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Professor Robert Fraser Grant

Correspondence language: English
Sex: Male

Contact Information

The primary information is denoted by (*)

Address

Primary Affiliation (*)

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Professor Robert Grant

Language Skills

Language	Read	Write	Speak	Understand	Peer Review
English	Yes	Yes	Yes	Yes	Yes

Degrees

- 1984/4 — Doctorate, Crop Science, University of Natal
  Supervisors: Dr. John Lea, 1979/11 - 1984/4
- 1978/4 — Bachelor's, Crop Science, University of Guelph

Recognitions

2009/7 - 2010/6
Ed and Peggy Tyrchnowicz award for innovation in teaching
University of Alberta
Honor
award

2009/6 - 2009/6
Emerald Award: finalist. - 0
Alberta Emerald Foundation
Honor
environmental award

User Profile

Research Specialization Keywords: terrestrial ecosystem modelling

Research Disciplines: Earth Science

Areas of Research: Ecosystem (Aquatic and Terrestrial), Climate Changes and Impacts

Fields of Application: Environment

Employment

1988/9
Professor
Renewable Resources, Agriculture, Life and Environmental Sciences, University of Alberta
Full-time, Professor
Tenure Status: Tenure
academic

Research Funding History

Awarded [n=6]

2015/4 - 2016/3
Principal Applicant

Mathematical Modelling of Terrestrial Ecosystems, Grant

Funding Sources:

2015/4 - 2016/3 Natural Sciences and Engineering Research Council of Canada (NSERC)
Discovery
Total Funding - 21,000
Portion of Funding Received - 21,000
Funding Competitive?: Yes

2014/4 - 2015/3
Principal Applicant

The ecosys modelling project, Grant

Funding Sources:

2014/4 - 2015/3 Compute Canada
Total Funding - 8,600
Portion of Funding Received - 8,600
Funding Competitive?: Yes

2011/4 - 2015/3
Co-applicant

Tree-based intercropping: An agroforestry land-use for greenhouse gas mitigation in Canadian agricultural systems, Grant

Funding Sources:

2012/4 - 2015/3 Agriculture and Agri-Food Canada
Agricultural Greenhouse Gases Program
Total Funding - 4,000,000
Portion of Funding Received - 62,500
Funding Competitive?: Yes

Principal Applicant : Gordon, Andrew

2011/4 - 2015/3
Co-applicant

Arctic Development and Adaptation to Permafrost in Transition (ADAPT), Grant

Funding Sources:

2011/4 - 2015/3 Natural Sciences and Engineering Research Council of Canada (NSERC)
Discovery Frontiers
Total Funding - 4,000,000
Portion of Funding Received - 240,000
Funding Competitive?: Yes

Principal Applicant : Vincent, Warwick

2010/4 - 2015/3
Principal Applicant

Modelling environmental effects on ecosystem productivity, Grant

Funding Sources:

2010/4 - 2015/3 Natural Sciences and Engineering Research Council of Canada (NSERC)
Discovery
Total Funding - 145,000
Portion of Funding Received - 145,000
Funding Competitive?: Yes

2011/4 - 2014/3
Co-applicant

Carbon and nitrogen fluxes in reconstructed oilsand soils, Grant

Funding Sources:

2011/4 - 2014/3 Natural Sciences and Engineering Research Council of Canada (NSERC)
Collaborative Research and Development
Total Funding - 695,000
Portion of Funding Received - 80,000
Funding Competitive?: Yes

Principal Applicant : Quideau, Sylvie

Completed [n=4]

2007/4 - 2012/3
Co-applicant

Climate Change Impacts on Canadian Arctic Tundra, Grant

Funding Sources:

2007/4 - 2012/3 Natural Sciences and Engineering Research Council of Canada (NSERC)
IPY
Total Funding - 3,065,000
Portion of Funding Received - 137,380
Funding Competitive?: Yes

Principal Applicant : Henry, Gregory

2010/4 - 2011/3
Principal Applicant

Incorporating the effects of weather and climate change into the calculation of net primary productivity in the Carbon Budget Model of the Canadian Forest Service, Grant

