ALEJANDRO CARLOS COSTAMAGNA

Curriculum vitae

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EDUCATION

2002 - 2006 Michigan State University, MI, USA
Degree received: Dual-Major Ph.D. in Entomology and in Ecology, Evolutionary Biology, and Behavior
Advisor: Doug Landis

2000 - 2002 Michigan State University, MI, USA
Degree received: M.S. in Entomology
Advisor: Doug Landis

1988 - 1994 La Plata National University, La Plata, Argentina
Degree received: B.S. in Biology (Zoology major)

PROFESSIONAL EXPERIENCE

2018 – Present	Associate Professor, Department of Entomology, University of Manitoba
2017 - 2018	Acting Head, Department of Entomology, University of Manitoba
2011 - 2018	Assistant Professor, Department of Entomology, University of Manitoba
2009 - 2011	Postdoctoral Research Scientist, CSIRO Entomology, Indooroopilly, Queensland, Australia.
2006 - 2009	Postdoctoral Research Associate, Dept. of Entomology, University of Minnesota.
2005	Ecological Modeling Intern (3 months), Crop and Weed Ecology Group, Wageningen University, The Netherlands.
2003 - 2006	Graduate Research Assistant, Insect Ecology and Biological Control Laboratory, Dept. of Entomology, Michigan State University.
2002-2003	Graduate Teaching Assistant, Dept. of Entomology, Michigan State University.
2000 - 2002	Graduate Research Assistant, Insect Ecology and Biological Control Laboratory, Dept. of Entomology, Michigan State University.
1998 - 2000	Research Scientist, Laboratory of Agricultural Zoology, National Institute of Agricultural Technology, Balcarce, Argentina.
1996 - 1998	Advanced Training Research Fellowship holder, National Council of Scientific and Technical Research (CONICET), Dept. of Entomology, College of Natural Sciences, La Plata National University.
1994 - 1996	Training Research Fellowship holder, CONICET, Dept. of Entomology, College of Natural Sciences, La Plata National University.

1993 Research Intern (1 month), Laboratory of Agricultural Zoology, National Institute of Agricultural Technology, Saenz Peña, Chaco, Argentina.

RESEARCH

PUBLICATIONS

Peer-reviewed journals:

(Mentees underlined; (+) undergraduate, *MSc, **PhD student supervised, §Post-doctoral Fellow)

1. Kheirodin**, A, HA Cárcamo, BJ Sharanowski, and **AC Costamagna** (2022). Crop diversity increases predator abundance but not predation on cereal leaf beetles in agricultural landscapes. *Journal of Pest Science* 95: 1091-1110 https://doi.org/10.1007/s10340-021-01454-4
2. Weeraddana§, CS, I Wise, RJ Lamb, S Wolfe, T Wist, CA McCartney, MAH Smith, **AC Costamagna** (2021). A laboratory method for mass rearing the orange wheat blossom midge, *Sitodiplosis mosellana* (Diptera: Cecidomyiidae). *The Canadian Entomologist* 153: 828-836. https://doi.org/10.4039/tce.2021.46
3. Wanigasekara, RWMUM, **AC Costamagna,** YE Lawley, and BJ Sharanowski (2021). Color, odor, and species preferences of *Copidosoma bakeri* (Hymenoptera: Encyrtidae) to prospective cover crops to enhance control of cutworms. *Entomologia Experimentalis et Applicata* 169 (4): 362-373 https://doi.org/10.1111/eea.13030
4. Thambugala, D, CJ Pozniak, S Kumar, AJ Burt, IL Wise, MAH Smith, SL Fox, **AC Costamagna** and CA McCartney (2021). Genetic analysis of oviposition deterrence to orange wheat blossom midge in spring wheat. *Theoretical and Applied Genetics.* 134 (2): 647-660 https://dx.doi.org/10.1007/s00122-020-03720-y
5. Rondoni, G, I Borges, J Collatz, E Conti, **AC Costamagna**, F Dumont, EW Evans, AA Grez, AG Howe, E Lucas, J-É Maisonhaute, AO Soares, T Zaviezo, MJW Cock (2021). Exotic ladybirds for biological control of arthropod pests. *Entomologia Experimentalis et Applicata* 169: 6-27. https://doi.org/10.1111/eea.12963
6. Walkowiak, S., L Gao [...] **AC Costamagna**[£], *et al.* (2020). Multiple wheat genomes reveal global variation in modern breeding. *Nature* 588: 277-283 ([£]author 41/98) https://doi.org/10.1038/s41586-020-2961-x
7. Lamb, R, JA Bannerman and **AC Costamagna** (2020). Interactions between exotic and native lady beetle species stabilize community abundance. *Oecologia* 193 (3): 701-711
8. Kheirodin**, A, HA Cárcamo and **AC Costamagna** (2020). Contrasting effects of host crops and crop diversity on the abundance and parasitism of a specialist herbivore in agricultural landscapes. *Landscape ecology* 35:1073-1087 https://doi.org/10.1007/s10980-020-01000-0
9. Kheirodin**, A, BJ Sharanowski, HA Cárcamo and **AC Costamagna** (2020). Consumption of cereal leaf beetle, *Oulema melanopus*, by generalist predators in wheat fields detected by molecular analyses. *Entomologia Experimentalis et Applicata* 168: 59-69. Open access: https://doi.org/10.1111/eea.12835
10. Nagalingam, T[§], and **AC Costamagna** (2019). Two methods for rearing the striped flea beetle *Phyllotreta striolata* under laboratory conditions. *The Canadian Entomologist* 151(5): 677-683
11. Samaranayake*, KGLI, and **AC Costamagna** (2019). Adjacent habitat type affects the movement of predators suppressing soybean aphids. *PLoS ONE* 14(6): e0218522. Open access: https://doi.org/10.1371/journal.pone.0218522

12. Kheirodin**, A, HA Cárcamo and **AC Costamagna** (2019). Laboratory and field tests of predation on cereal leaf beetle *Oulema melanopus* (Coleoptera: Chrysomelidae). *Biocontrol Science and Technology* 29: 451-465. DOI: 10.1080/09583157.2019.1566437
13. Lamb, R, JA Bannerman and **AC Costamagna** (2019). Stability of lady beetle populations in a diverse landscape. *Ecosphere* 10(3): e02630. 10.1002/ecs2.2630 (open access)
14. Karp, D, R Chaplin-Kramer, [...] **AC Costamagna**[£], et al. (2018). Crop pests and predators exhibit inconsistent responses to surrounding landscape composition. *Proceedings of the National Academy of Sciences* 115 (33) E7863-E7870. ([£]author 40/153) https://doi.org/10.1073/pnas.1800042115.
15. Samaranayake*, KGLI, and **AC Costamagna** (2018) Levels of predator movement between crop and neighboring habitats explain pest suppression in soybean across a gradient of agricultural landscape complexity. *Agriculture, Ecosystems and Environment* 259: 135 - 146
16. Bannerman, JA, McCornack, BP, DW Ragsdale, N Koper, and **AC Costamagna** (2018) Predators and alate immigration influence the season-long dynamics of soybean aphid (Hemiptera: Aphididae). *Biological Control* 117: 87-98
17. Ríos Martínez*, AF, and **AC Costamagna** (2018) Effects of crowding and host plant quality on morph determination in the soybean aphid, *Aphis glycines* (Hemiptera: Aphididae). *Entomologia Experimentalis et Applicata* 166: 53-62
18. Vankosky, MA, HA Cárcamo, HA Catton, **AC Costamagna**, and R De Clerck-Floate (2017) Impacts of the agricultural transformation of the Canadian Prairies on grassland arthropods. *The Canadian Entomologist* 149: 718 – 735.
19. Ríos Martínez*, AF, and **AC Costamagna** (2017) Dispersal to predator-free space counterweights fecundity costs in alate aphid morphs. *Ecological Entomology 42: 645 - 656*
20. Koch, RL, and **AC Costamagna (**2017) Reaping benefits from an invasive species: Role of *Harmonia axyridis* in natural biological control of *Aphis glycines* in North America. *BioControl* 62: 331-340.
21. **Costamagna, AC**, WN Venables, and NA Schellhorn (2015) Landscape-scale pest suppression is mediated by timing of predator arrival. *Ecological Applications* 25:1114-1130.
22. Bannerman, JA, **Costamagna**, **AC**, BP McCornack, and DW Ragsdale (2015) Comparison of relative bias, precision, and efficiency of sampling methods for natural enemies of soybean aphid (Hemiptera: Aphididae). *Journal of Economic Entomology* 108: 1381-1397.
23. Hesler, LS, MV Chiozza, ME O'Neal, GC MacIntosh, KJ Tilmon, DI Chandrasena, NA Tinsley, SR Cianzio, **AC Costamagna**, E Cullen, CD DiFonzo, BD Potter, DW Ragsdale, K Steffey, and KJ Koehler (2013) Performance and prospects of *Rag* genes for management of soybean aphid. *Entomologia Experimentalis et Applicata* 147: 201 – 216.
24. **Costamagna**, **AC,** BP McCornack, and DW Ragsdale (2013) Alate immigration disrupts soybean aphid suppression by predators. *Journal of Applied Entomology* 137: 317-320.
25. **Costamagna AC**, BP McCornack, and DW Ragsdale (2013) Within-plant bottom-up effects mediate non-consumptive impacts of top-down control of soybean aphids. *PLoS ONE* 8(2): e56394. Open access: doi:10.1371/journal.pone.0056394.
26. Macfadyen, S, S Cunningham, **AC Costamagna**, and NA Schellhorn (2012) Managing ecosystem services and biodiversity conservation in agricultural landscapes: are the solutions the same? *Journal of Applied Ecology* 49: 690 - 694.

27. **Costamagna**, **AC,** and DA Landis (2011) Lack of strong refuges allows top-down control of soybean aphid by generalist natural enemies. *Biological Control* 57: 184 – 192.
28. Chenaux(+), B, **AC Costamagna**, FJAA Bianchi, and NA Schellhorn (2011) Functional response of two common Australian predators, *Dicranolaius bellulus* (Guérin-Méneville) (Coleoptera: Melyridae), and *Micraspis frenata* (Erichson) (Coleoptera: Coccinellidae), attacking *Aphis gossypii* Glover (Hemiptera: Aphididae*). Australian Journal of Entomology* 50: 453 – 459.
29. **Costamagna**, **AC,** BP McCornack, DW Ragsdale, and DA Landis (2010) Development and validation of node-based sample units to estimate *Aphis glycines* densities in field cage experiments. *Journal of Economic Entomology* 103: 1483 – 1492.
30. Johnson, KD., M O' Neal, DW Ragsdale, CD DiFonzo, SM Swinton, PM Dixon, BD Potter, EW Hodgson, and AC **Costamagna (**2009) Probability of cost-effective management of soybean aphid (Hemiptera: Aphididae) in North America. *Journal of Economic Entomology* 102: 2101 - 2108.
31. Matis, JH, TR Kiffe, W van der Werf, **AC Costamagna**, TI Matis, and WE Grant (2009) Population dynamics models based on cumulative density dependent feedback: A link to the logistic growth curve and a test for symmetry using aphid data. *Ecological Modelling* 220: 1745 – 1751.
32. McCornack, BP, AC **Costamagna**, and DW Ragsdale (2008) Within-plant distribution of soybean aphid (Hemiptera: Aphididae) and development of node-based sample units for estimating whole-plant densities in soybean. *Journal of Economic Entomology* 101: 1488 - 1500.
33. **Costamagna**, AC, DA Landis, and MJ Brewer (2008) The role of natural enemy guilds in *Aphis glycines* suppression. *Biological Control* 45: 368–379.
34. **Costamagna** AC, W van der Werf, FJJA Bianchi, DA Landis (2007) An exponential growth model with decreasing r captures bottom-up effects on the population growth of Aphis glycines Matsumura (Hemiptera: Aphididae). *Agricultural and Forest Entomology* 9: 297 – 305.
35. **Costamagna**, AC, and DA Landis (2007) Quantifying predation on soybean aphid through direct field observations. *Biological Control* 42: 16 – 24.
36. **Costamagna**, AC, DA Landis, and CD DiFonzo (2007) Suppression of soybean aphid by generalist predators results in a trophic cascade in soybean. *Ecological Applications* 17: 441 - 451.
37. **Costamagna**, AC, and DA Landis (2006) Predators exert top-down control of soybean aphids across a gradient of agricultural management systems. *Ecological Applications* 16: 1619 - 1628.
38. Landis, DA, FD Menalled, AC **Costamagna** and TK Wilkinson (2005) Manipulating plant diversity to enhance beneficial arthropods in agricultural landscapes. *Weed Science* 53: 902-908.
39. **Costamagna**, AC, AMM de Remes Lenicov, and M Zanelli (2005) Maize and oat antixenosis and antibiosis against *Delphacodes kuscheli* (Homoptera: Delphacidae), vector of "Mal de Rio Cuarto" of maize in Argentina. *Journal of Economic Entomology* 98: 1374-381.
40. Landis, DA, TB Fox, and **AC Costamagna** (2004) Impact of multicolored Asian lady beetle as a biological control agent. *American Entomologist* 50: 153-155.
41. **Costamagna**, **AC**, Menalled, FD, and DA Landis (2004) Host density influences parasitism of the armyworm *Pseudaletia unipuncta* in agricultural landscapes. *Basic and Applied Ecology* 5: 347-355.

