

# Spotlight on Careers with Dr. Budong Qian

## Canada will meet climate change with warm season crops

By Ivana Nad

**Dr. Budong Qian** is a research scientist at Climate Change Impacts and Adaptation Department of Agriculture and Agri-Food Canada. His current work is based around sustainable crop production in Canada during climate change. Dr. Budong acquired a doctorate in Physics at The University of Lisbon in Portugal, specifically in predicting climate scenarios. He spent his early years in China where he acquired a Master's degree in Climatology at Hohai University.

### **What is your current role? How did your doctorate in Physics help you in developing agricultural strategies in these times of extreme climate change?**

I am a research scientist working for Agriculture and Agri-Food Canada. I have been leading and participating in research projects to assess climate change impacts on crop production and develop adaptation strategies for the agricultural sector. My Ph.D. in Physics was focused on climate variability and climate scenarios that are essential to my current research.

### **What were the key events that lead you to pursue your current position?**

Climate change is one of the biggest challenges of our times. Climate change impacts on agriculture raised great concerns on food security. Therefore, assessing climate change impacts on crop production and developing adaptation strategies in addition to mitigation measures are critical.

### **Can you tell us a little bit about your research work in sustainable crop production in Canada during climate change?**

Climate change has adverse impacts on crop production, especially because of increasing climate extremes such as heatwaves and drought. However, future warmer climate may bring opportunities to northern countries such as Canada for increasing crop

production if appropriate adaptation strategies can be taken. Through collaborations with scientists in other federal departments, such as Environment and Climate Change Canada, and Natural Resources Canada, we are investigating the potential of growing more warm-season crops (e.g., soybean and corn) on the Canadian Prairies and expansion of crop production to the north under future climate scenarios and the associated environmental and economic consequences.

### **What was the most rewarding aspect of your work on improving methodology for modelling climate change impacts on cropping systems?**

Improving methodologies for modelling climate change impacts improves our understanding on uncertainty in climate projections and climate change impacts that eventually help stakeholders in their decision-making on climate change mitigation and adaptation planning.

### **What do you hope to be the legacy of your work?**

Assessing climate change impacts is one of the critical steps in dealing with climate change. I hope that our work can be helpful for developing climate change mitigation and adaptation strategies by minimizing adverse impacts and capitalizing on opportunities.

### **What advice would you like to give to students interested in climate change and agriculture? How can they contribute to this field 10 years from now?**

Agriculture plays a fundamental role in the production of essential food and the economy. The agricultural sector is facing a lot of challenges under climate change. Research, such as developing new cropping systems, breeding new crop cultivars that are heat tolerant and drought-resistant, and dealing with new pests and diseases under future climate, will help the sector achieve sustainability.