Short Biography of Dr. Athyna N. Cambouris

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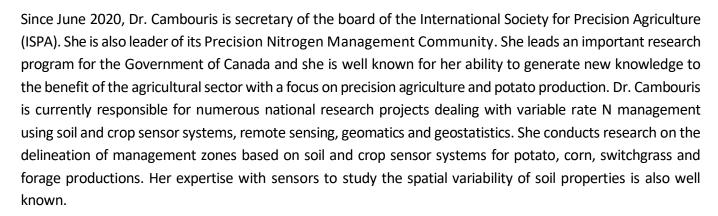Athyna.Cambouris@agr.gc.ca
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Studies

B.S.A. (1989), Bio-agronomy, Laval University, Quebec, Canada
M.Sc. (1991), Soil and Environment Department, Laval University, Quebec City, Canada
Ph.D. (2007), Soil and Environment Department, Laval University, Quebec City, Canada

Short biography

Since June 2020, Dr. Cambouris is secretary of the board of the International Society for Precision Agriculture (ISPA). She is also leader of its Precision Nitrogen Management Community. She leads an important research program for the Government of Canada and she is well known for her ability to generate new knowledge to the benefit of the agricultural sector with a focus on precision agriculture and potato production. Dr. Cambouris is currently responsible for numerous national research projects dealing with variable rate N management using soil and crop sensor systems, remote sensing, geomatics and geostatistics. She conducts research on the delineation of management zones based on soil and crop sensor systems for potato, corn, switchgrass and forage productions. Her expertise with sensors to study the spatial variability of soil properties is also well known.

Dr. Cambouris has supervised or co-supervised six M.Sc., three Ph.D. students and one postdoc. Since March 2022, she has become the founding Science Team Lead of the Digital agriculture & Hydrology Team at QRDC as part of AAFC Renewal and Reorganization. She leads three research assistants, one M.Sc. and four Ph.D. students. Dr. Cambouris is an adjunct professor at Laval University and at the *Institut National de recherche – Eau – terre – Environnement de Québec*.

Dr. Cambouris is the main investigator of the Potato Cluster project entitled "Enhancement of Canadian Potato Industry through Smart Farming" involving all Eastern Canada provinces. She is actively involved in the Living Lab Initiatives program of AAFC in Prince Edward Island and QC provinces where she implemented precise N management using the approach of PA (management zone, variable rate applications and UAV imagery) under potato production and studied the spatial-temporal variability of the health soil properties under corn production with intercropping and cover crops.

Since 2007, Dr. Cambouris is President of the *Commission de géomatique agricole et agriculture de précision* (GAAP*)* which is the official expert committee for Precision Agriculture in Quebec. Dr. Cambouris is one of the instigators within the *GAAP* Commission of a 3-day training in Precision agriculture and geomatics in the province of Quebec. This 3-day training is offered periodically all around the year since 2018. Dr. Cambouris has organized and chaired four Conferences on Precision Agriculture for the *GAAP* Commission. She is a member of the: American Society of Agronomy, Soil Science Society of America, and the *Association Québécoise des Spécialistes en Sciences du Sol*.

Selected papers (Names underlined are under the supervision of Dr. Cambouris)

Nze Memiaghe, J. D., **Cambouris, A. N.**, Ziadi, N., & Karam, A. (2022). Tillage Management Impacts on Soil Phosphorus Variability under Maize–Soybean Rotation in Eastern Canada. *Soil Systems*, *6*(2), 45.

Lajili, A., **Cambouris, A. N.**, Chokmani, K., Duchemin, M., Perron, I., Zebarth, B. J., ... & Adamchuk, V. I. (2021). Analysis of Four Delineation Methods to Identify Potential Management Zones in a Commercial Potato Field in Eastern Canada. Agronomy, 11(3), 432.

Nze Memiaghe, J. D., **Cambouris, A.N.**, Ziadi, N., Karam, A., & Perron, I. (2021). Spatial Variability of Soil Phosphorus Indices under Two Contrasting Grassland Fields in Eastern Canada. Agronomy, 11(1), 24.