42. **Costamagna**, **AC**, and DA Landis (2004) Effect of food resource provision on adult *Glyptapanteles militaris* (Walsh) and *Meteorus communis* (Cresson) (Hymenoptera: Braconidae), parasitoids of the armyworm, *Pseudaletia unipuncta* (Haworth) (Lepidoptera: Noctuidae). *Environmental Entomology* 33: 128-137.
43. Menalled, FD, **AC Costamagna**, PC Marino and DA Landis (2003) Temporal variation in the response of parasitoids to agricultural landscape structure. *Agriculture, Ecosystems and Environment* 96: 29-35.
44. Remes Lenicov, AMM de, R Mariani and **AC Costamagna** (1997) Morphology, biology, and ecology of *Dicranotropis fuscoterminata* (Homoptera: Delphacidae) on maize in Argentina. *Neotrópica* 43 (109-110): 7-14. (in Spanish with abstract in English)

In press:

1. Almdal*, CA, and **AC Costamagna** (2022) Crop diversity and edge density benefit pest suppression through bottom-up and top-down processes, respectively. Agriculture, Ecosystems and Environment AGEE34518

Book chapters:

Gardiner, MM, AK Fiedler, **AC Costamagna**, and DA Landis (2009) Integrating conservation biological control into IPM. *In* E. B. Radcliffe and W. D. Hutchinson, Integrated Pest Management. Concepts, tactics, strategies and case studies. Cambridge University Press, Cambridge, UK. Pp. 151-162.

Thesis/ Dissertation:

Costamagna, **AC** (2006) Do varying natural enemy assemblages impact *Aphis glycines* population dynamics? Ph. D. Dissertation, Department of Entomology, Michigan State University, East Lansing. 189 pp.

Costamagna, AC (2002) Agricultural landscape complexity has mixed effects on patterns of parasitoid abundance and diversity. M.S. Thesis, Department of Entomology, Michigan State University, East Lansing. 119 pp.

Publications in Published Proceedings (peer-reviewed)

1. Matis, JH, TR Kiffe, W van der Werf, **AC Costamagna**, TI Matis, and GJ Michels Jr. (2009) Comparisons of two symmetric density function solutions of aphid population growth models. *Proceedings of the Conference on Applied Statistics in Agriculture*, Kansas State University.
2. **Costamagna, AC** (1997) Río Cuarto Maize Disease. Resistance of six maize lines to vector *Delphacodes kuscheli* (Homoptera: Delphacidae) in laboratory conditions. Proc. VI National Congress of Maize, Volume I (I): 73 - 78. *(in Spanish)*
3. Presello, DA, **AC Costamagna,** L Conci, AMM de Remes Lenicov, FA Guzmán and P Herrera (1997) Río Cuarto Maize Disease. Study of vector capacity of *Toya propinqua* populations in Pergamino area (Buenos Aires, Argentina). Proc. VI National Congress of Maize, Volume I (II): 1- 5. *(in Spanish)*
4. Remes Lenicov, AMM de, S Paradell, E Virla, GL Varela, **AC Costamagna** and R Mariani (1997) Leafhoppers and Planthoppers damaging to maize crop in Argentina (Insecta-Homoptera). Proc. VI National Congress of Maize, Volume I (II): 58 - 74. *(in Spanish)*

Other publications

Book review: **Costamagna, AC** (2009) Trophic and Guild Interactions in Biological Control, Jacques Brodeur and Guy Boivin, editors. Environmental Entomology *38: 1343-1344.*

RESEARCH PROPOSALS (Principal Investigator listed first)

Funded	***(all funds to my lab, unless funds to my lab indicated in brackets[£], or shared CFI facilities[€])***
2023-2026 $302,450 [$114,000]	Lawley, Y, and **AC Costamagna**. Cover crops for flea beetle management. *Canola Agronomic Research Program*
2022-2023 $25,300 [$14,500]	Lawley, Y, and **AC Costamagna**. Cover crops for flea beetle management: A proof of concept study. *Manitoba Canola Growers*
2022-2023 $1,356,992 [$274,512]	Harynuk, J., **AC Costamagna**, BA Mori, CA McCartney, and C Weeraddana. Multiomics study of host-pest interactions and oviposition deterrence in wheat midge. *Genome Alberta RDAR-IAG Program.*
2020-2025 $140,000	**Costamagna, AC.** Effects of landscape complexity on the functional diversity of natural enemies and the provision of pest control ecosystem services in agricultural landscapes. *NSERC Discovery Grants – Individual.*
2019-2023 $409,241 [219,000][£]	Wist T, R Graf, P Hucl, **AC Costamagna**, and C McCartney. Alternatives to *Sm1*: hairy glumes and egg antibiosis for managing Wheat Midge. *Agriculture Development Fund Saskatchewan (ADF/ SWDC/ AWC/ MWBGA)*.
2018 – 2023 $399,799 [66,356] [£]	Gibbs, J**, AC Costamagna,** R Gulden, Y Lawley. Increasing pollination, biological control and beneficial insect diversity farms using flowering habitats. *Organic Science Cluster III*
2018 – 2023 $468,674 [$453,112] [£]	**Costamagna, AC,** C McCartney, T Wist, D Vanderwel, K Hillier, I Wise, and A Abdelghany. Pyramiding oviposition deterrence and *Sm1* to control Wheat Midge. *Canadian National Wheat Cluster*
2018 – 2023 $731,776 [$411,126] [£]	**Costamagna, AC,** HA Cárcamo, J Otani, T Wist, MA Vankosky, J Gavloski, and T Nagalingam. Integrated approaches for flea beetle control II: incorporating the impacts of plant density, ground predators, and landscape-scale predictive models in the management of flea beetles in the Canadian prairies. *Canola Agri-Science Research Cluster*
2017 – 2020 $215,676	**Costamagna, AC.** "Determining the role of crop and non-crop habitats to provide sustainable aphid suppression in soybeans." *Manitoba Pulse and Soybean Growers / Western Grains Research Foundation.*
2016 – 2019 $426,960 [$15,000][£]	Cárcamo, H.A., Otani, T. Wist, K. Gabert, **A.C. Costamagna,** and J. Gavloski. Validation of lygus and other insect pest thresholds in commercial farms throughout the Prairie Provinces. *Canola Agronomic Research Program (CARP)*
2015 – 2018 $606,153 [$213,124] [£]	**Costamagna, AC,** BJ Sharanowski, H Cárcamo, J Otani, J Gavloski, T Wist, A Nadler, and R Burlatoki. "Integrated approaches for flea beetle control – Economic thresholds, prediction models, landscape effects, and natural enemies" *Canola Agronomic Research Program (CARP)*.
2015 – 2016	Currie, R, and **AC Costamagna.** "Innovation Capacity Grant Enhancement".

$85,000	*Manitoba Agriculture, Food and Rural Development.*
2015 – 2016 $35,000	**Costamagna, AC.** "Relocation of the midge colony from the Cereal Research Centre". *Agriculture and Agri-Food Canada.*
2015 – 2019 $228,525 [$192,525] [£]	**Costamagna, AC,** C McCartney, and C Pozniak. "Enhancing wheat midge resistance in spring and durum wheat" *Agriculture Development Fund Saskatchewan (ADF/WGRF/SWDC).*
2014 – 2018 $451,955	**Costamagna, AC.** Mechanisms of resistance to wheat midge in wheat germplasm. *Western Grains Research Foundation.*
2014 – 2015 $402,770[€]	Sharanowski, BJ, and **AC Costamagna**. Molecular functional ecology: landscape and biodiversity diagnostics facility for sustainable agriculture. *Canadian Foundation for Innovation (CFI), Leaders Opportunity Fund / Manitoba Research & Innovation Fund.*
2014 $7,000	**Costamagna, AC.** Trans-generational non-consumptive impacts of predators on aphids. *University of Manitoba / URGP.*
2012 – 2018 $150,000	**Costamagna, AC.** Multi-scale herbivore regulation in agroecosystems: role of multiple predator assemblages and bottom-up controls. *NSERC Discovery Grants – Individual.*
2012 – 2015 $96,950	**Costamagna, AC.** Soybean Aphid Control by Natural Enemies in Manitoba. *Manitoba Pulse Growers Association Research Grants / Growing Forward – ARDI.*
2012 $7,000	**Costamagna, AC.** Mechanisms of herbivore control in perennial versus annual crops: a food web approach. *University of Manitoba / URGP.*

Projects funded prior to coming to the University of Manitoba

2007 – 2008 US$160,360	Ragsdale, DW, GE Heimpel, **AC Costamagna**, and BP McCornack. Incorporating Natural Enemies into the Economic Thresholds for Soybean Aphid. *Rapid Agricultural Response Fund, University of Minnesota.*
2005 – 2006 US$205,000	Landis, DA, MJ Brewer, **AC Costamagna**, and GE Heimpel. Does Intraguild Predation Limit Soybean Aphid Parasitoid Impacts? *USDA-National Research Initiative Grant.*
2003 – 2004 US$54,000	Landis, DA, K Thelen, CD DiFonzo, ME O'Neal, and **AC Costamagna**. Do Predation and Host Plant Quality Interact to Regulate Soybean Aphid? *Michigan State University Sustainable Agriculture Special Grant.*
2001 – 2002 US$1,000	**Costamagna, AC.** Influence of mating status and food and host availability on the longevity and fecundity of *Glyptapanteles militaris* and *Meteorus communis* (Hymenoptera: Braconidae), parasitoids of the true armyworm, *Pseudaletia unipuncta* (Lepidoptera: Noctuidae). *Hutson Research Grant, Dept. of Entomology, Michigan State University.*
1997 US$500	Brentassi, ME, **AC Costamagna**, and GL Varela. 1997. Feeding ecology of Homoptera Auchenorrhyncha pest of maize in Argentina, in laboratory conditions. (Insecta). *Research support for Graduate Teaching Assistants, College of Natural Sciences, La Plata National University.*

