 Organic Evolution

 LSCBIO 300 Modes of Biological Thought

 BIO 494 and BIO 594 - Plant-Insect Interactions

 BIO 320 Fundamentals of Ecology

 BIO 330 Ecology and Conservation

 ZOL 380 Sociobiology

 BIO 499 - Independent study

 BIO 592 - Research.

**Bucknell University, Department of Biology**

1989-90 BIO341 Organic Evolution

 BIO244 Population and Community Biology Guest Lecturer

**Northern Arizona University, School of Forestry**

1988 FOR 653 Forest Entomology

 FOR 102 Forest Entomology

 FOR 311 Forest Resource Management (team taught) section on pest management

### GRADUATE STUDENTS:

Ruben J. Marchosky, “Gall-size dependent survival for *Asphondylia atriplicis* on salt bush *Atriplex canescens*.” M.S. 2000

Michael Dixon, “Tumbling flower beetles far from home: Does a cascade of parapatric divergence reach the third trophic level?” M.S. 2007

Terry Hams, “Avian predator selection on goldenrod galls containing *Mordellistena convicta”* M. S. 2008

Rachel MaKarrall (co-advised with John Pastor), “Creating useful tools for learning insect anatomy and function.” M. S. 2008

Annelie Lindsberg-Livingston “A Geographic Mosaic of Speciation” M.S. 2012.

Kevin Anderson 2010- “The role of variation in plant genotypes in determining the reproductive isolation of host races of *Eurosta solidaginis*.”

Claire Hafdahl 2010- 2013“Geographic and genotypic variation in *Solidaginis altissima* in pollinator attractiveness”

### UNDERGRADUATE RESEARCH OPPORTUNITY PROGRAM STUDENTS:

Wil Licht “The Natural History of a Change in Katydid Reproduction Behavior “ 2011 and “The Evolutionary Significance of a Change in Oecanthinae spp. Reproduction Behavior” 2012

Emily Kalkbrenner Ecological speciation of the *Eurosta solidaginis* population on *Solidago gigantea*” 2012

Matthew Noll “The evolution of geographic variation in gall morphology of *Eurosta solidaginis*” 2010

Nathan Zarnstrof “Geographic variation in host specialization in an aphid” 2011 and “Alternative behavioral strategies in the parasitoid, *Eurytoma gigantea*” 2012

Lee Stokes “Relative fitness of hybrids and pure populations of the geographic host races of Eurosta solidaginis” 2009

Chidinma Odoemenem, “ Indirect effects of herbivores on pollinators in prairie and forest plants”, 2006

Aklesh Katel, “Effect of parasitic wasps in the gall-inducing fly *Eurosta solidaginis* in the Prairie vs Forest,” 2006

Edward Barron, Jr. “ Assortative mating of goldenrod gall flies, *Eurosta solidaginis*.” 2006

Olufemi (Gabriel) Ekisola , "Testing the Differences between Wing Patterns of Forest and Prairie Sub-Species of the Host Race Species of *Eurosta solidaginis* on *S. altissima*,"2005

Jeff Richardson, “Selection by birds on gall morphology of *Eurosta solidaginis*” 2005

Clint Peacock, “Comparison of natural enemies communities of the host races of Eurosta solidaginis on *Solidago altissima* and *S. gigantea*.”

Michael J. Fudala “Global comparison of insect communities on *Solidago altissima*.” 2004

Michael Eskelson, “Geographical variation in wing patterns on a latitudinal gradient from North Dakota to Michigan, prairie vs forest biome comparison”2003

Jessica Strange, “2003 ” An Analysis of Variation in Plant Architecture and Insect Community in Tall Goldenrod (*Solidago altissima)* in Eastern Minnesota

Kevin Johnson, "Variation in host plant ploidy levels in a gall -forming fly," 2002

Jeremy Marincel, "Selective pressure on gall size by bird predation," 2002

Catrina Whitehead, "Wing morphology as a basis for measuring reproductive isolation among populations of *Eurosta solidaginis*," 2002

Jeremy Marincel, "Oviposition Preference and Offspring Performance in a Bruchid Beetle," 2000

I have also supervised 7 students in BIOL 3994 Undergraduate Research, and a student in BIOL 3996 Internship in Biology

**SERVICE:**

**National**Associate Editor Evolution

**Grant Reviews**

Panel Member, Evolutionary Ecology Panel, National Science Foundation, Division of Environmental Biology. (3 Panels)

Panel Member, Post-doctoral Fellowship Awards, National Science Foundation Division of Environmental Biology. (3 Panels)