Funding Sources:

2010/4 - 2011/3 Canadian Foundation for Climate and Atmospheric Sciences (CFCAS)
Total Funding - 62,500
Portion of Funding Received - 62,500
Funding Competitive?: Yes

Collaborator : Stinson, Graham; Trofymo, Tony

2007/4 - 2010/3
Co-applicant

Canadian Carbon Project, Grant

Funding Sources:

2007/4 - 2010/3 Canadian Foundation for Climate and Atmospheric Sciences (CFCAS)
Total Funding - 4,400,000
Portion of Funding Received - 180,000
Funding Competitive?: Yes

Principal Applicant : Margolis, Hank

2007/4 - 2010/3
Co-investigator

Developing a Saskatchwan Model for Short Rotation Willow Biomass Production and GHG, Grant

Funding Sources:

2007/4 - 2010/3 Natural Sciences and Engineering Research Council of Canada (NSERC)
Strategic
Total Funding - 692,926
Portion of Funding Received - 87,375
Funding Competitive?: Yes

Principal Investigator : Van Rees, Ken

Student/Postdoctoral Supervision

Bachelor's [n=1]

2009/5 - 2009/8
Principal Supervisor
Housman, Christine (Completed) , Univesity of Alberta
Thesis/Project Title: Controlled warming effects on wheat growth and yield: field measurements and modeling
Present Position: unknown

Master's Thesis [n=2]

2012/5 - 2015/10
Principal Supervisor
Kozak, Tracy (All But Degree) , University of Alberta
Student Degree Expected Date: 2016/5
Thesis/Project Title: Comparison of Carbon Balances and Crop Yields in a Tree Based Intercropping vs. Monocrop System
Present Position: technician with Monsanto, Alberta

2011/4 - 2014/12
Co-Supervisor
Metivier, Leann (In Progress) , University of the West Indies
Student Degree Expected Date: 2014/12
Thesis/Project Title: N2O emissions from agricultural soils
Present Position: student

Doctorate [n=5]

2013/1 - 2016/12
Principal Supervisor
Welegedara, Nilusha (In Progress) , University of Alberta
Student Degree Expected Date: 2016/12
Thesis/Project Title: Modeling Soil Quality Effects on Forest Productivity in Reclaimed Oilsand Landscapes
Present Position: student

2011/1 - 2015/9
Principal Supervisor
Mekonnen, Zelalem (Completed) , University of Alberrta
Thesis/Project Title: Modeling the impacts of recent climate change on ecosystem productivity across North America
Present Position: postdoc at the University of Alberta

2008/9 - 2015/9
Principal Supervisor
Mezbahuddin, Mohammad (Completed) , University of Alberta
Thesis/Project Title: Modelling water table depth effects on net ecosystem CO2 exchange of two contrasting forested peatlands – a tropical bog and a boreal fen
Present Position: scientist with Alberta Agriculture and Food

2004/9 - 2009/1
Principal Supervisor
Dimitrov, Dimitre (Completed) , University of Alberta
Thesis/Project Title: Modelling CO2 and energy exchange in peatlands
Present Position: physical scientist – planning analyst at CanmetENERGY, Devon AB

2003/9 - 2010/5
Principal Supervisor
Montenegro, John (Completed) , University of Alberta
Thesis/Project Title: Topographic and grazing effects on C cycling
Present Position: Investigador en Agricultura y Cambio Climático , INTA-IMN, Costa Rica

Post-doctorate [n=4]

2015/10 - 2016/9
Principal Supervisor
Mekonnen, Zelalem, University of Alberta
Thesis/Project Title: Modelling of climate effects on continental NA GHG exchange, with focus on the arctic.