INVITED PRESENTATIONS

1. **Costamagna**, **AC,** A Kheirodin**, HA Cárcamo, and BJ Sharanowski (2022) Crop diversity effects on the abundance of cereal leaf beetle and the impact of its natural enemies. *Invited presentation in P-IE Section Symposium "Advances in the Biological Control of Field Crop Pests"*. Joint Annual Meeting of the Entomological Societies of America and Canada, November 13-16, 2022, Vancouver, BC, Canada.
2. **Costamagna, AC**, M Damien & S Woodland (2022). Landscape effects on flea beetle abundance and damage to canola in the Canadian prairies. 78th Annual Meeting of the Entomological Society of Manitoba, October 28-29, 2022.
3. **Costamagna, AC**, CD Almdal, & M Damien (2022). Landscape effects on aphids and flea beetles in the Canadian Prairies. Department of Ecology Seminar Series, University of Agricultural Sciences, Uppsala, Sweden, September 13th, 2022.
4. Lamb, RJ, JA Bannerman and **AC Costamagna** (2022) Interactions between exotic and native lady beetle species stabilize community abundance. Department of Entomology Seminar Series, University of Manitoba, Canada.
5. **Costamagna, AC** (2018) Mechanisms of landscape structure effects on pest control in agricultural landscapes: timing and movement of natural enemies into crops. *Invited presentation in P-IE Section Symposium "How Crop Diversification across Space and Time Influences Herbivory"*. Joint Annual Meeting of the Entomological Societies of America and Canada, November 11-14, 2018, Vancouver, BC, Canada.
6. Bannerman, JA, McCornack, BP, DW Ragsdale, N Koper, and **AC Costamagna** (2018) Lessons from another Great Plains aphid: Role of generalist predators in the control of the invasive soybean aphid. *Invited presentation in* P-*IE Section Symposium " Ecology and Management of Cereal Aphid Invasions, Crossing the Great Plains Borders from Mexico to Canada"*. Joint Annual Meeting of the Entomological Societies of America and Canada, November 11-14, 2018, Vancouver, BC, Canada.
7. **Costamagna, AC** (2018) "Invasive species in prairie agroecosystems" Entomological Society of Manitoba Annual Meeting, October 19 -20, 2018. Winnipeg, MB.
8. **Costamagna, AC** (2017) Landscape ecology: implications for the populations of insect pests of crops. *Invited presentation in Symposium: "Small but numerous: towards an understanding of the dynamics of insect populations",* Entomological Society of Canada Annual Meeting, October 25, 2017, Winnipeg, Manitoba.
9. **Costamagna, AC** (2017) Agricultural pests and their natural enemies in prairie landscapes. *Invited presentation in Symposium: "Status of prairie grassland arthropods (and agroecosystems)"*, Entomological Society of Alberta Annual Meeting, September 28-30, 2017, Crowsnest Pass, Alberta. **(Keynote Speaker)**
10. **Costamagna, AC** (2017) "Flea beetles: Economic thresholds, natural enemies, and landscapes effects" Manitoba Agronomists Conference, December 13-14, Winnipeg, Manitoba.
11. **Costamagna, AC,** and KGLI Samaranayake* (2016) "Pest control services by beneficial insects in agricultural landscapes in Manitoba" Manitoba Agronomists Conference, December 14-15, Winnipeg, Manitoba.
12. **Costamagna, AC** (2015) "Sustainable Pest Management in Agricultural Landscapes" Faculty of Agricultural and Food Sciences Seminar Series, February 25, Winnipeg, Manitoba.

13. McCartney[‡], CA, MT Kassa, ILWise, M Smith, CJ Pozniak, C Uauy, RJ Förster, F Ordon, AG Sharpe, P Fobert, SL Fox, FM You, J Thomas, CW Hiebert, MC Jordan, and **AC Costamagna** (2015) "Management of wheat midge with host genetics", Department of Entomology Seminar Series, University of Manitoba, Winnipeg, MB, Canada, January 27, 2015. [‡]Presented by CA McCartney.
14. **Costamagna, AC** (2014) Conservation biological control in a changing world. *Invited presentation in Symposium: "Biological Control in a Changing World"*, Entomological Society of Canada Annual Meeting, September 19, 2014, Saskatoon, Saskatchewan.
15. **Costamagna, AC** (2014) Natural enemy impacts on agricultural pests at the landscape scale. Department of Biological Sciences Seminar Series, University of Manitoba, Canada.
16. **Costamagna, AC** (2013) Conservation biological control in agricultural landscapes. *Invited presentation in Symposium: "Roles and conservation of beneficial arthropods in agroecosystems"*, Entomological Society of Canada Annual Meeting, October 20-23, 2013, Guelph, Ontario.
17. **Costamagna, AC** (2012) Impacts of timing of predation and landscape complexity on the suppression of agricultural pests. School of Biological Sciences, University of Guelph, Canada.
18. **Costamagna, AC** (2012) Impacts of timing of predation and landscape complexity on the suppression of horticultural pests in Australia. Department of Entomology Seminar Series, University of Manitoba, Canada.
19. **Costamagna, AC** (2010) Impacts of established natural enemy assemblages on an invasive pest, the soybean aphid, in North America. Entomological Society of Queensland, Brisbane, Australia.
20. **Costamagna, AC** (2008) Biological control at various scales. Entomology Division Seminar, CSIRO Black Mountain, Canberra, Australia.
21. **Costamagna, AC** (2008) Impacts of established natural enemy assemblages on an invasive pest, the soybean aphid. Department of Entomology, University of Minnesota.
22. **Costamagna, AC**, DA Landis, MJ Brewer, and GE Heimpel (2005) Does intraguild predation limit soybean aphid parasitoid impacts? USDA-CSREES Awardee Workshop on Biologically-based Pest Management, ESA Annual Meeting, Fort Lauderdale, Florida.
23. **Costamagna, AC,** and DA Landis (2005) Biological control of soybean aphid. Crop and Weed Ecology Group Seminar Series, Wageningen University, The Netherlands.

CONTRIBUTED PRESENTATIONS IN CONGRESSES AND MEETINGS

[Mentees supervised underlined: [(+)] undergraduate student, *MSc student, **PhD student, and [§]Post-doctoral Fellow; presenter was first author unless otherwise indicated]

1. Weeraddana, CDS[§], W Hillier, T Swandburg, K Hillier, R Wijesundara, C McCartney, T Wist, I Wise, Sheila Wolfe, and **AC Costamagna** (2022) Electrophysiological and behavioral responses of orange wheat blossom midge to volatile organic compounds (VOCs) emitted from preanthesis and postanthesis stages of susceptible wheat. Joint Annual Meeting of the Entomological Societies of America and Canada, November 13-16, 2022, Vancouver, BC, Canada.
2. White*, BA, Weeraddana, CDS[§], S Wolfe, CA McCartney, RJ Lamb, I Wise, T Wist, and **AC Costamagna** (2022) Assessment of awns and hairy glumes in spring wheat lines as a form of resistance against the orange wheat blossom midge, *Sitodiplosis mosellana* (Géhin)

(Diptera: Cecidomyiidae). Joint Annual Meeting of the Entomological Societies of America and Canada, November 13-16, 2022, Vancouver, BC, Canada. (*poster*)

3. Killewald**, **AC Costamagna**, R Gulden, Y Lawley, and J Gibbs (2022). Using floral enhancements to support beneficial insects on crop fields across Manitoba. Joint Annual Meeting of the Entomological Societies of America and Canada, November 13-16, 2022, Vancouver, BC, Canada.
4. White*, BA, Weeraddana, CDS§, S Wolfe, CA McCartney, RJ Lamb, I Wise, T Wist, and **AC Costamagna** (2022) The role of awns and hairy glumes in spring wheat lines as physical deterrents to orange wheat blossom midge, *Sitodiplosis mosellana* (Géhin) (Diptera: Cecidomyiidae) oviposition. 78th Annual Meeting of the Entomological Society of Manitoba, October 28-29, 2022. (*First price student competition*)
5. Weeraddana, CDS§, D Hupka, MA Smith, R Wijesundara, T Wist, C McCartney, and **AC Costamagna** (2022) Exploring chemical composition of surface waxes from wheat spikes of susceptible and deterrent lines to the orange wheat blossom midge, *Sitodiplosis mosellana* (Diptera: Cecidomyiidae) to discover new sources of wheat resistance. 78th Annual Meeting of the Entomological Society of Manitoba, October 28-29, 2022.
6. **Costamagna, AC**, M Damien & S Woodland (2022) Landscape effects on flea beetle abundance and damage to canola in the Canadian Prairies. 78th Annual Meeting of the Entomological Society of Manitoba, October 28-29, 2022.
7. **Costamagna, AC** & CD Almdal (2022) Which adjacent habitats contribute predators during an aphid outbreak? International Symposium "Ecology of Aphidophaga" 15, Universitat de Lleida, Spain, September 19-23, 2022.
8. Dias, RP, CDS Weeraddana, **AC Costamagna**, BA Mori, CA McCartney, AP de la Mata, JJ Harynuk (2022). VOC Profiling of Susceptible and Deterrent Wheat using Comprehensive Two-Dimensional Gas Chromatography. 19th International GCxGC Symposium. Canmore, Alberta, May 29- June 2 (online)
9. White*, BA, Weeraddana, CDS§, S Wolfe, CA McCartney, I Wise, T Wist, and **AC Costamagna** (2021) Understanding the novel response to the resistance gene, *Sm1* by the orange wheat blossom midge, *Sitodiplosis mosellana* (Géhin) (Diptera: Cecidomyiidae). 77th Annual Meeting of the Entomological Society of Manitoba, December 3, 2021 (online).
10. Storozuk*, S, M Damien§, and **AC Costamagna** (2021) Potential of Carabidae and Lycosidae predators to consume flea beetles and reduce canola damage. 77th Annual Meeting of the Entomological Society of Manitoba, December 3, 2021 (online).
11. Killewald**, **AC Costamagna**, R Gulden, Y Lawley, and J Gibbs (2021). Using floral enhancements to support beneficial insects on crop fields. 77th Annual Meeting of the Entomological Society of Manitoba, December 3, 2021 (online).
12. Damien§, M, S Storozuk*, RW Duncan, J Gavloski, and **AC Costamagna** (2021). Additive effects of chemical treatments and seed density reduce canola damage by flea beetles. 77th Annual Meeting of the Entomological Society of Manitoba, December 3, 2021 (online).
13. Weeraddana, CDS§, W Hillier, T Swanburg, NK Hillier, T Ward, R Wijesundara, C McCartney, T Wist, I Wise, S Wolfe and **AC Costamagna**. (2021). The effect of olfactory and tactile cues on wheat midge *Sitodiplosis mosellana* (Géhin) (Diptera: Cecidomyiidae) behavior on pre and postanthesis susceptible wheat. 77th Annual Meeting of the Entomological Society of Manitoba, December 3, 2021 (online).

14. Storozuk*, S, **AC Costamagna** (2021) Potential of Carabidae and Lycosidae predators to consume flea beetles and reduce canola damage. Annual Meeting of the Entomological Society of Canada, November 15-18, 2021 (online).
15. Damien§, M, T Nagalingam§, HA Cárcamo, J Otani, T Wist, JA Bannerman, J Gavloski, **AC Costamagna** (2021). Landscape mediates flea beetle infestation levels in canola crops across Canadian prairies. Annual Meeting of the Entomological Society of Canada, November 15-18, 2021 (online).
16. Weeraddana§, CDS, W Hillier, T Swanburg, NK Hillier, T Ward, C McCartney, T Wist, I Wise, S Wolfe and **AC Costamagna**. (2021). Exploiting volatile organic compounds (VOCs) in pre and postanthesis stages of susceptible wheat. Annual meeting of Entomological Society of America, Denver, Colorado, United States of America (*poster*).
17. Storozuk*, S, **AC Costamagna** (2020) Flea beetle consumption by Carabidae and Lycosidae predators in a Petri dish study. 76th Annual Meeting of the Entomological Society of Manitoba, December 4, 2020 (online).
18. Damien§, M, T Nagalingam§, HA Cárcamo, J Otani, T Wist, JA Bannerman, J Gavloski, **AC Costamagna** (2020). Landscape effects on flea beetle populations in the Canadian prairies. 76th Annual Meeting of the Entomological Society of Manitoba, December 4, 2020 (online).
19. Damien§, M, T Nagalingam§, HA Cárcamo, J Otani, T Wist, JA Bannerman, J Gavloski, **AC Costamagna** (2020). Landscape effects on flea beetle populations in the Canadian prairies. Annual Meeting of the Entomological Society of America, November 11 – 25, 2020 (online).
20. Ríos Martínez *, AF, and **AC Costamagna** (2020) Dispersal to predator free-space counterweights fecundity costs in alate aphid morphs. 68th Annual Meeting of the Entomological Society of Alberta, October 22-23, 2020 (online).
21. Killewald**, MF, F Kordbacheh, **AC Costamagna**, Y Lawley, R Gulden, J Gibbs (2020). Using enhanced floral strips to promote pollinator and beneficial insect abundance adjacent to rotational crop fields. Prairie Organics Conference, 2020 March 5-6, Brandon, MB. (Poster presented by Killewald, M. F.)
22. Kordbacheh, F**,** MF Killewald**, J Gibbs, **AC Costamagna**, Y Lawley, R Gulden (2020). Usage of flower strip habitat for improving crop yield and on farm biological diversity. Poster presented at: Prairie Organics Conference, 2020 March 5-6, Brandon, MB. (Poster presented by Killewald, M. F.)
23. **Costamagna, AC,** A Kheirodin**, BJ Sharanowski, and HA Cárcamo (2019) Does landscape structure influence predation on cereal leaf beetle in wheat fields? Entomol. Society of Manitoba Annual Meeting, October 25-26, 2019; Winnipeg, MB.
24. Almdal, C* and **AC Costamagna** (2019). Using confirmatory path analyses to test landscape and natural enemy effects on soybean aphid suppression. Entomological Society of Manitoba Annual Meeting, October 25-26, 2019; Winnipeg, MB.
25. Woodland, S (+), D Geverink (+), **AC Costamagna** (2019) Effects of temperature on the feeding rates of the flea beetles, *Phyllotreta striolata* and *Phyllotreta cruciferae* (Coleoptera: Chrysomelidae) on untreated canola (Brassicaceae). Undergraduate Research Poster Competition, UofM, October 24; and Entomological Society of Manitoba Annual Meeting, October 25-26, 2019; Winnipeg, MB. (poster)
26. Weeraddana§, CDS, T Ward, C McCartney, D Vanderwel, NK Hillier, T Wist, I Wise, S Wolfe, **AC Costamagna** (2019). Wheat volatile analysis on susceptible and resistant lines to the orange wheat blossom midge, *Sitodiplosis mosellana* (Diptera: Cecidomyiidae). Entomol. Soc. America Annual Meeting, November 17-20, St. Louis, MO.

