



# Canadian Society of Agronomy *La Société Canadienne d'Agronomie*

CSA Newsletter

August 2021

## PRESIDENT'S MESSAGE

*Fellow CSA members,*

This is my first newsletter as president CSA. I'm delighted to assume the role of CSA president since July this year, taking over from Andrew Burt who did an outstanding job shepherding CSA through a challenging year due to Covid 19 pandemics. He continues on the executive as past-president and chair of our awards committee

It is an honor to serve the Community of Canadian Agronomists. I see the CSA as a great professional development and networking platform, provides opportunity to our members with to advance their career milestones, to mentor students and to network with great Canadian professionals and beyond. First, I would like to thank Sheri Strydhorst as Past President and Doug Cattani as Secretary-Treasurer for their years of service to the society. I would also like to welcome our new CSA executive members: Kiu Lui (Western Director) Milad Eskandri (Eastern Director) and look forward to working with members of the new executive board and all members of CSA in strengthening and advancing our society, building on its rich history, and carrying forward its immense legacy.

CSA is dedicated to enhancing research collaboration among agronomists, facilitating scientific exchange, and training of new generation of scientists to enhance food security amidst climate change. We are fortunate to have a strong core of active members, with diversified disciplines, background and depth of knowledge from faculties of Agriculture in different Universities, Research Scientists from Agriculture and Agri-Food Canada, and provincial government organizations, as well as Extension specialists from across Canada. Therefore, I would like to ask all CSA members to be an advocate of our society in their organizations and encourage their colleagues and students to join CSA. Furthermore, we need to acknowledge, appreciate and celebrate the accomplishments of our CSA member's success to inspire our young scientists, early career agronomists and graduate students to join CSA. Your Canadian Society of Agronomy has held annual meetings every year since its establishment in 1954. These meetings provide the opportunity for scientific exchange, igniting new collaboration among scientists, recognizing scientific achievements by Canadian researchers, and supporting a new generation of agricultural scientists. This year, we had a very successful Tri-Society virtual conference, jointly organized with the Canadian Phytopathological Society, Canadian Society of Agronomy and Canadian Society of Horticultural Science. In 2022, CSA is working with the Canadian Weed Science Society to hold a joint CWSS-CSA meeting in Halifax. Please mark your calendar to participate and present your research during Nov. 13-19, 2022, Halifax, Nova Scotia.

I would like to congratulate our distinguished agronomist award winners, CSA fellows, Early career agronomists, Ali Navabi student travel awards, Pest management award, Best paper award and CSA BASF photo contest awards. I would also like to congratulate the CJPS Outstanding associate Editor and the Outstanding reviewers. Special appreciation and congratulations to students oral and poster presentation awards winners.

I wish all CSA members success. I look forward to seeing all of you at future CSA events and to serving as your president. Enjoy the rest of your summer.

Mumtaz Cheema  
CSA President



## Calling all Graduate Students....

### Do you want to share your work with other Canadian scientists and agronomists?

The Canadian Society of Agronomy (CSA) is looking to print short (250 word) summaries of graduate student research projects in the CSA newsletter. This will highlight up and coming graduate students and their work, and bring their energy and enthusiasm to the CSA!

We encourage all graduate students who presented at a CSA Green Bagger session to submit a written summary of their presentation. We also welcome research summaries from students who have not presented at a CSA Green Bagger event.

CSA newsletters are circulated 2 to 4 times per year. One month before the newsletter is circulated, a notice will be sent to the CSA membership requesting submissions of graduate student articles. Articles must be submitted at least 1 week prior to newsletter circulation. Graduate students should have their supervisor and fellow graduate student review their article and make editorial suggestions prior to submission. Articles will be printed as submitted. We also encourage graduate students to submit a photo with their article to be printed in the newsletter.

Please submit graduate student research summaries to Nancy Zubriski at [nzubriski@gmail.com](mailto:nzubriski@gmail.com).

All CSA graduate student members are eligible to submit a summary of their research project. CSA graduate student memberships are available for \$25 (<https://agronomycanada.com/membership/sign-up-and-renewal/>)

## Save the Date!

Upcoming Canadian Society of Agronomy Annual General Meetings and Conference:

The 2022 CSA Annual Meeting and Conference will be held in conjunction with the Canadian Weed Science Society on November 13-19, 2022 in Halifax.

Please plan to attend this future CSA meeting.