2009/1 - 2011/12
Principal Supervisor
Dimitrov, Dimitre, University of Alberta
Thesis/Project Title: Climate Impacts on Canadian Arctic Ecosystems
Present Position: Research Associate, Canadian Forest Service

2008/8 - 2011/9 Principal Supervisor	Metivier, Kimlin, University of Alberta Thesis/Project Title: Production ecology of short rotation willow for biofuel Present Position: unknown
2005/4 - 2010/4 Principal Supervisor	Wang, Ziyu, Univeristy of Alberta Thesis/Project Title: Integrated modelling and scaling o forest productivity Present Position: Scientist, Alberta Environment, Ft. McMurray, AB

Editorial Activities

2011/7 - 2014/9	Associate Editor, Journal of Geophysical Research, Journal
2008/7 - 2012/6	Associate Editor, Agronomy Journal, Journal
2003/7 - 2010/6	Associate Editor, Soil Biology and Biochemistry, Journal

Organizational Review Activities

2015-06-01 - 2015-06-03	Proposal Review Committee, NASA review proposals for program element A.4-Terrestrial Ecology solicited in ROSES-14 for initial research to begin the Arctic-Boreal Vulnerability Experiment (ABoVE) field campaign
2013-07-01 - 2013-07-15	external reviewer, Canada Research Chair external reviewer for Canada Research Chair Tier II
2011-11-01 - 2011-11-28	external reviewer, The University of Manitoba external reviewer for promotion to full professor
2010-06-07 - 2010-06-11	external examiner, University of Goteborg (Gothenburg) Ph.D. thesis defense
2010-01-28 - 2010-03-09	reviewer, Department of Environmental Technology Management, Women’s University of Kuwait external reviewer for promotion application
2009-08-18 - 2009-10-08	reviewer, Helmholtz Centre for Environmental Research external reviewer for tenure application

Knowledge and Technology Translation

2011/4 - 2012/3	consultant, Consultation Service Group/Organization/Business Serviced: Oak Ridge National Laboratory, US DoE, Oak Ridge, TN Target Stakeholder: Government Personnel Outcome / Deliverable: estimates of changes in boreal forest productivity with specified increases in CO2 and temperature, to guide design of a new climate change experiment managed by ORNL Activity Description: modeled changes in boreal forest productivity with specified increases in CO2 and temperature, submitted findings to ORNL
2011/6 - 2011/8	consultant, Consultation Service Group/Organization/Business Serviced: Alberta Environment and Water Target Stakeholder: Government Personnel Outcome / Deliverable: Improved estimates of evapotranspiration (ET) to be used in management of Alberta's water resources Evidence of Uptake/Impact: revision to then current methodology for estimating ET Activity Description: conducted process modeling of seasonal and interannual variation in ET, submitted findings to Alberta Environment

2008/10 - 2011/2
advisor, Policy/Regulation Development
Group/Organization/Business Serviced: Climate Change Central
Target Stakeholder: Industrial Association/Producer Group
Outcome / Deliverable: greenhouse gas offset protocols posted on the Alberta GHG Offset Registry
Activity Description: contribute to several workshops on GHG emission science used to establish GHG offset protocols

2010/1 - 2010/1
advisor, Policy/Regulation Development
Group/Organization/Business Serviced: Agriculture and AgriFood Canada
Target Stakeholder: Government Personnel
Outcome / Deliverable: adaptation strategies for climate change in the agricultural sector
Evidence of Uptake/Impact: development the Agriculture Greenhouse Gas Program (AGGP) funded by AAFC
Activity Description: workshop participant

International Collaboration Activities

2015-07-01 - 2016-06-30
collaboratorUnited States
I was invited by the Lawrence Berkeley National Laboratory in Berkeley CA to spend a sabbatical year with them to supervise staff undertaking the coupling of my ecosystem model *ecosys* with their Community Earth System Model CESM, and to conduct modeling research as part of their Next Generation Ecosystem Experiment (NGEE) Arctic.

2007-04-01 - 2016-03-31
participant, Switzerland
I have an ongoing collaboration with the Agroscope Reckenholz-Tänikon Research Station in Zurich to apply my ecosystem model to the study of N in agricultural fields as part of the NitroEurope project.

2011-07-01 - 2015-06-30
participant, United States
I am a participant in the Agricultural Model Intercomparison Project (AgMIP) in which 28 modelling groups are simulating climate change effects on wheat production in diverse wheat growing regions around the word.