27. **Costamagna, AC**, and C Almdal* (2019) Interactions between soybean aphids and their natural enemies. International Symposium "Ecology of Aphidophaga 14", September 16-20, 2019, Montreal, QC, Canada.
28. Lamb, RJ, JA Bannerman and **AC Costamagna** (2019). Interactions between exotic and native lady beetle species stabilize community abundance. International Symposium "Ecology of Aphidophaga 14", September 16-20, 2019, Montreal, QC; and Entomological Society of Manitoba Annual Meeting, October 25-26, 2019; Winnipeg, MB.
29. Almdal, C* and **AC Costamagna** (2019) Effect of landscape complexity on *Aphis glycines* Matsumura (Hemiptera: Aphididae) and their natural enemies. Joint meeting Acadian Entomological Society, Entomological Society of Canada, and Canadian Society for Ecology and Evolution, August 18 – 21, 2019, Fredericton, NB.
30. **Costamagna, AC,** T Nagalingam§, HA Cárcamo, T Wist, J Otani, J Gavloski, RW Duncan, and JA Bannerman (2019). Management of Flea Beetles in Western Canada. Joint meeting Acadian Entomological Society, Entomological Society of Canada, and Canadian Society for Ecology and Evolution, August 18 – 21, 2019, Fredericton, NB.
31. Almdal, C* and **AC Costamagna** (2018). The impact of habitat quality on the generalist predator *Coccinella septempunctata*. Joint Annual Meeting of the Entomological Societies of America and Canada, November 11-14, 2018, Vancouver, BC, Canada.
32. Nagalingam§,T, HA Cárcamo, T Wist, J Otani, J Gavloski, R Duncan, JA Bannerman, and **AC Costamagna** (2018) Validation of an economic threshold for canola flea beetles in the prairies. Joint Annual Meeting of the Entomological Societies of America and Canada, November 11-14, 2018, Vancouver, BC, Canada.
33. Kheirodin**, A, HA Cárcamo, BJ Sharanowski, and **AC Costamagna** (2018) Are generalist predator important mortality factors for the cereal leaf beetle, *Oulema melanopus* (L.) (Coleoptera: Chrysomelidae)? Field, laboratory, and molecular evidence. Joint Annual Meeting of the Entomological Societies of America and Canada, November 11-14, 2018, Vancouver, BC, Canada.
34. Catton, HA, HA Cárcamo, and **AC Costamagna** (2018) An experimental test of the impacts of cereal leaf beetle (*Oulema melanopus*), a biocontrol wasp (*Tetrastichus julis*), and generalist predators on wheat yield in the Canadian prairies. Joint Annual Meeting of the Entomological Societies of America and Canada, November 11-14, 2018, Vancouver, BC, Canada.
35. Nagalingam§, T. and **AC Costamagna** (2018) An improved method for rearing the striped flea beetle, *Phyllotreta striolata* (Coleoptera: Chrysomelidae), in the laboratory. Entomological Society of Manitoba Annual Meeting, October 19-20, 2018. Winnipeg, MB.
36. Almdal, C* and **AC Costamagna** (2018) Effect of landscape complexity on *Aphis glycines* Matsumura (Hemiptera: Aphididae) and generalist predator populations in soybean. Entomological Society of Manitoba Annual Meeting, October 19-20, 2018. Winnipeg, MB.
37. Kheirodin**, A, **AC Costamagna**, and HA Cárcamo (2018) Landscape structure effects on the abundance of cereal leaf beetle *Oulema melanopus* L. (Coleoptera: Chrysomelidae), and its parasitoid *Tetrastichus julis* (Walker) (Hymenoptera: Eulophidae). Entomological Society of Manitoba Annual Meeting, October 19-20, 2018. Winnipeg, MB.
38. Almdal, C* and **AC Costamagna** (2017) Determining the role of crop and non-crop habitats in providing sustainable aphid suppression in soybeans in Manitoba. Entomological Society of Canada Annual Meeting, October 22-25, 2017. Winnipeg, MB.

39. Meyer, JH, M Zhang, A Dal Molin, **AC Costamagna**, and BJ Sharanowski (2018) What's eating those flea beetles? A molecular approach to biocontrol. Entomological Society of America Southeastern Branch Meeting, March 4-7, 2018. Orlando, Florida.
40. Nagalingam[§], HA Cárcamo, T Wist, J Otani, J Gavloski, RW Duncan and **AC Costamagna** (2017) Economic threshold for flea beetles in canola in the Canadian Prairies. Entomological Society of Canada Annual Meeting, October 22-25, 2017. Winnipeg, MB.
41. Silva Guimarães**, TF, T Nagalingam[§], J Otani, HA Cárcamo, T Wist, J Gavloski, and **AC Costamagna** (2017) Can landscape structure affect flea beetle populations in canola fields? Entomological Society of Canada Annual Meeting, October 22-25, 2017. Winnipeg, MB.
42. Kheirodin**, A, **AC Costamagna**, and HA Cárcamo (2017) Landscape structure effects on the abundance of the Cereal Leaf Beetle, *Oulema melanopus* (Linnaeus) (Coleoptera: Chrysomelidae) and its parasitoid *Tetrastichus julis* (Walker) (Hymenoptera: Eulophidae). Entomological Society of Canada Annual Meeting, October 22-25, 2017. Winnipeg, MB.
43. Catton, HA, HA Cárcamo, and **AC Costamagna** (2017) Seeing both sides of the coin: putting dollar values on pest and beneficial arthropods. Prairie Barley Summit 2017: A year of Transition, December 6-7, Fairmont Banff Springs Hotel, Banff, Alberta; and Entomological Society of Canada Annual Meeting, October 22-25, 2017. Winnipeg, MB. (poster)
44. Cárcamo, HA, **AC Costamagna**, T Nagalingam, R Brandt, S Daniels, J Otani, and T Wist (2017) Striped flea beetles in southern Alberta: implications for canola pest management. Entomological Society of Alberta Annual Meeting, September 28-30, 2017, Crowsnest Pass, Alberta.
45. Catton, HA, HA Cárcamo, and **AC Costamagna** (2017) Quantifying the value of cereal leaf beetle and its predators. Entomological Society of Alberta Annual Meeting, September 28-30, 2017, Crowsnest Pass, Alberta.
46. Cárcamo, HA, O Olfert, J Otani, **AC Costamagna**, T Nagalingam, and G Labrie (2017) Managing insect pests of canola in Canada. European Plant Protection Organization Workshop on integrated management of insect pests in oilseed rape, September 20 – 22, 2017, Berlin, Germany.
47. Nagalingam[§],T, TF Silva Guimarães**, J Otani, HA Cárcamo, T Wist, J Gavloski, and **AC Costamagna** (2016) Species composition and seasonal pattern of occurrence of flea beetles in the Prairies. 72nd Annual meeting Entomological Society of Manitoba, October 28, 2016, Winnipeg, Manitoba.
48. Almdal[(+)], C, and **AC Costamagna** (2016) Variation in the number of mature ovarioles in *Coccinella septempunctata* (Coleoptera: Coccinellidae) in relation to habitat type. 72nd Annual Meeting of the Entomological Society of Manitoba, October 28, 2016, Winnipeg, Manitoba. (poster)
49. Ríos Martínez *, AF, and **AC Costamagna** (2016) Aphids and their adaptations to a changing environment. 72nd Annual Meeting of the Entomological Society of Manitoba, October 28, 2016, Winnipeg, Manitoba.
50. Silva Guimarães**, TF, T Nagalingam[§], J Otani, HA Cárcamo, T Wist, J Gavloski, and **AC Costamagna** (2016) Landscape effects on flea beetles in the Canadian Prairies. 72nd Annual meeting of the Entomological Society of Manitoba, October 28, 2016, Winnipeg, Manitoba. (poster, First Prize)

51. Kheirodin**, A, **AC Costamagna**, and HA Cárcamo (2016) Does landscape structure influence cereal leaf beetle populations through enhancing the abundance of its specific parasitoid *Tetrastichus julis* in wheat fields. 72nd Annual meeting of the Entomological Society of Manitoba, October 28, 2016, Winnipeg, Manitoba.
52. Samaranayake*, KGLI, and **AC Costamagna** (2016) Control of soybean aphid by predators present in agricultural landscapes in Manitoba. Tenth Canadian Pulse Research Workshop. October 25 – 28, 2016, Winnipeg, Manitoba. (*poster*)
53. **Costamagna, AC**, JA Bannerman, N Koper, BP McCornack and DW Ragsdale (2016) Effects of natural enemies and alate immigration on soybean aphid population dynamics. International Congress of Entomology, September 25 – 30 2016, Orlando, Florida, USA.
54. Samaranayake*, KGLI, and **AC Costamagna** (2016) The influence of landscape complexity and natural enemy movement on soybean aphid populations in Manitoba, Canada. XXV International Congress of Entomology, September 25 – 30 2016, Orlando, Florida, USA.
55. Kheirodin**, A, **AC Costamagna,** and HA Cárcamo (2016) Does landscape structure influence cereal leaf beetle populations through enhancing the abundance of its specific parasitoid *Tetrastichus julis* in wheat fields. XXV International Congress of Entomology, September 25 – 30 2016, Orlando, Florida, USA.
56. Ríos Martínez*, AF, and **AC Costamagna** (2016) Trade-offs associated with investment in winged individuals by an *Aphis glycines* colony under strong predation. XXV International Congress of Entomology, September 25 – 30 2016, Orlando, Florida, USA.
57. Silva Guimarães**, TF, T Nagalingam[§], J Otani, HA Cárcamo, T Wist, J Gavloski, and **AC Costamagna** (2016) Landscape effects on flea beetles in the Canadian Prairies. XXV International Congress of Entomology, September 25 – 30 2016, Orlando, Florida, USA. (poster)
58. McCartney, CA, MT Kassa, CJ Pozniak, FM You, S Cloutier, IL Wise, MAH Smith, AH Sharpe, P Fobert, S Kumar, A Burt, F Ordon, C Uauy, and **AC Costamagna**. (2016) "Wheat midge resistance: breeding and genetics" 3rd Canadian Wheat Symposium, November 22 – 25, 2016. Ottawa, ON
59. **Costamagna, AC,** HA Cárcamo, J Otani, and J Gavloski (2015) Management of flea beetles in the Canadian Prairies. ESA Annual Meeting, November 15 – 18, 2015. Minneapolis, MN.
60. **Costamagna, AC,** C McCartney, S Wolfe, and IL Wise (2015) Progress in screening for wheat midge resistance. ESC Annual Meeting, November 8 – 11, 2015. Montreal, Québec. *(poster)*
61. Otani, J., A Szeitz, **AC Costamagna,** HA Cárcamo, and T Wist (2015) Sticking with flea beetles in canola – Examining species, thresholds, and beyond. ESC Annual Meeting, November 8 – 11, 2015. Montreal, Québec. *(poster)*
62. Wanigasekara, RWMU, **AC Costamagna**, YE Lawley, and BJ Sharanowski (2015) Cover crops as a tool for cutworm management. ESA Annual Meeting, November 15 – 18, 2015. Minneapolis, MN.
63. Ríos Martínez*, AF, and **AC Costamagna** (2015) Costs and benefits of alates in a soybean aphid colony under predation. ESA Annual Meeting, November 15 – 18, 2015. Minneapolis, MN.
64. Samaranayake*, KGLI, and **AC Costamagna** (2015) Does agricultural landscape complexity affect soybean aphid suppression in Manitoba? ESA Annual Meeting, November 15-18, 2015. Minneapolis, MN.