## Canadian Journal of Plant Science Associate Editors and Manuscript Submissions

The Canadian Journal of Plant Science is looking for Associate Editors and manuscript submissions. If you are interested in becoming an Associate Editor contact Dr. Brian Beres at [brian.beres@canada.ca](mailto:brian.beres@canada.ca). For information on submitting a manuscript visit <https://cdnsiencepub.com/doi/pdf/10.4141/cjps74-034>

## Meet the 2021-2022 CSA Executive

### President - Mumtaz Cheema



Dr. Mumtaz A. Cheema, is a Professor – Agronomy in Boreal Ecosystems and Agricultural Sciences Program, School of Science and the Environment, Memorial University of Newfoundland, NL, Canada. He has approximately thirty years experience in agricultural research, teaching, and outreach activities. His research focus is to develop productive and sustainable cropping systems to combat the challenges of food security amid climate change. Integrated nutrient management practices that conserve or enhance soil quality and health through efficient nutrient cycling is also focus of his research program. He is collaborating with three industry partners to develop and test growth media formulations (wood ash, paper sludge, dairy digestate, rock dust, etc.) to improve soil physiochemical and biological properties, and their effects on growth and quality of horticultural and field crops. Recently, he earned \$1.3 Million research grant from Agricultural Clean Technology Program, Tourism, Culture, Industry and Innovation (TCII), Fisheries and Land Resources (FLR) and Atlantic Canada Opportunities Agency (ACOA), to investigating the effects of crop rotation and nitrogen fertilizer stabilizers on soil quality and health; greenhouse gas emissions, nitrogen losses, growth, yield and quality of forage crops in boreal climate. Dr Cheema has developed innovative seed priming techniques to induce vigor and stress tolerance in crops under abiotic stresses. He has established very strong research collaborations with the industry, Provincial and Federal organizations, and with colleagues in the Memorial University and other Universities nationally and internationally. He has published 120 peer reviewed research articles and authored four book chapters/monographs. He regularly participates and presents his research work in professional societies meetings, national and international conferences, symposiums and workshops. He also presented his research as an invited **Keynote speaker** in many international conferences. He is actively involved in teaching of undergraduate and graduate courses and training of graduate students, postdoctoral fellows and lab assistants. Dr. Cheema has supervised/co-supervised 44 Master, and 10 PhD students. Currently, he is supervising 3 postdoctoral fellows, supervising or co-supervising 10 MSc and three PhD students. He is Program Chair and Graduate Officer of Boreal Ecosystems and Agricultural Sciences Program. Dr. Cheema is actively involved in community services, editorial boards and a member of provincial research advisory committee. Before joining Memorial University, he was a visiting Professor at Dalhousie University Agricultural Campus Truro, and Professor of Agronomy at University of Agriculture, Faisalabad, Pakistan.

He has served the Canadian Society of Agronomy as an Eastern Director during 2017 & 2018

### President-Elect - Jamie Larsen



Dr. Jamie Larsen received his Ph.D. in Plant Agriculture with a focus on wheat breeding from the University of Guelph in 2012. From 2011 to 2018, his research at Agriculture and Agri-Food Canada's Lethbridge Research and Development Centre focused on developing perennial wheat, perennial cereal rye, fall rye, winter durum and winter triticale for grain and livestock producers with the goal of maximizing the sustainability of cereal production systems through breeding, agronomy and molecular genetic approaches. In 2018, he transferred to the Harrow Research and Development Centre to revitalize the AAFC dry bean breeding program for Eastern Canada. The focus of his research program at Harrow is to breed for resistance to fungal, bacterial, viral and nematode pests. The program also places a large emphasis on method development in

dry bean breeding, including speed breeding and incorporating near infrared reflectance spectroscopy and other high throughput methods to assess dry bean cooking and canning quality.



## Meet the 2021-2022 CSA Executive (Con't.)

### Past-President - Andrew Burt



Andrew Burt is a research scientist and spring wheat breeder working with Agriculture and Agri-Food Canada based at the Ottawa Research and Development Centre. Andrew's research program focusses on developing spring wheat cultivars for Eastern Canada, from Prince Edward Island to North-Western Ontario, with good agronomy, excellent disease resistance, and good quality for the end user. Andrew obtained his MSc Biology from the University of Ottawa and his PhD in Plant Agriculture at the University of Guelph in 2011. He was trained in a maize breeding program that focused on inbred development and later worked as a research associate in a dry bean breeding program before joining AAFC in 2014 in Brandon MB to direct spring wheat breeding programs for the Northern and Eastern Prairies. In 2018 Andrew relocated to

Ottawa to focus on breeding for Eastern Canada. To this point of his career, Andrew has participated in the release of 44 maize inbred lines, five dry bean cultivars, and gained support to register seven wheat lines; he has authored and co-authored 24 peer reviewed research papers, and six published cultivar descriptions. Since 2014 he has worked as an associate editor for the Canadian Journal of Plant Science.