2009-04-01 - 2015-03-31
participant, United States
North American Carbon Program (NACP) Site Synthesis and MultiScale Terrestrial Model Intercomparison (MsTMIP) Projects.

2012-10-01 - 2013-10-01
collaborator, China
I hosted Dr. Longchang Wang, Professor and Director of the Department of Rural Regional Development, and Director of the Key Lab of Eco-agriculture and Sustainable Development in Three Gorges Reservoir Region, College of Agronomy and Bio-technology, Southwest University, Chongqing, China to model climate impact on crop productivity

2008-07-01 - 2009-06-30
collaborator, Korea, Republic of
I hosted Dr. Yeong-Sang Jung, Professor, Division of Biological Environment, College of Agriculture and Life Sciences, Kangwon National University, Korea at the University of Alberta to model heat transfer in soils. Dr. Jung subsequently hosted my invited visit to Korea in November 2009.

Committee Memberships

2011/4 - 2016/3	Committee Member, Scientific Committee for the Arctic Development and Adaptation to Permafrost in Transition (ADAPT) project, Adaptation to Permafrost in Transition (ADAPT) The committee determines the scientific direction of a national project ($4M, 16 scientists plus graduate students and postdocs).
2011/7 - 2014/6	Committee Member, Faculty Evaluation Committee, University of Alberta decide on tenure, promotion and merit increments for the Faculty of Agriculture, Life and Environmental Sciences
2007/4 - 2012/3	Committee Member, Steering Committee, Climate Impacts on Canadian Arctic Tundra Ecosystems project Decisions on the direction and progress of a national project ($3.1M, 32 scientists, plus postdocs and grad students) in which climate change effects on ecosystem productivity and GHG exchange were studied across the Canadian arctic.
2005/4 - 2010/3	Committee Member, Science Committee and Executive Committees, Canada Carbon Project The committee was responsible for scientific and administrative oversight, including scientific direction, research protocols, and spending decisions for this national project ($4.4M, 45 scientists and ca. 100 grad students and postdocs) studying climate and disturbance effects on boreal forest productivity.

Presentations

1. Mekonnen ZA*. (2015). Modeling the impacts of recent decades climate change on ecosystem productivity across North America. Multiscale Terretrial Model Intercomparison Project (MsTMIP) annual meeting, Washington, United States
   Main Audience: Researcher
   Invited?: No, Keynote?: No
2. Mekonnen ZA*. (2015). Sensitivity of modeled NEP to climate and soil drivers at site and regional scales: implications for upscaling ecosystem models.5th North American Carbon program (NACP) Principal Investigators Meeting, Washington, United States
   Main Audience: Researcher
   Invited?: No, Keynote?: No
3. Humphreys ER and Lafleur PM. (2015). Hydrological controls on ecosystem CO2 and CH4 exchange in a mixed tundra and a fen within an Arctic landscape.5th North American Carbon program (NACP) Principal Investigators Meeting, Washington, United States
   Main Audience: Researcher
   Invited?: No, Keynote?: No
4. Mezbahuddin M* and Flanagan LB. (2014). Modelling Effects of Water Table Depth Variations on Net Ecosystem CO2 Exchange of a Western Canadian Peatland. American Geophysical Union Annual General Meeting, San Francisco, United States
   Main Audience: Researcher
   Invited?: No, Keynote?: No
5. Humphreys ER and Lafleur PM. (2014). Hydrological controls on ecosystem CO2 and CH4 exchange in a mixed tundra and a fen within an Arctic landscape.American Geophysical Union Annual General Meeting, San Francisco, United States
   Main Audience: Researcher
   Invited?: No, Keynote?: No

6. Mekonnen ZA*. (2014). Modeling the impacts of long-term warming trends on gross primary productivity across North America. American Geophysical Union Annual General Meeting, San Francisco, United States
   Main Audience: Researcher
   Invited?: No, Keynote?: No