65. Kheirodin**, A, HA Cárcamo and **AC Costamagna** (2015) Effects of landscape structure on abundance of cereal leaf beetle, *Oulema melanopus*, and its parasitoid, *Tetrastichus julis*. ESA Annual Meeting, November 15 – 18, 2015. Minneapolis, MN.
66. Ríos Martínez*, AF, and **AC Costamagna** (2015) The effects of crowding and host-plant quality on soybean aphid wing induction. Entomological Society of Manitoba, October 23-24, 2015, Winnipeg, MB
67. Kheirodin**, A, **AC Costamagna**, and HA Cárcamo (2015) Effects of landscape structure on abundance of cereal leaf beetle *Oulema melanopus* and its parasitoid, *Tetrastichus julis*. Entomological Society of Manitoba, October 23 – 24, 2015, Winnipeg, MB
68. Samaranayake*, KGLI, and **AC Costamagna** (2015) Does natural enemy movements and agricultural landscape complexity affect soybean aphid suppression in Manitoba? Entomological Society of Manitoba, October 23-24, 2015, Winnipeg, MB
69. Ríos Martínez*, AF, and **AC Costamagna** (2014) Contribution of soybean aphid alates to colony fitness under predation. Entomological Society of Manitoba, October, 2014, Winnipeg, MB (First place in the student paper competition) & Entomological Society of Canada, September, 2014, Saskatoon, SK (Honourable mention at the Arthropod Biology session).
70. Kheirodin**, A, HA Cárcamo and **AC Costamagna** (2014) Field and laboratory tests of predation on cereal leaf beetle *Oulema melanopus.* Entomological Society of Manitoba, October, 2014, Winnipeg, Manitoba & Entomological Society of Canada, September, 2014, Saskatoon, SK.
71. Bannerman, JA, **AC Costamagna**, BP McCornack, and DW Ragsdale (2014) A comparison of sampling methods for natural enemies of soybean aphid. Entomological Society of Manitoba, October, 2014, Winnipeg, MB.
72. Samaranayake*, KGLI, and **AC Costamagna** (2014) Suppression of Soybean Aphid and movement of natural enemies in agricultural landscapes in Manitoba. ESA Annual Meeting, Portland, Oregon (*virtual poster*)
73. Samaranayake*, KGLI, and **AC Costamagna** (2014) Biological control of soybean aphid in a gradient of agricultural landscapes and movement of natural enemies from adjacent habitats. Entomological Society of Manitoba, October 3 – 4, 2013, Winnipeg, MB.
74. Samaranayake*, KGLI, and **AC Costamagna** (2014) Soybean aphid control in different agricultural landscapes and movement of natural enemies from adjacent habitats. Entomological Society of Canada Annual Meeting, September 19, 2014, Saskatoon, SK.
75. McCartney, CA, MT Kassa, IL Wise, MAH Smith, CJ Pozniak, AG Sharpe, P Fobert, SL Fox, JB Thomas, CW Hiebert, MC Jordan, and **AC Costamagna** (2014). "Managing wheat midge with host genetics", 2nd Canadian Wheat Symposium, Saskatoon, SK, Canada, June 8 – 11, 2014.
76. **Costamagna, AC** (2013) Comparison of predation in annual versus perennial agroecosystems: Aphid predation in soybean versus alfalfa in Manitoba. ESA Annual Meeting, Austin, November 10 – 13, Texas. *(poster)*
77. Samaranayake*, KGLI, and **AC Costamagna** (2013) Soybean aphid control and movement of natural enemies from adjacent habitats. Entomological Society of Manitoba, November 1 – 2, 2013, Winnipeg, Manitoba.
78. Babel (+), C, Z Rempel (+) and **AC Costamagna** (2013) Study of soybean bee pollinators in Manitoba. Entomological Society of Manitoba, November 1– 2, 2013, Winnipeg, Manitoba. (*poster*)

79. **Costamagna, AC**, and NA Schellhorn (2013) Landscape-scale pest suppression is mediated by timing of predation. Ecological Society of America Annual Meeting, August 4 – 9, 2013, Minneapolis, Minnesota. (*poster*)
80. **Costamagna, AC (**2012) Comparison of predation in annual versus perennial agroecosystems: aphid predation in soybean versus alfalfa in Manitoba. Entomological Society of Canada, November 3 – 7, 2012, Edmonton, Alberta.
81. **Costamagna, AC (**2012) Comparison of predation in annual versus perennial agroecosystems: aphid predation in soybean versus alfalfa in Manitoba. Entomological Society of Manitoba, October 12 – 13, 2012, Winnipeg, Manitoba.
82. Rempel (+), Z, and **AC Costamagna (**2012) Bee pollinators of soybean in Manitoba. Entomological Society of Manitoba, October 12 – 13, 2012, Winnipeg, Manitoba. (*poster*)
83. Macfadyen S, S Cunningham, **AC Costamagna**, NA Schellhorn (2012) Can management for ecosystem services contribute to biodiversity conservation in agricultural landscapes? Planet Under Pressure 2012 Conference, March 25 – 29, 2012, Excel London, UK (*poster*)
84. **Costamagna, AC**, and NA Schellhorn (2011) Impacts of timing of predation and landscape complexity on the suppression of horticultural pests in Australia. ESA Annual Meeting, Reno, Nevada.
85. Schellhorn**,** NA, and **AC Costamagna (**2011) Landscape scale pest management: Approaches for understanding habitat function. CIRAD Workshop: "New tools for changes in management of insect of economic importance", October 4 – 5, 2011, Montpellier, France.
86. **Costamagna, AC**, and NA Schellhorn‡ (2010) Impacts of landscape complexity and early predation on the suppression of horticultural pests. Ecological Society of Australia Annual Conference, Canberra, Australia. (‡ presenter)
87. **Costamagna, AC**, BP McCornack, and DW Ragsdale (2009) Indirect impacts of aphid predators mediated by plant quality. X International Congress of Ecology, Brisbane, Australia.
88. van der Werf, W, DA Landis, MM Gardiner, **AC Costamagna**, JM Baveco, FJJA Bianchi, NA Schellhorn, and W Zhang (2009) Analysing, forecasting and valuating the effects of landscape change on the ecosystem service of biological pest control. AgSAP Conference, Egmond aan Zee, The Netherlands.
89. **Costamagna, AC**, BP McCornack, and DW Ragsdale (2008) Changes in within-plant quality mediate predator impacts on aphids. ESA Annual Meeting, Reno, Nevada.
90. Chiozza, M, S Cianzio, **AC Costamagna**, E Cullen, CD Difonzo, G MacIntosh, B Potter, DW Ragsdale, K Steffey, K Tilmon, N Tinsley, and ME O' Neal (2008) Exploring soybean germplasm for resistance to *Aphis glycines*. ESA Annual Meeting, Reno, Nevada. *(poster)*
91. van der Werf, W, DA Landis, MM Gardiner, **AC Costamagna**, JM Baveco, PW Goedhart, FJJA Bianchi, NA Schellhorn, W Zhang, and S Swinton (2008) Modelling and design of pest suppressive landscapes. 5th International Crop Science Conference, April 13 – 18, 2008, Jeju, Korea.
92. Landis, DA, MM Gardiner, AK Fiedler, **AC Costamagna**, and N Saidov (2008) Landscape Ecology and Management of Natural Enemies in IPM Systems, pp. 83-88, *In* Proc. Central Asia Region Integrated Pest Management Stakeholders Forum, May 27 – 29, 2007 Dushanbe, Tajikistan.

93. van der Werf, W, DA Landis, MM Gardiner, **AC Costamagna**, JM Baveco, FJJA Bianchi, NA Schellhorn, and W Zhang (2008) Modelling the effects of landscape change on the ecosystem service of biological pest control. International Workshop on Linking Biophysical and Economic Models of Biofuel Production and Environmental Impacts, November 13 – 14, 2008, Chicago, Illinois.
94. **Costamagna, AC**, BP McCornack, and DW Ragsdale (2007) Incorporating natural enemies into current economic thresholds for soybean aphid. ESA Annual Meeting, San Diego, California. *(poster)*
95. McCornack, BP, **AC Costamagna**, EC Burkness, WD Hutchison, and DW Ragsdale (2007) Within-plant distribution of soybean aphid (Hemiptera: Aphididae) and development of node-based sample units for estimating whole-plant densities in soybean. ESA Annual Meeting, San Diego, California.
96. **Costamagna, AC**, and DW Ragsdale (2007) Assessing the combined effect of natural enemies and plant resistance to suppress soybean aphid populations. ESA North Central Branch Meeting, Winnipeg, Manitoba.
97. **Costamagna, AC**, and DA Landis (2006) Do varying natural enemy assemblages impact *Aphis glycines* population dynamics? IOBC Student Award talk, ESA Annual Meeting, Indianapolis, Indiana.
98. Berro, AM, MM Gardiner, **AC Costamagna**, M Colunga-Garcia, and SH Gage (2006) Abundance of native and non-native coccinellids in diverse Michigan habitats. ESA North Central Branch Meeting, Bloomington, Illinois. *(poster)*
99. **Costamagna, AC**, and DA Landis‡ (2005) Generalist predator communities exert top-down control of a new invasive pest, the soybean aphid (*Aphis glycines* Matsumura). IOBC Symposium, Davos, Switzerland. (‡ presenter)
100. **Costamagna, AC**, and DA Landis (2005) Relative impacts of natural enemy taxa on soybean aphid population regulation. ESA Annual Meeting, Fort Lauderdale, Florida.
101. Landis, DA, MJ Brewer, **AC Costamagna** and GE Heimpel (2005) Does Intraguild Predation Limit Soybean Aphid Parasitoid Impacts? p. 10-11 *In* Proc. of CSREES, USDA Awardee Workshop on Biologically-based Pest Management, Entomological Society of America Annual Meeting, December 14, 2005, Fort Lauderdale, Florida. 39 pp.
102. **Costamagna, AC**, and DA Landis (2004) Natural enemies affect field distribution and population growth of the soybean aphid, *Aphis glycines* Matsumura (Homoptera: Aphididae) in Michigan. ESA Annual Meeting, Salt Lake City, Utah.
103. **Costamagna, AC**, and DA Landis (2004) Relative impacts of natural enemy taxa on soybean aphid population regulation. KBS LTER All-Investigator Meeting, Kellogg Center, East Lansing, Michigan. *(poster)*
104. **Costamagna, AC,** and DA Landis (2004) Relative strength of top-down versus bottom-up regulation on *Aphis glycines* Matsumura (Homoptera: Aphididae). Ecological Society of America Annual Meeting, Portland, Oregon.
105. **Costamagna, AC,** and DA Landis (2003) Effect of natural enemies and host plant quality on establishment and population growth of the soybean aphid *Aphis glycines* Matsumura Homoptera: Aphididae) in Michigan. ESA Annual Meeting, Cincinnati, Ohio.
106. **Costamagna, AC**, DA Landis, K Thelen, C DiFonzo, and ME O'Neal (2003) Do predation and host plant quality interact to regulate soybean aphid? KBS LTER All-Investigator Meeting, Kellogg Biological Station, Michigan. *(poster)*
107. **Costamagna, AC** and DA Landis (2002) Effects of carbohydrate resources, hosts and mating on *Meteorus communis* (Hymenoptera: Braconidae) longevity and fecundity. ESA Annual Meeting, Fort Laureldale, Florida.