### Secretary/Treasurer - Gurcharn Singh Brar



Gurcharn Brar is an Assistant Professor at the Faculty of Land and Food Systems at The University of British Columbia (UBC), Vancouver. He obtained his PhD from the Crop Development Centre of the University of Saskatchewan in March 2019. Originally from Punjab, India, Gurcharn came to Canada to pursue an MSc after obtaining a Bachelor of Science in Agriculture (Honours in Crop Protection) degree from the renowned Punjab Agricultural University, India. Gurcharn's graduate training focused on the study of plant pathogens, genetics/genomics of pathogen populations, genetics of host- pathogen interactions, resistance breeding, and plant imaging obtained through the University of Saskatchewan, Agriculture and Agri-Food Canada, National Research Council of Canada, the Canadian Light Source, and the International Maize and Wheat Improvement Centre. Currently, Gurcharn is working in

the areas of crop pathology, resistance breeding, cereal genetics, and functional pathogenomics with collaborators from across Canada, the USA, the UK, and Australia. In the past, Gurcharn has served on several positions and committees in the Canadian Phytopathological Society, Canadian Society of Agronomy, Saskatchewan Advisory Council on Grain Crops, Plant Science Graduate Student Association of University of Saskatchewan, and Saskatoon Science Fair Committee. Gurcharn is a regular member of several professional societies including Canadian Society of Agronomy.

### Western Director - Laurel Thompson



Laurel Thompson is an agronomic research scientist in North East Alberta. Her work focuses on agronomic solutions to increase cereal production and profitability, and has recently grown to include pulse crop research. Laurel explores interactions between cereal genetics, agronomic management practices, and the environment to assist producers in making targeted agronomic decisions. She has also taught the fungicide physiology component of the PISc 470 undergraduate course at the University of Alberta since 2016, and she provides teaching support for faculty in the Crop Technology program at Lakeland College.

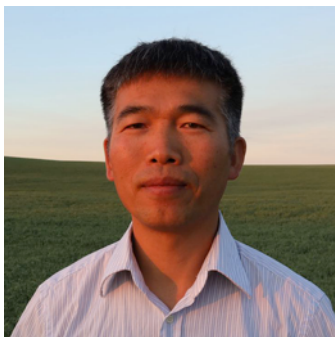
## Meet the 2021-2022 CSA Executive (Con't.)

### Western Director - Laurel Thompson (Con't.)

Laurel Thompson was raised in Slave Lake, AB, and now farms grain and cattle with her husband, Duncan, in Mannville, AB. She completed her BSc and MSc at the University of Alberta. Her MSc work centered on assessing advanced agronomic practices for maximizing feed barley production, and on the interactions between feed barley genetics, advanced agronomic management, and the environment. Laurel has been in the Crop Research Scientist role at Lakeland College for four growing seasons, where she has grown and developed the agronomic research program in Vermilion, AB. Laurel's work at Lakeland College focuses on agronomic solutions to increase profitability and efficiencies for producers at the farm-level, and she works on cereal, pulse, and oilseed crops. Since 2016, Laurel has developed the new research program to include cereal and pulse agronomy and varietal performance, and a strong extension component to local crop producers and industry. Recently, her work has focused on wheat and malt barley responses to various mixtures of plant growth regulators.

Laurel Thompson has developed strong partnerships both university and government researchers, and with industry. Current industry collaborators include Mosaic, Syngenta, SeCan, Engage Agro, and Anuvia. Laurel is the lead author on 3 peer-reviewed papers and is a member of the Canadian Society of Agronomy (CSA) and American Society of Agronomy (ASA).

### Western Director - Kiu Lui



Dr. Kui Liu is an agronomist at the Swift Current Research and Development Centre, AAFC. He conducted his Ph.D. study in organic cropping systems integrating perennial forages and soil amendments. He has experience in assessing how beneficial management practices affect soil and nutrient losses at the field and watershed scale by participating in WEBs projects. His future research will focus on developing crop management practices that improve yield and enhance ecosystem services and the resilience of cropping systems. He is currently involving in several crop rotation studies, where a systems approach is applied to understand the biologic processes and complicated biotic and abiotic interactions in intensively managed cropping systems.