7. Welegedara NPY*, Quideau SA and Lloret E. (2014). Modelling effects of cover material and cover depth on hydrological regime in reclaimed oil sand landscapes in northern Alberta. American Geophysical Union Annual General Meeting, San Francisco, United States
   Main Audience: Researcher
   Invited?: No, Keynote?: No

8. Mekonnen ZA*. (2014). Modeling the impacts of warming in recent decades on ecosystem carbon exchange in higher latitudes of North America. The tenth ArcticNet Annual Scientific (ASM2014) Meeting, Ottawa, Canada
   Main Audience: Researcher
   Invited?: No, Keynote?: No

9. (2014). Modelling SOM transformations from the kinetics and energetics of microbially-driven oxidation-reduction reactions.Sixth International Workshop on Soil and Sedimentary Organic Matter Stabilization and Destabilization (SOM6), Kiawah Island, United States
   Main Audience: Researcher
   Invited?: Yes, Keynote?: Yes

10. Neftel A, Calanca P, Felber R and Conen F.(2014). Scheduling fertilizer applications as a simple mitigation option for reducing N2O emission in intensively managed mown grassland systems.European Geosciences Union Annual General Meeting, Vienna, Austria
    Main Audience: Researcher
    Invited?: No, Keynote?: No

11. Mekonnen ZA*. (2014). Impacts of long-term warming on ecosystem carbon exchange in higher latitudes of North America. European Geosciences Union Annual General Meeting, Vienna, Austria
    Main Audience: Researcher
    Invited?: No, Keynote?: No

12. (2014). Modeling the impacts of current warming trends on ecosystem productivity across North America.51st annual Alberta Soil Science Workshop, Calgary, Canada
    Main Audience: General Public
    Invited?: Yes, Keynote?: Yes

13. Mekonnen ZA*. (2013). Impacts of long-term warming on ecosystem carbon exchange in higher latitudes of North America. The ninth ArcticNet Annual Scientific (ASM2013), Halifax, Canada
    Main Audience: Researcher
    Invited?: No, Keynote?: No

14. (2013). Modelling changes in nitrogen cycling to sustain increases in forest productivity under elevated atmospheric CO2 and contrasting site conditions. INTECOL 2013. British Ecological Society AGM, London, United Kingdom
    Main Audience: Researcher
    Invited?: No, Keynote?: No

15. Kozak T*. (2013). Modeling the effects of agroforestry on carbon budgets and trade-offs in production yield. North American Agroforestry Conference, Charlettown, Canada
    Main Audience: Researcher
    Invited?: No, Keynote?: No

16. Mezbahuddin M*. (2013). Modelling complex water table effects on net CO2 exchange of Western Canadian peatlands.50th Alberta Soil Science Workshop, Lethbridge, Canada
    Main Audience: General Public
    Invited?: No, Keynote?: No

17. Hernandez Ramirez G, Kryzanowski L.(2013). Manure Management Effects on Nitrous Oxide and Ammonia Fluxes in Barley for Silage.50th Alberta Soil Science Workshop, Lethbridge, Canada
Main Audience: General Public
Invited?: No, Keynote?: No

18. Kimball BA, Conley MM, White JW, Wall GW and Ottman MJ. (2013). Controlled warming effects on wheat growth and yield: field measurements and modeling. North American Carbon Program 4th annual general meeting, Albuquerque, United States
Main Audience: Researcher
Invited?: No, Keynote?: No

19. Mekonnen ZA*. (2013). Modeling the impacts of long-term warming trends on ecosystem productivity across North America. North American Carbon Program 4th annual general meeting, Albuquerque, United States
Main Audience: Researcher
Invited?: No, Keynote?: No

20. Mekonnen ZA*. (2012). Modeling the impacts of warming on the long-term trends in ecosystem productivity in arctic regions of North America. ArcticNet Annual General Meeting, Vancouver, Canada
Main Audience: Researcher
Invited?: No, Keynote?: No

21. Desai A and Sulman B. (2012). Modelling contrasting responses of wetland productivity to changes in water table depth. American Geophysical Union Annual General Meeting, San Francisco, United States
Main Audience: Researcher
Invited?: No, Keynote?: No

