

From the AOWC 2010 meeting website:

<http://www.aow.lsu.edu/AOW%20Prog%20041310.pdf>

James Chong  
Award for Distinguished Service to Oat Improvement



Dr. James Chong obtained his Bachelor Degree and Master Degree from Carleton University, Ottawa, in 1969 and 1973. Dr. Chong joined Agriculture & Agri-Food Canada in Ottawa in 1972 and moved to Winnipeg in 1973, after a promotion, to work at the Cereal Research Centre. While working full time, he started his PhD study with the University of Manitoba in 1978. After obtaining his PhD degree in 1981, Dr. Chong was promoted to Research Scientist with responsibility for the oat crown rust program at CRC.

During the early part of his career, Dr. Chong's work on ultrastructure and cytochemistry of the structural components at the cereal host-rust fungal parasite interface earned him the Gordon J. Green Award for Outstanding Achievement of a Young Scientist from the Canadian Phytopathological Society in 1985. His work in monitoring virulence shifts and race patterns of *Puccinia coronata* f. sp. *avenae* in the eastern prairie region has shown the rust fungus is extremely diverse due to the importance of the sexual state in North America, particularly in the mid-western regions of the United States and in the eastern prairie region of Canada. Resistance of major seedling resistance genes, e.g., *Pc48*, *Pc68*, recently deployed in commercial oat cultivars, was overcome by the highly variable pathogen within several years. Additionally, recent virulence data showed that the *Puccinia coronata* f. sp. *avenae* sexual population is endemic in the eastern prairie region, and is playing a major role in initiating early crown rust epidemics for this region.

His screening of exotic *Avena* species has provided much needed, new effective sources of resistance, which he characterized genetically and introgressed into suitable background for use in breeding programs.

Dr. Chong's collaborative work with USDA scientists has led to a better understanding on the genetics of adult-plant/partial resistance, a form of resistance which is considered to be more durable than major seedling resistance. His collaborative work with molecular biologists at CRC, University of Saskatoon, and at ECORC, Ottawa, and with USDA molecular biologists at the University of Minnesota and at National Small Grains Research at Aberdeen, Idaho, led to development of various types of molecular markers (Avenin, RFLP, PCR, SCAR, or SNP) for numerous crown and stem rust resistance genes, including crown rust resistance genes *Pc38*, *Pc39*, *Pc48*, *Pc68*, *Pc91*, *Pc94*, and *PcX*, and stem rust resistance genes, *Pg1*, *Pg2*, *Pg4*, *Pg8*, and *Pg13*.

Dr. Chong has contributed to the development of over 18 oat cultivars in his collaborative work with oat breeders in three AAFC Centres. To date, Dr. Chong has authored or coauthored 97 peer-reviewed scientific papers, six book chapters, 79 Proceedings and Abstracts, and 115 technology transfer articles.

Dr. Chong was the Study Leader of the Oat Program at CRC (1995–2001).  
Disease Coordinator, Western Cooperative Oat Test (1983-2007).  
Member, Barley & Oat Disease Subcommittee, PRRCG. (1983-2010).  
Member, International Oat Committee.  
Western Canada Representative, American Oat Workers Conference.  
Editor of the Oat Newsletter 1997-2000.  
Adjunct Professor, University of Manitoba. (1983-2005).

At various times, Dr. Chong has received research funds from:

- Quaker Oats (6 years),
  - North American Millers Association (3 years),
  - Can-Oat (1 year),
  - ARDI (Agricultural Research Development Initiative) – 3 years,
  - AAFC Matching Investment Initiative (5 years).
- Dr. Chong was also a co-applicant of the research project, led by Dr. Curt McCartney, and funded by Agriculture Development Fund, SK. (5 years).