### Eastern Director - Kathleen Glover



Dr. Glover completed a degree in agricultural science from the University of Guelph where she majored in Crop Science. She then did a M.Sc. at the University of Guelph specializing in forage agronomy and quantitative genetics. Dr. Glover went on to do a Ph.D. in the Department of Molecular Biology and Biochemistry at Dalhousie University studying the genetic origins of tRNAs in plant mitochondria. Following her Ph.D. she worked in private industry conducting applied research in both field and horticultural crops and was subsequently employed as a research chair/associate professor at the Nova Scotia Agricultural College where her research focused on using nutrigenomic approaches to understand the effects of fresh forage and lipid supplementation on ruminant animal metabolism and productivity. She also worked with government and industry partners to help improve pasture management for grass-fed beef production. Dr. Glover joined Agriculture and Agri-Food Canada's Kentville Research and Development Centre (co-located in Truro) in May 2017, as a forage agronomist. She has over 30 years experience in Plant Science Research including both basic and applied sciences.

## Meet the 2021-2022 CSA Executive (Con't.)

### Eastern Director - Milad Eskandari



Dr. Milad Eskandari is an associate professor at the Department of Plant Agriculture at the University of Guelph, Ridgetown. Milad's breeding and research program focuses on developing food-grade soybean cultivars and germplasm with improved agronomic and seed quality traits as well as resistance to important diseases of soybean that address the specific needs of Ontario's soybean growers and end-users. The program is also focused on advancing knowledge in the areas of high throughput phenotyping and genotyping in soybean with a goal of developing more efficient breeding methods that facilitate the development of new cultivars.

Milad had completed his B.Sc. in Engineering Agriculture and his M.Sc. in Plant Breeding and Agronomy in Iran before moving to Canada in 2006. He obtained his Ph.D. in Plant Breeding and Genetics from the University of Guelph in 2012. Since 2013 that Milad has taken over the current position, he has participated in the release of 11 soybean cultivars and several germplasm. He has authored and co-authored 26 peer reviewed research papers and cultivar descriptions. Milad has graduated three Master's students and currently advises four graduate students. He currently serves as a member of Soybean Genetic Committee and the coordinator for the Early Maturity Group 2 (MG2) zone on the Ontario soybean and Canola Committee.

### Student Representative



Amy Mangin is currently a PhD student in the Department of Plant Science at the University of Manitoba under the supervision of Dr. Yvonne Lawley and Dr. Anita Brule-Babel. Her project focuses on intensive spring wheat agronomy for reducing lodging risk while maximizing yield and protein.

She was raised on a family farm near Mariapolis, MB, and obtained her bachelor's degree in agriculture at the University of Manitoba in 2013, majoring in agronomy. She worked as an agronomist for Pembina Coop where she obtained her Certified Crop Advisor designation. She completed her master's degree at the University of Alberta with Dr. Linda Hall focused on the efficacy of soil applied herbicides for herbicide resistant wild oat populations. After completing her masters, she went on to work for Dr. Don Flaten at the University of Manitoba leading a project as a research agronomist, working on updating N recommendations for spring wheat in Manitoba.

Amy has attended and presented her research at many annual conferences, such as Canadian Weed Science Society and the American Society of Agronomy. Additionally, Amy is very active in extension activities in Manitoba as well as across the prairies at such events as Top Crop Manager's Plant Health Summit and Crops-a-Palooza.



## Meet the 2021-2022 CSA Executive (Con't.)

### Industry Representative - Logan Skori



Logan Skori is currently a Ph.D. candidate (expected completion – June 2020) specializing in the field of plant development and biotechnology at the University of Calgary. Prior to graduate studies, Logan completed his B.Sc. in Botany at the University of Calgary and worked as a Crop Production Advisor for Nutrien at the Killam, Alberta location. Logan grew up on a 1,600 acres grain farm near Kinsella, Alberta and has actively been involved in farming operations for 15 years.

Logan's research focuses on Canola pod development and understanding the genetic pathways that can be exploited to develop novel methods for pod shatter tolerance. His research also investigates the improvement of value-added traits (seed protein content) and the development of plant cultivars less susceptible to abiotic stress (frost, drought).

Logan and his colleagues employ a biotechnological approach to investigate important research questions that involve the development of gene-edited and genetically modified plant cultivars. During his Ph.D. studies, Logan has been heavily involved in four peer-reviewed publications. He was a co-lead on a project which focused on the development of a green seed tolerant Canola variety, which was published in the Plant Biotechnology Journal. Following his proposed thesis defense in summer 2020, Logan plans to pursue opportunities in the agriculture research and development sector, under his agriculture biotechnology consulting company 'Skorbio'. His company will focus on the development of gene-edited traits and helping other companies establish successful gene-editing programs.