Ad hoc reviewer for National Science Foundation Ecology and Population Biology Panel Grants

Reviewer for United States Department of Agriculture Grants

**Reviewer Research publications in**

Ecology

Oecolgia

Evolution

Oikos

Journal of Insect Physiology

Kansas Entomological Society

Journal of Evolutionary Biology

American Midland Naturalist

Environmental Entomology

Austral ecology

Ecological Entomology

Molecular Ecology

Austral Ecology

Canadian Entomologist

Population Ecology

**Text Book Reviews**

McGraw Hill Text: Manuel Morales: Ecology

Harcourt Brace Text: P. W. Price: Biological Evolution

**Other Service**

Auditing Committee for the Pacific Branch, Entomological Society of America

Chair for the Southwest Association of Biologist Annual meeting

**INTERNATIONAL:**

Chair Symposium on Tritrophic interactions 5th International Symposium on gall-forming arthropods Serra do Cipó, Brazil. 2009

Member External Review Panel Center for Ecological Research Kyoto University Japan

Co-chair, Symposium on Evolutionary Ecology of Phytophagous Diptera. Sixth International Congress of Dipterology Fukuoka Japan. 2006

Co-chair, Symposium on the evolution of plant-mediated interactions in insect communities. International Congress of Entomology, Brisbane, Australia 2004.

**UNIVERSITY:**

Integrated Biosciences Graduate Degree Proposal Committee (The committee developed the proposal for a new Masters and Ph.D graduate programs at UMD) UMD 2000-2005.

Integrated Biosciences Associate Director of Graduate Studies Ecology, Organismal and Population Biology Emphasis 2006

Integrated Biosciences Executive Committee 2006

Integrated Biosciences Graduate Admissions Committee 2006

Chair Curriculum Committee, College of Science and Engineering, UMD 2004

Executive Committee, College Science of Science and Engineering, UMD 2005-2007

Undergraduate Research Opportunities Program Proposal Evaluation Committee 2005

Single Semester Leave Application Evaluation Committee 2009

Study Abroad Program Committee 2009

Chair Jean Duluth Experimental Research and Teaching Center Committee, 2001-2007 (Developed and supervised plans for re-establishing research programs and infrastructure at this site which had been not utilized for many years)

**DEPARTMENTAL**

**University of Minnesota Duluth**

Biology Department Head 2008, 2010-

Associate Biology Department Head of Biology, UMD 2005-2006, 2008-2009

Chair Curriculum Committee 2002-2005 (During this period the Curriculum chair handled all issues related to undergraduate studies including: > 100 petitions per year for course transfer equivalents and exceptions to program requirements; applications for undergraduate research credit, and internships, new course proposals, evaluation of study abroad applications, and advised all (NAS) transfer students)

Chair Department Head Search Committee 2005

Chair Cellular Biologist Search Committee 2004

Plant Biologist Search Committee 2003

Co-Chair Curriculum Committee, UMD 2006

Chair Greenhouse Committee

Chair Seminar Committee

Chair Staff Accounts Specialist Search Committee

Chair Staff Receptionist Search Committee

Biology Graduate Program Committee Member

Member Instructors Search Committee

Revision of Merit Review Guidelines Committee

Mentor for three non-tenured Biology faculty

# **Arizona State University West**

# Biosafety Committee, ASU

Salary Equity Committee, ASU West

Graduate Committee, ASU West

Faculty Governance Committee, ASU West

# Science Building Committee, ASU West

Scholarship Committee, ASU West

Computer Resources Committee, ASU West

Personnel Committee, Arts and Sciences, ASU West

Ad Hoc Committee for Research Mission Statement Development, ASU West Senate

Physiological Ecologist Faculty Search Committee, ASU West

Ecological Geneticist Faculty Search Committee, ASU West

Science Laboratory Set-up Committee, ASU West

Life Sciences Task Force, ASU West

Coordinator of Life Sciences Search Committee, ASU West

Curriculum Committee, ASU West

Life Sciences Liaison for Library Science collection, ASU West

Life Sciences Curriculum Committee, ASU West

Life Sciences Seminar Committee, ASU West

Life Sciences Space and Facilities Committee, ASU West

Life Sciences Graduate Studies Committee, ASU West

**PROFESSIONAL SOCIETIES:**

#  Ecological Society of America

 Entomological Society of America

 Scientific Member Center for Insect Science

 Society for the Study of Evolution

 Sigma Xi, The Scientific Research Society

Revised August 9, 2018