108. **Costamagna, AC**, FD Menalled, PC Marino and DA Landis (2002) Host density and agricultural landscape complexity: impacts on parasitoid community responses to *Pseudaletia unipuncta* Haworth. Land Use Forum Abstracts, East Lansing, Michigan.
109. **Costamagna, AC**, FD Menalled, PC Marino and DA Landis (2002) Host density and agricultural landscape complexity: impacts on parasitoid community responses to *Pseudaletia unipuncta* Haworth. ESA North Central Branch Meeting, East Lansing, Michigan.
110. **Costamagna, AC**, FD Menalled, P.C. Marino and DA Landis (2001) Host density and agricultural landscape complexity: impacts on parasitoid community responses to *Pseudaletia unipuncta* Haworth. ESA Annual Meeting, San Diego, California.
111. Menalled, FD, **AC Costamagna**, PC Marino and DA Landis (2001) Influence of agricultural landscape structure on parasitoid abundance: a long-term perspective. Ecological Society of America 86th Annual Meeting, Madison, Wisconsin.
112. **Costamagna, AC,** FD Menalled and DA Landis (2000) Biology of *Glyptapanteles militaris* (Hymenoptera: Braconidae) and effect of temperature, water and sugar availability on adult longevity. ESA Annual Meeting, Montreal, Canada. *(poster)*
113. Menalled, FD, **AC Costamagna**, PC Marino and DA Landis (2000) Long-term assessment of the influence of agricultural landscape complexity in parasitoid abundance and diversity. ESA Annual Meeting, Montreal, Canada. *(poster)*
114. **Costamagna, AC**, PL Manetti, HA Alvarez Castillo and V Sadras (1999) Advances in slug management in no-till systems. Proc. XVI Grain Harvest Meeting, Mar del Plata, Argentina. 5 pp. *(in Spanish)*
115. **Costamagna AC**, AM Vincini, HA Alvarez Castillo, AN López and IP Butzonitch (1999) Population fluctuation of Delphacidae (Homoptera: Auchenorrhyncha) in Southeast Buenos Aires. Summaries XIX Argentinean Meeting of Ecology; Tucumán, Argentina. 96. *(in Spanish)*
116. Vincini, AM, **AC Costamagna**, HA Alvarez Castillo, ML Colavita, FH Andrade, AN López and IP Butzonitch (1999) Population fluctuation of *Delphacodes kuscheli* and "Mal de Río Cuarto" Corn Disease incidence in Southeast Buenos Aires. Summaries X Argentinean Plant Pathology Meeting, Jujuy, Argentina. 263. *(in Spanish)*
117. Brentassi, ME, **AC Costamagna,** and GL Varela (1998) Feeding behavior of Río Cuarto Maize Disease vector, *Delphacodes kuscheli* Fennah, on winter cereal crops. Proc. IV National Congress of Wheat; Mar del Plata, Argentina. 4.26. *(in Spanish)*
118. **Costamagna, AC** (1998) Development and fecundity of Río Cuarto Maize Disease vector, *Delphacodes kuscheli* Fennah, on winter cereal crops**.** Proc. IV National Congress of Wheat; Mar del Plata, Argentina. 4.27. *(in Spanish)*
119. **Costamagna, AC**, GL Varela, and ME Brentassi (1998) Biology of Río Cuarto Maize Disease vector, *Delphacodes kuscheli* Fennah (Homoptera: Delphacidae), on winter cereal crops, in laboratory conditions. 1. Survival and Longevity. Summaries IV National Congress of Entomology; Mar del Plata, Argentina. 103. *(in Spanish)*
120. Varela, GL, **AC Costamagna,** and AMM de Remes Lenicov (1998) Biology of three species of Delphacidae (Homoptera: Auchenorrhyncha) present in cultivate and natural gramineous plants. Development of nymphal instars. Summaries IV National Congress of Entomology; Mar del Plata, Argentina. 187. *(in Spanish)*
121. Remes Lenicov, AMM de, S Paradell, **AC Costamagna**, GL Varela, R Mariani, and ME Brentassi (1997) Homoptera Auchenorrhyncha of economic interest in Argentina. Summaries XVI Brazilian Congress of Entomology, Salvador, Bahía, Brazil. *(in Spanish)*

122. Remes Lenicov, AMM, S Paradell, R Mariani, E Virla, **AC Costamagna,** and GL Varela (1995) Río Cuarto Maize Disease: Systematic and Bioecology of its vector insects. Summaries Scientific Communication Meeting, College of Natural Sciences, La Plata National University, La Plata, Argentina. *(in Spanish)*

123. Arias de Lavalle, G, and **AC Costamagna** (1994) Study on the intake capacity of different instars of *Eriopis connexa* Germ. supplied with *Alabama argillacea* (Huebner) eggs. Summaries Biological Control Symposium, Granados, Brazil. *(in Portuguese)*

Technical reports

1. Almdal*, C, and **AC Costamagna** (2022) Determining the role of crop and non-crop habitats to provide sustainable aphid suppression in soybeans. Final Project Report, Manitoba Pulse and Soybean Growers. 20 pp.
2. Almdal, CD, **AC Costamagna** (2019) Determining the role of crop and non-crop habitats to provide sustainable aphid suppression in soybeans. MPSG Annual Extension Report, 4 pp.
3. **Costamagna, AC,** HA Cárcamo, J Otani, T Wist, T Nagalingam, M Vankosky, J Gavloski, R Duncan (2019) Integrated approaches for flea beetle control II: incorporating the impacts of plant density, ground predators, and landscape-scale predictive models in the management of flea beetles in the Canadian Prairies. Annual Report, AgriScience Program-CCC, ASC-02, 10 pp.
4. **Costamagna, AC**, C McCartney, K Hillier, T Wist, D Vanderwel, I Wise, C Weeraddana (2019) Pyramiding oviposition deterrence and Sm1 to control wheat midge. Annual Performance Report, ASC-04, Canadian Wheat Research Cluster, 4 pp.
5. **Costamagna, AC**, C McCartney, C Pozniak (2019) Enhancing wheat midge resistance in spring and durum wheat. Final Report ADF Saskatchewan, Project 20140250, 8 pp.
6. **Costamagna, AC** (2018) Determining the role of crop and non-crop habitats to provide sustainable aphid suppression in soybeans. Annual Report, Manitoba Pulse and Soybean Growers / WGRF, 3 pp.
7. **Costamagna, AC,** HA Cárcamo, T Wist, BJ Sharanowski, J Otani, J Gavloski, T Nagalingam and M. Patel (2018) Integrated approaches for Flea beetle control –Economic thresholds, prediction models, landscape effects, and natural enemies. Final Report, CARP-CCC, AIP-2015-17, 16 pp + Appendix 58 pp.
8. Nagalingam, T, **Costamagna, AC**, Cárcamo, HA, Otani, J, Wist, T, Vankosky, M, Gavloski, J and Duncan, R (2018) Integrated approaches for flea beetle control II: incorporating the impacts of plant density, ground predators, and landscape-scale predictive models in the management of flea beetles in the Canadian prairies. 58th Annual Meeting WCCP, Lloydminster, AB. 2018/October/18.
9. **Costamagna, AC**, and C McCartney (2018) Mechanisms of resistance to wheat midge in wheat germplasm . Final Report WGRF Project AIP- CL06, activity 47, 6 pp.
10. **Costamagna, AC**, and C McCartney (2018) Mechanisms of resistance to wheat midge in wheat germplasm . Annual Report WGRF Project AIP- CL06, activity 47, 16 pp.
11. **Costamagna, AC,** HA Cárcamo, T Wist, BJ Sharanowski, J Otani, J Gavloski, T Nagalingam and M. Patel (2017) Integrated approaches for Flea beetle control –Economic thresholds, prediction models, landscape effects, and natural enemies. Annual Progress Report, CARP-CCC, AIP-2015-17, 11 pp + Appendix 40 pp.
12. **Costamagna, AC,** and KGLI Samaranayake* (2016) Soybean aphid control by natural enemies in Manitoba. Final Report MPGA/ARDI 12-1140, 35 pp.

13. **Costamagna, AC**, C McCartney, and C Pozniak (2016) "Enhancing wheat midge resistance in spring and durum wheat" Agriculture Development Fund Saskatchewan (ADF/ WGRF/ SWDC) - Project 20140250. Interim Report, 4 pp.
14. **Costamagna, AC,** et al. (2016) Integrated approaches for Flea beetle control –Economic thresholds, prediction models, landscape effects, and natural enemies. Annual Progress Report, CARP-CCC, AIP-2015-17, 7 pp.
15. Kheirodin**, A, **AC Costamagna**, BJ Sharanowski, HA Cárcamo (2016) Potential of naturally occurring predators to suppress populations of the cereal leaf beetle, *Oulema melanopus* in wheat. 56th Ann. Meeting, Western Committee on Crop Pests (WCCP), Saskatoon, SK, 1 p.
16. **Costamagna, AC,** T Nagalingam§, TF Silva Guimarães**, BJ Sharanowski, A Dal Molin, HA Cárcamo, J Otani, T Wist, J Gavloski, and R Burlatoki (2016) Integrated approaches for flea beetle control - Economic thresholds, prediction models, landscape effects, and natural enemies. 56th Annual Meeting WCCP, Saskatoon, SK, 1 p.
17. Ríos Martínez*, AF, and **AC Costamagna** (2016). Contribution of soybean aphid alates to colony fitness under predation. 56th Annual Meeting WCCP, Saskatoon, SK, 1 p.
18. Samaranayake*, KGLI, and **AC Costamagna** (2016). Soybean aphid predation across different agricultural landscapes in Manitoba. Ann. Meeting WCCP, Saskatoon, SK, 1 p.
19. Abdelghany §, A, **AC Costamagna**, S Wolfe, C McCartney, and T Wist (2016) Mechanisms of resistance to wheat midge in wheat germplasm. Ann. Meet. WCCP, Saskatoon, SK, 1 p.
20. **Costamagna, AC**, and C McCartney (2016) Mechanisms of resistance to wheat midge in wheat germplasm . WGRF Project Number: AIP- CL06, activity #: 47, 6 pp.
21. **Costamagna, AC**, C McCartney, and C Pozniak (2015) Enhancing wheat midge resistance in spring and durum wheat. Agriculture Development Fund Saskatchewan (ADF/ WGRF/ SWDC) - Project 20140250. Interim Report, 3 pp.
22. **Costamagna, AC**, and C McCartney (2015) Mechanisms of resistance to wheat midge in wheat germplasm WGRF Project Number: AIP- CL06, activity #: 47, 3pp.
23. **Costamagna, AC,** BJ Sharanowski, A Dal Molin, HA Cárcamo, J Otani, T Wist, J Gavloski, and R Burlatoki (2015) Integrated approaches for flea beetle control - Economic thresholds, prediction models, landscape effects, and natural enemies. 55th Annual Meeting WCCP, Abbotsford, BC, 1 p.
24. Ríos Martínez*, AF, and **AC Costamagna** (2015). Contribution of soybean aphid alates to colony fitness under predation. 55th Annual Meeting of WCCP, Abbotsford, BC, 1 p.
25. Samaranayake*, KGLI, and **AC Costamagna** (2015). Soybean aphid predation across different agricultural landscapes in MB. 55th Ann. Meet. WCCP, Abbotsford, BC, 1 p.
26. **Costamagna, AC**, and C McCartney (2014) Mechanisms of resistance to wheat midge in wheat germplasm . WGRF Project Number: AIP- CL06, activity #: 47, 2 pp.
27. Kheirodin**, A, **AC Costamagna,** and HA Cárcamo (2014) Effects of landscape structure on abundance of Cereal Leaf Beetle *Oulema melanopus* (Linnaeus) (Coleoptera: Chrysomelidae) and its natural enemies, including the parasitoid *Tetrastichus julis* (Walker)(Hymenoptera: Eulophidae). 54th Annual Meeting WCCP, Canmore, AB, 1 p.
28. Ríos Martínez*, AF, and **AC Costamagna** (2014) Contribution of soybean aphid alates to colony fitness under predation. 54th Annual Meeting WCCP, Canmore, AB, 1 p.
29. Samaranayake*, KGLI, and **AC Costamagna** (2014) Soybean aphid predation across different agricultural landscapes in Manitoba. 54th Ann. Meet. WCCP, Canmore, AB, 1 p.
30. **Costamagna, AC,** and KGLI Samaranayake* (2014) Soybean aphid control by natural enemies in Manitoba. Annual Progress Report MPGA/ARDI, 2 pp.