### CJPS Representative - Ben Thomas



Ben is a Research Scientist in Agassiz, British Columbia with Agriculture and Agri-Food Canada, where he started as a Postdoctoral Research Scientist in Lethbridge, Alberta in 2016. Since then, Ben has authored or co-authored more than 30 peer-reviewed scientific publications. His recent research has mostly involved carbon, nitrogen and/or phosphorus cycling in response to organic amendments, cover crop management, land use changes and cattle grazing, as well as soil health and edaphic microbial responses to long-term intensive management practices. Ben received his Ph.D. from McGill University, where he studied labile soil organic matter and nitrogen mineralization in manure-amended soils of the Saint Lawrence Lowlands in Quebec, while also studying nitrogen dynamics in poultry manure-amended soils as a Visiting Scholar at Trent University in Ontario. Ben completed his

Master of Resource and Environmental Management at Dalhousie University where he studied how compost and fertigation interacted to effect fruit yield and quality in strawberry plasticulture in the Annapolis Valley of Nova Scotia. Ben earned his Bachelor of Science from the University of Prince Edward Island where he focused on plant science, food production and philosophy. After a term as an Associate Editor between 2017 and 2019, Ben is now the Technical Editor of the Agronomy Section of the Canadian Journal of Plant Science. Ben is also an Associate Editor of the Canadian Journal of Soil Science. Ben would like to hear your questions, concerns, or suggestions for improving the Canadian Journal of Plant Science. Please feel free to contact Ben.

# 2021 Graduate Student Presentation and Poster Awards

At each annual meeting, the Canadian Society of Agronomy provides awards for the best oral and poster presentations given by student members. These awards are given to acknowledge the contributions that graduate students make to the society and to encourage excellence in graduate student research and presentation.

At the 2021 Tri-Society Virtual Conference, judges assessed student presentations for their scientific merit, content and presentation style.

Below are our student Award Winners for 2021.

## Oral Presentations:

### 1st Place (\$700)

Cesaree Morier-Gxoyiya - Validation of prediction models for sclerotinia stem rot (*Sclerotinia sclerotiorum*) in soybean (*Glycine max*) in Quebec

### 2nd Place (\$500)

Palaniappan Ramanathan - Characterization of wireworm populations in the floodplains of Lac Saint-Pierre

### 3rd Place (\$200)

Kaitlyn Nielsen - Agronomic analysis of sainfoin (*Onobrychis viciifolia* Scop.) and grass mixtures for forage production in western Canada

### 3rd Place (\$200)

Kerin Hudson - Pathogenicity of *Fusarium graminearum* and *F. poae* causing Fusarium Head Blight on barley under controlled conditions

## Poster Presentations:

### 1st Place (\$200)

Kaitlyn Nielsen - Nutritive value of sainfoin (*Onobrychis viciifolia* Scop.) and grass mixtures for forage production in western Canada

### 2nd Place (\$100)

Muhammad Faran - Potential of dairy digestate as a biofertilizer: Effects on growth, yield and phytochemical profile of lettuce in hydroponics

### 2nd Place (\$100)

Jiaxu Wu - Effects of low temperature stress on physiological and biochemical processes of silage-corn genotypes

We would like to thank Sheri Strydhorst, Kathleen Glover and Douglas Cattani for judging the student presentations at the 2021 meeting.



# CSA Photo Contest Winners

## Category 1: Agronomy in Action

Thank you to our contest sponsor



1st Prize - Harjot S. Tur  
Hoe Pros in action - Weeding out the bad guys in the field

2nd Prize - Dilrukshi Kombalal Liyanage  
Soybean flowers welcoming pods



3rd Prize - Laurel Thompson  
Group 4 graveyard

# CSA Photo Contest Winners

## Category 2: Crops and Biological Interactions

Thank you to our contest sponsor



1st Prize - Theepa Sathees Jegathees  
Nuttall's blister beetle on canola bud



2nd Prize - Sara Stricker  
Red onions in the Holland Marsh, Ontario. The cultivar on the left is highly susceptible to Stemphylium leaf blight, caused by the fungus Stemphylium vesicarium.



3rd Prize - Christine Dervaric  
Cercospora leaf spot lesions on sugarbeet leaf in Ridgetown, Ontario

# CSA Photo Contest Winners

## Category 3: Landscapes and Fieldsapes

Thank you to our contest sponsor



1st Prize - Laurel Thompson  
A thundershower moves across the landscape as sprayers roll the dice on a mid-June afternoon

2nd Prize - Harjot S. Tur  
Developing the Future B. juncea varieties for drought-prone Southern Saskatchewan



3rd Prize - Bharat Yadav  
Farms of Kootenay in Vancouver Island during our labs disease survey

# Canadian Society of Agronomy Executive Committee 2021/2022

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