Coulibali, Z., Cambouris, A. N., & Parent, S. É. (2020). Cultivar-specific nutritional status of potato (Solanum tuberosum L.) crops. *Plos One*, *15*(3), e0230458.

Coulibali, Z., **Cambouris, A.N.**, & Parent, S. É. (2020). Site-specific machine learning predictive fertilization models for potato crops in Eastern Canada. PloS one, 15(8), e0230888.

Zebarth, B.J., Monirul Islam, M., **Cambouris, A.N.,** Perron, I., Burton, D.L., Comeau, L.P., Moreau, G. 2019. Spatial variation of soil health indices in a commercial potato field in Eastern Canada. Soil Sci. Soc. Amer. J. 83 : 1786-1798. doi:10.2136/sssaj2019.03.0087.

Perron, I., **Cambouris**, **A.N.,** B.J. Zebarth., P. Rochette, N. Ziadi. 2019. Effect of three nitrogen fertilizer sources on denitrification rate under irrigated potato production on sandy soils. Can J. Soil Sci. 99(2): 117-125, https://doi.org/10.1139/cjss-2018-0150

Perron, I., **Cambouris**, **A.N.,** Chokmani, K., M.F. Vargas Gutierrez, B.J. Zebarth, G. Moreau, A. Biswas, V. Adamchuk, 2018. Delineating soil management zones using a proximal soil sensing system in two commercial potato fields in New Brunswick, Canada. Can J. Soil Sci. 98(4): 724-737, https://doi.org/10.1139/cjss-2018-0063

Alotaibi, K.D., **Cambouris**, **A.N.,** M. St. Luce, N. Ziadi, N. Tremblay. 2018. Economic Optimum Nitrogen Fertilizer Rate and Residual Soil Nitrate as Influenced by Soil Texture in Corn Production. Agron. J. 110(6), 2233-2242. 10.2134/agronj2017.10.0583

Cambouris, A.N., A.J. Messiga, N. Ziadi, I. Perron, C. Morel. 2017. Decimetric-Scale Two-Dimensional Distribution of Soil Phosphorus after 20 Years of Tillage Management and Maintenance Phosphorus Fertilization. Soil Science Society of America Journal.

Bélanger, G., **Cambouris**, **A.N.,** G. Parent, D. Mongrain, N. Ziadi, I. Perron. 2017. Biomass yield from an old grass field as affected by sources of nitrogen fertilization and management zones in northern areas. Canadian Journal of Plant Science 97(1): 53-64.

Cambouris, A.N., Ziadi, N., Perron, I., Alotaibi, K.D., St. Luce, M., and Tremblay. N. 2016. Corn yield components response to nitrogen fertilizer as a function of soil texture. Canadian Journal Soil Science 96: 386–399 (2016) dx.doi.org/10.1139/cjss-2015-0134.

Morissette, R., Jégo, G., Bélanger, G., **Cambouris, A.N.**, Nyiraneza, J., and Zebarth, B.J. 2016. Simulating potato growth and nitrogen uptake in Eastern Canada with the STICS model. Agronomy Journal, 108(5): 1853–1868. Doi: 10.2134/agronj2016.02.011

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Cambouris, A.N., Zebarth, B.J., Ziadi, N., Perron, I. 2014. Precision agriculture in potato production. Potato Research. 57(3): 249−262. Doi : 10.1007/s11540-014-9266-0

Cambouris, A.N., St. Luce, M., Ziadi, N., Zebarth, B.J. 2014. Soil- and plant-based indices in potato production in response to polymer-coated urea. Agron. J. *106*(6): 2125−2136. Doi: 10.2134/agronj14.0041.

Allaire, S.E., **Cambouris, A.N.**, Lafond, J.A., Lange, S.F., Pelletier, B., Dutilleul, P. 2014. Spatial variability of potato tuber yield and plant nitrogen uptake related to soil properties. Agron. J. 106: 851–859.

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