31. **Costamagna, AC,** and KGLI Samaranayake * (2013) Soybean aphid predation across different agricultural landscapes in Manitoba. 53rd Ann. Meet. WCCP, Winnipeg, MB, 1 p.
32. Cárcamo, H., C Chelle, L Dosdall, S Kher, W Leeds, J Gavloski, N Melnychuk, O Olfert, and **AC Costamagna** (2013) Relocation of *T. julis* for biocontrol of cereal leaf beetle in the Prairies and landscape study in southern AB. 53rd Ann. Meet. WCCP, Winnipeg, MB, 1 p.
33. **Costamagna, AC** (2013) Soybean aphid control by natural enemies in Manitoba. Annual Progress Report MPGA/ARDI, 2 pp.
34. Rempel, Z (+), and **AC Costamagna** (2012) Bee pollinators of soybeans in Manitoba. 52nd Annual Meeting WCCP, October 16, Saskatoon, SK, 1 p.
35. **Costamagna, AC** (2012) Comparison of predation in annual versus perennial agroecosystems: aphid predation in soybean versus alfalfa in Manitoba. 52nd Annual Meeting WCCP, October 16, Saskatoon, SK, 1 p.
36. **Costamagna, AC** (2012) Soybean aphid control by natural enemies in Manitoba. Annual Progress Report MPGA/ARDI, 2 pp.
37. Schellhorn, NA, **AC Costamagna** and FJJA Bianchi (2011) Revegetation by design, Queensland: Natural resource management and IPM. Horticulture Australia Limited, Project VG07040, 61 pp.

AWARDS RECEIVED

1. Gold Harvest Award – Member of the Entomology Field Guide Team. Agriculture and Agri-Food Canada (2016).
2. Outstanding Ph.D. Student Award - International Organization for Biological Control (IOBC) (2006).
3. Dr. Robert R. Driesbach Award for outstanding achievement in a Ph. D. Program, Department of Entomology, Michigan State University (2006).
4. First place, oral presentations, section Ca1 (Biological Control) Entomological Society of America (ESA) Annual Meeting, Salt Lake City, Utah (2004)
5. First place, oral presentations, section Ca1 (Biological Control) ESA Annual Meeting, Cincinnati, Ohio (2003)
6. Honorable mention, sections Ca & Ce-f, oral presentations, ESA North Central Branch Meeting, East Lansing, Michigan (2002).

FELLOWSHIPS RECEIVED

1. Ecology, Evolutionary Biology, and Behavior Program (MSU) Summer Fellowship (2005).
2. Travel Fellowship (MSU Graduate School, OISS, Dept. of Entomology, and Insect Ecol. and Biol. Control Lab), to support a 3-month visit to Wageningen University (The Netherlands) (2005).
3. C.S. Mott Pre-Doctoral Fellowship in Sustainable Agriculture (2003 – 2005).
4. Hutson Travel Support Grant, Department of Entomology, MSU, to attend ESA Annual Meetings (2000 – 2005).
5. Training (1994 – 1996), and Advanced Training (1996 – 1998) Fellowships, National Council of Scientific and Technical Research (CONICET), Argentina.

TEACHING

COURSES (Percent responsibility)

Undergraduate

- *Principles of Ecology* - AGEC 2370. Fall (100%).
- *Physiological Ecology of Insects* - ENTM 4520. Winter, even years (50%)
- *World of Bugs* - ENTM 1000. Winter (14 – 27%).

Graduate

- *Advances in Physiological Ecology of Insects* - ENTM 7240. Winter, even years (50%)
- *Advanced Entomology* - ENTM 7150 / 7220. Winter, every 2-3 years (40 - 60%).

Invited lectures:

Costamagna, AC. 2021. Movement of predators between crops and neighbouring habitats and landscape management. Master's degree Integrated Pest Management Program, School of Agrifood and Forestry Science and Engineering, University of Lleida, Spain.

Costamagna, AC. 2015. Role of natural enemies in sustainable pest management in agricultural landscapes. *Pesticides: Environment, Economics and Ethics* – SOIL 3520, University of Manitoba.

ADVISING AND STUDENT SUPERVISION

Student Advisor, graduate students:

1. *Cecil Montemayor Aizpurua* (05/2022 – present). PhD in Entomology. "Effect of flower strips in ecosystem services provided by natural enemies and soil entomofauna."
2. *Bridget White* (09/2020 – present). MSc in Entomology. "Alternatives to the *Sm1* resistance gene: hairy glumes and egg antibiosis for managing wheat midge"
3. *Shayla Woodland* (01/2020 – present). MSc in Entomology. "Effects of ground predators, abiotic factors and seeding rate on the flea beetles, *Phyllotreta cruciferae* (Goeze) and *Phyllotreta striolata* (F.) (Coleoptera: Chrysomelidae)"
4. *Michael Killewald* (05/2019 – present) PhD in Entomology. "Designing enhanced floral strips to increase arthropod mediated ecosystem services in rotational crop fields within the Canadian prairies". [*co-supervised with Dr. J. Gibbs*]
5. *Crystal Almdal* (09/2017 - present). MSc in Entomology. "Determining the role of crop and non-crop habitats to provide sustainable aphid suppression in soybeans."
6. *Arash Kheirodin* (01/2014 – 08/2019). Ph.D. in Entomology. "Effects of landscape structure on abundance of Cereal Leaf Beetle *Oulema melanopus* (Coleoptera: Chrysomelidae) and its parasitoid *Tetrastichus julis* (Hymenoptera: Eulophidae)." [*co-supervised with HA Cárcamo*]
7. *K.G.L. Ishan Samaranayake* (09/2013 – 08/2017). M.Sc.in Entomology. "Soybean aphid suppression and natural enemy movement in agricultural landscapes in Manitoba."

8. *Aldo F. Ríos Martínez* (09/ 2013 – 03/ 2017). M.Sc.in Entomology. "Role of alate morph in soybean aphid population dynamics."

Committee Member, graduate students:

1. *Victoria Smelko* (2022- present). M.Sc. in Entomology, University of Manitoba.
2. *Jesse Mutcheson* (2021- present). M.Sc. in Plant Sciences, University of Manitoba.
3. *Desiree Langenfeld* (2020- present). M.Sc. in Entomology, University of Manitoba.
4. *Sean Johnson-Bice* (2020- present). Ph.D. in Biological Sciences, University of Manitoba.
5. *Emily Hanuschuk* (2018- 2021). M.Sc. in Entomology, University of Manitoba.
6. *Lavanya Ganesan* (2017 – 2020). M.Sc. in Entomology, University of Manitoba.
7. *Udari M. Wanigasekara* (2013 – 2020). Ph.D. in Entomology, University of Manitoba.
8. *Kelsey Johnson* (2016 – 2018). M.Sc. in Biological Sciences, University of Manitoba.
9. *Andrés F. Herrera Flórez*[2] (2012 – 2015). Ph.D. in Entomology, University of Manitoba.
   [2]*withdrew from program.*

Undergraduate students (supervisor):

1. *Nicole Regev Kantorovich* (2022) Mechanisms of resistance to wheat midge. Undergraduate Research Student.
2. *Riley Glesby* (2021-2022) Ecology and management of flea beetles and wheat midge. Undergraduate Research Student.
3. *Nicole Chan* (2021) Ecology and management of flea beetles and wheat midge. Undergraduate Research Student.
4. *Ethan Vallelly* (2021) Role of flower strips on increase beneficial insects on farms. *NSERC USRA Student*.
5. *Naomi Hutchinson* (2019 –2021) Designing enhanced floral strips to increase arthropod mediated ecosystem services in rotational crop fields within the Canadian prairies.
6. *Michael Smith* (2019 –2022) Designing enhanced floral strips to increase arthropod mediated ecosystem services in rotational crop fields within the Canadian prairies. [*co-supervised with Dr. J. Gibbs*]
7. *Shayla Woodland* (2018 – 2019). Flea beetle management in canola crops. Undergraduate Research Student.
8. *Alanna Shaw* (2017). A literature review of the effects of transgenic corn on arthropod communities with a focus on *C. carnea.* Agroecology (AGEC 3510) literature review (Mentor)
9. *Denice Geverink* (2017 – 2022). Flea beetle management in canola crops. Undergraduate Research Student.
10. *Ryan MacDonald* (2017). Mechanisms of resistance to wheat midge. Undergraduate Research Student (co-supervised).
11. *Courtney Freeth* (2017). Enhancing wheat midge resistance in spring and durum wheat (co-supervised).
12. *Joannah Creith* (2016 – 2017). Enhancing wheat midge resistance in spring and durum wheat (co-supervised).

13. *Leah Irwin* (2016 – 2018). Flea beetle management in canola crops. Undergraduate Research Student.
14. *Seriki Muhammed Zul Gambari* (2016 – 2018). Mechanisms of resistance to wheat midge. Undergraduate Research Student.
15. *Crystal Almdal* (2015 – 2017). Flea beetle management in canola crops. Coop Program Student. *Poster presented at the Entomological Society of Manitoba Annual Meeting and Undergraduate Research Poster Competition (U of Manitoba)*
16. *Corey Blad* (2015 – 2018). Flea beetle management in canola crops. Undergraduate Research Student; *Garland Award Student 2017*.
17. *Liane Carter* (2014 – 2016). Aphid and flea beetle ecology in Manitoba. Undergraduate Research Student.
18. *Thales Leonardo Guilherme da Silva* (2014). Study of food webs of natural enemies of aphids on alfalfa, field peas and fava beans in Manitoba. *Summer Internship* (Science without Borders Program – Brazil).
19. *Mikala Epp* (2014 – 2015) Ecology of soybean aphid in Manitoba. Undergraduate Research Student (*NSERC USRA Student*)
20. *Kaitlyn Patterson* (2013 – 2014). Role of different crops and habitats as sources of natural enemies of insect pests. *Agroecology Research Project.*
21. *Melanie Scallion* (2013). Dispersal of beneficial insects into field crops (*NSERC USRA Student*)
22. *Cherilyn Babel* (2012 – 2013). Study of soybean bee pollinators in Manitoba (*NSERC USRA – Garland Award Student*). *Poster presented at the Entomological Society of Manitoba Annual Meeting and Undergraduate Research Poster Competition (U of Manitoba)*
23. *Zoe Rempel* (2012 – 2013). Bee pollinators of soybean in Manitoba. Coop Program Student. *Poster presented at the Entomological Society of Manitoba Annual Meeting and Undergraduate Research Poster Competition (U of Manitoba)*
24. *Chalsie Warren* (2012) Mechanisms of herbivore control in perennial versus annual crops: a food web approach. Undergraduate Research Student.
25. *Barthélémy Chenaux* (2009). "Biological control of vegetable pests in the Lockyer Valley, Australia". Short term internship (six months), Agrocampus Ouest, Rennes Cedex, France. [co-supervised]
26. *Tristram Gibbons* (2003). "The intrinsic rate of growth of soybean aphid, *Aphis glycines* Matsumura, under different systems of soybean production". Senior Individualized Project, Graduation at Kalamazoo College, Kalamazoo, MI. [co-supervised]

Post-doctoral Fellows

1. *Maxime Damien* (2020 – present) "Integrated approaches for flea beetle control II: incorporating the impacts of plant density, ground predators, and landscape-scale predictive models in the management of flea beetles in the Canadian Prairies"
2. *Chaminda Weeraddana* (2018 – present) "Pyramiding oviposition deterrence and *Sm1* to control Wheat Midge"
3. *Tharshi Nagalingam* (2016 – 2019) "Economic thresholds for flea beetle control"
4. *Ahmed Abdelghany* (2016 – 2018) "Wheat midge resistance"
5. *Rassol Bahreini* (2015) "Wheat midge resistance"

Technicians and Research Assistants

1. *Crystal Almdal* (2022-present). Technician
2. *Ramya Wijesundara* (2021-present). Technician
3. *Mandeep Kaur* (2021-present). Technician (co-supervised)
4. *Udari M. Wanigasekara* (2019). Technician (co-supervised)
5. *Courtney Freeth* (2019). Technician (co-supervised)
6. *Seriki Muhammed Zul Gambari* (2018 – 2020). Technician
7. *Ananthan Yogananthan* (2017-2018) Research Assistant
8. *Matthew Baschuk* (2017 – 2018) Research Assistant
9. *Liane Carter* (2016 – 2019) Research Assistant
10. *Zoe Rempel* (2015) Research Assistant
11. *Tharshi Nagalingam* (2014 – 2015) Research Assistant
12. *Alicia Leroux* (2014) Research Assistant
13. *Roxanne Georgison* (2014 – 2019, 2022) Technician (co-supervised)
14. *Ian Wise* (2014 – 2020) Technician (co-supervised)
15. *Sheila Wolfe* (2013 – present) AAFC Technician (co-supervised)
16. *Jordan Bannerman* (2012 – 2019) Research Assistant and Instructor
17. *Dave Holder* (2011 – present) Technician (co-supervised)

SERVICE AND OUTREACH

PROFESSIONAL SERVICE:

- *Academic Editor* Basic and Applied Ecology (2023 – present)
- *Judge Student presentations* (2022) ESA/ESC/ESBC Joint Annual Meeting, Vancouver
- *Academic Editor* The Canadian Entomologist (2022 – present)
- *President (Elect, Current, and Past)* Entomological Society of Manitoba (2018 – 2021)
- *Academic Editor* Frontiers in Sustainable Food Systems – Agroecology and Ecosystem Services (2021 – present)
- *Academic Editor* PLoS ONE (2018 – present)
- *Member of the Search Committee for the Insect Ecologist (Stored Products) Research Scientist position,* AAFC Winnipeg, Canada (2018)
- *Member of the Scientific Committee*, Entomological Society of Canada Annual Meeting (2016 – 2017)
- *Chair of the Scientific Committee,* Entomological Society of Manitoba Annual Meeting (2016)
- *Member at Large,* International Organization for Biological Control (2014 – 2016).
- *Member at Large*, Entomological Society of Manitoba (2014 – 2015).
- *Member of the AAFC Entomology Peer Review Panel,* AAFC Ottawa (17 proposals, 2013)
- *Member of the Publications Committee*, Entomological Society of Canada (2013 – 2016).
- *Session Chair,* Entomological Society of Manitoba Annual Meeting (2012).

Reviewer

a) External examiner of Thesis / Dissertations:

- *Silvana Abbate*, Ph.D. in Agricultural Sciences, University of the Republic, Uruguay (2022) [External Member of Thesis Committee]
- *Alexandre Levi Garcia Mourão*, Ph.D. in Agricultural and Food Science and Technology, University of Lleida, Spain (2022) [External Member of Thesis Committee]
- *Guillermo Aguilera Nuñez,* Ph.D. in Ecology, Swedish University of Agricultural Sciences (2020) [Thesis Opponent].
- *Mahsa Hooshmandi*, M.Sc. in BioScience, Technology and Public Policy. University of Winnipeg (2016) [External examiner]
- *Felicia (Cerasela) Grigoras*, M.Sc. in Biology. University of Winnipeg (2015) [External examiner]
- *Christine Bahlai*, Ph. D. in Entomology. School of Environmental Sciences, University of Guelph (2012) [External examiner]

b) Journals:

Agricultural and Forest Entomology, Agriculture, Ecosystems & Environment, Annals of the Entomological Society of America, Basic and Applied Ecology, Behavioral Ecology, Biological Control, Bulletin of Entomological Research, Bulletin of Insectology, Canadian Entomologist, Crop Protection, Ecological Applications, Ecological Entomology, Ecology, Entomologia Experimentalis et Applicata, Environmental Entomology, Frontiers in Ecology and the Environment, Journal of Applied Ecology, Journal of Applied Entomology, Journal of Economic Entomology, Journal of Insect Science, Journal of Pest Science, Landscape Ecology, Oecologia, Oikos, PeerJ, Pest Management Science, PLoS ONE, Revista de la Facultad de Agronomía (75 manuscripts total)

c) Grant proposals:

Israel Science Foundation (2012); Manitoba Rural Adaptation Council (2012); Agriculture and Agri-Food Canada (2013, 2014, 2015, 2016, 2018); Ministry of Science, Technology and Innovation, Argentina (2014); Mitacs (2015, 2019, 2022); Czech Republic Science Research Grant Proposals (2015); Alberta Livestock and Meat Agency (2016); FONDECYT, Chile (2020); Alberta Conservation Association (2022); NSERC Discovery (2022); German Academic Exchange Service (DAAD) (2022)

SCIENTIFIC SOCIETY MEMBERSHIP

2012 – present	Member, Entomological Society of Canada
2011 – present	Member, Entomological Society of Manitoba
2009 – present	Member, International Association for Ecology
2005 – present	Member, International Organization for Biological Control
2013 – 2015	Member, Canadian Forum for Biological Control
2003 – present	Member, Ecological Society of America
2000 – present	Member, Entomological Society of America
1994 – 2000	Member, Entomological Society of Argentina

OUTREACH ACTIVITIES:

Publications:

1. Gibbs, J., Lawley, Y., Killewald**, M. F., Kordbacheh, F., **Costamagna, AC**, Gulden, R. (2021). Flowering habitat strips. *Better Farming* (October) 46–48.
2. Almdal*, C and **AC Costamagna** (2020) How Natural Enemies Respond to Soybean Aphids During High and Low Aphid Years. *Pulse Beat*, Summer 2020, 90: 25-26
3. **Costamagna, AC** (2018) Can soybean seed treatments protect against soybean aphid in Manitoba? *Pulse Beat*, Spring 2018, 83: 37
4. **Costamagna, AC,** and KGLI Samaranayake* (2014) Soybean aphid control by natural enemies. *Pulse Beat***,** Fall/Winter, 73: 50-51.
5. **Costamagna, AC** (2013) Beneficial Insects in the Garden: Predators. *The leaflet*, January/February: 8 (Friends of Gardens Manitoba)
6. **Costamagna, AC,** and L Lawrence (2011) Beetle allies for Australian vegetable growers. *Outlooks in Pest Management*, 22: 4 – 6.
7. Lawrence, L, and **AC Costamagna** (2011) Natural ally. *Vegetables Australia*, January / February: 38 – 39.
8. Landis, DA, **AC Costamagna**, and CD DiFonzo (2004) Are soybean aphids regulated by weather, natural enemies or both? *Field Crop Advisory Team Alert*, Michigan State University, 19 (2), July 22, 2004: 1-2.
9. Landis, DA and **AC Costamagna** (2001) Armyworm parasites common in wheat. *Field Crop Advisory Team Alert*, Michigan State University, 6 (12), June 28, 2001: 1-2.

Oral presentations:

1. **Costamagna, AC** (2022) Els depredadors de pugons. Només marietes? [Aphid predators, only ladybeetles?]. Technical Workshop, Symposium Ecology of Aphidophaga 15, Lleida, Spain (September 16, 2022)
2. **Costamagna, AC**, M Damien & S Storozuk (2022) Flea beetle management in the Canadian Prairies: an update. Canola Council of Canada presentation updates and Q&A session. (February 14, 2022, online)
3. **Costamagna, AC**, M Damien & S Storozuk (2021) Flea beetles in the Canadian Prairies. Canola Council of Canada webinar presentation and Q&A session: Preparing for Battle: Fighting Flea Beetles & Establishing a Strong Plant Stand. (Apr 8, 2021, online)
4. **Costamagna, AC** (2020) The wild side of pest management. Manitoba Ag Days, Brandon, Manitoba (January 23)
5. **Costamagna, AC** (2017) Pest control services provided by beneficial insects in agricultural landscapes. Novitas Argentina Farmer North America Tour, Glenlea, Manitoba (August 11; 30 Argentinian farmers, in Spanish)
6. **Costamagna, AC**, and NA Schellhorn (2011) Impacts of beneficial insects and surrounding landscape on pest suppression. Lockyer valley silverleaf whitefly and melon aphid research results, extension talk, Gatton, QLD, Australia, May 6.
7. **Costamagna, AC**, and DW Ragsdale (2008) The role of natural enemies in soybean aphid population dynamics. Extension talks (4, total audience 150), Winter Crop Days, Southern Research & Outreach Center and University of Minnesota Extension, 01/ 16-17/ 2008.
8. Manetti, PL, and **AC Costamagna** (1999) Management of slug pests in non-tillage crops. Extension talk, CREA Group Tandil, Estancia Aleluya, Balcarce, Argentina (18/08/99).

Extension events:

1. **Manitoba CanolaPalooza** (2017) Insect Pest Management stand. Portage la Prairie AAFC Research Station, Portage la Prairie, Manitoba. June 22, 2017 (~230 attendees)
2. **Smart Day, Manitoba Pulse and Soybean Growers** (2016) Soybean aphids and predators, scouting and managing. Carman, Manitoba (100 attendees and 13 presenters)
3. **Manitoba CanolaPalooza** (2016) Beneficial insects stand. Portage la Prairie AAFC Research Station, Portage la Prairie, Manitoba. June 21, 2016 (160 attendees)

Media interviews:

1. "The wild side of pest control" By Dylan Paradis. *The Manitoba Cooperator / AgCanada.com* https://www.agcanada.com/video/the-wild-side-of-pest-control (January 23, 2020)
2. "Beneficial insects (predators)" Rachel Lagacé CTV Morning (June 4, 2019)
3. "No shortage of dragonflies in Manitoba" by Melissa Verge. *The Brandon Sun* (June 21, 2018)
4. "Flea beetle forecasting would lengthen treatment options" by Robert Arnason. *Western Producer* (March 29, 2018)
5. "U of M Conducting Flea Beetle Research" by Cory Knutt. *Steinbach online* (July 6, 2017)
6. "Are you ready to scout for and control flea beetles?" by Melania Epp. *Country Guide* (May 30, 2017)
7. "Give your insect friends a home" by Julienne Isaacs. *Country Guide* (May 12, 2017)
8. "Preserve natural habitat and enjoy free pest control" by Angela Lovell. *The Manitoba Co-operator* (February 9, 2017)
9. "Natural predators eager to provide free insect control" by Ed White. *The Western Producer* (August 2016)
10. "Flea beetles on the move" by Gerald Pilger. *Farm Forum* (Spring 2016)
11. "Tracking insect movement a productive challenge" by Julienne Isaacs. *Top Crop Manager*, Western ed. (September 2015)
12. "Natural enemies keep soybean aphids at bay" by Bruce Barker. *Top Crop Manager*, Western ed. (February 2015)
13. "More value from shelterbelts" by Gord Leathers. *Country Guide* (September 2014) 58-59.

CONTINUING PROFESSIONAL DEVELOPMENT

Conference and Scientific meetings (excluding those listed before under Presentations):

1. XXVI International Congress of Entomology (2022). July 17-22, Helsinki, Finland.
2. Western Committee of Crop Pests Annual Meeting (2021). October 28-29, online.
3. Prairie Pest Monitoring Network Meeting (2021). March 22, online
4. Western Committee of Crop Pests Annual Meeting (2020). October 29, online.
5. Canola Discovery Forum (2019). November 13-14, Winnipeg, MB.
6. Canola Discovery Forum (2018). October 22-23, Banff, AB.
7. Western Committee of Crop Pests Annual Meeting (2017). October 26, Winnipeg, MB
8. Canola Discovery Forum (2015). October 29, Canmore, AB.