22. Baldocchi DD and Ma S. (2012). Ecological controls on net ecosystem productivity of a Mediterranean grassland under current and future climate. European Geosciences Union Annual General Meeting, Vienna, Austria
Main Audience: Researcher
Invited?: No, Keynote?: No

23. Desai A and Sulman B. (2012). Modelling contrasting responses of wetland productivity to changes in water table depth. European Geosciences Union Annual General Meeting, Vienna, Austria
Main Audience: Researcher
Invited?: No, Keynote?: No

24. Lloret E and Quideau SA. (2012). A modeling study of the effects of different soil covers on the regeneration of carbon and nutrient cycling in landscapes reclaimed from oilsand mining. 49th Alberta Soil Science Workshop, Edmonton, Canada
Main Audience: General Public
Invited?: No, Keynote?: No

25. Mezbahuddin M*, Flanagan L. (2012). Modeling ecohydrological controls on ecosystem net CO2 exchange of a boreal fen. 49th Alberta Soil Science Workshop, Edmonton, Canada
Main Audience: General Public
Invited?: No, Keynote?: No

26. Mezbahuddin M* and Hirano T. (2011). Modeling ecohydrological controls on plant water relations and ecosystem energy balance of a tropical bog. Asiaflux Workshop 2011 Proceedings, Johore Baru, Malaysia
Invited?: No, Keynote?: No

27. Mezbahuddin M* and Hirano T. (2011). Modeling ecohydrological controls on ecosystem net CO2 exchange of a tropical bog. Asiaflux Workshop 2011 Proceedings, Johore Baru, Malaysia
Main Audience: Researcher
Invited?: No, Keynote?: No

28. Lehuger S, Calanca P, Neftel A, Amman C, Jocher M.(2011). Model-based analysis of ecosystem processes controlling nitrous oxide emissions from an intensively-managed grassland in Switzerland.ASA-CSSA-SSSA Annual General Meeting, San Antonio, United States
Main Audience: Researcher
Invited?: Yes, Keynote?: No

29. Mezbahuddin M* and Hirano T. (2011). Modeling eco-hydrological controls on net CO2 exchange of a tropical bog. ASA-CSSA-SSSA Annual General Meeting, San Antonio, United States
Main Audience: Researcher
Invited?: No, Keynote?: No

30. Hutyra LR, de Oliveira RC, Munger JW, Saleska SR and Wofsy SC. (2011). Modelling the carbon balance of Amazonian rainforests: resolving ecological controls on net ecosystem productivity. Large Biosphere-Atmosphere Data Model Intercomparison Project (LBA-DMIP) meeting, Tucson, United States
Main Audience: Researcher
Invited?: Yes, Keynote?: No

31. Metivier K* and Pattey E. (2011). Using the Ecosys mathematical model to simulate topographic effects on spatial variability of nitrous oxide emissions from a fertilized agricultural soil. North American Carbon Program 3rd All-Investigators Meeting, New Orleans, United States
Main Audience: Researcher
Invited?: No, Keynote?: No

32. Humphreys ER, Lafleur PM and Dimitrov DD*. (2011). Ecological controls on net ecosystem productivity of a mesic arctic tundra under current and future climates.North American Carbon Program 3rd All-Investigators Meeting, New Orleans, United States
Main Audience: Researcher
Invited?: No, Keynote?: No

33. Baldocchi DD and Ma S. (2011). Ecological controls on net ecosystem productivity of a Mediterranean grassland under current and future climates.North American Carbon Program 3rd All-Investigators Meeting., New Orleans, United States
Invited?: No, Keynote?: No

34. Mezbahuddin M* and Hirano T. (2011). Modeling Environmental Controls on Net Ecosystem CO2 Exchange of a Tropical Bog. North American Carbon Program 3rd All-Investigators Meeting, New Orleans, United States
Main Audience: Researcher
Invited?: No, Keynote?: No

35. Barr AG, Black TA, Margolis HA, McCaughey JH and Trofymow JA. (2010). Net ecosystem productivity of temperate and boreal forests after clearcutting – a Fluxnet-Canada synthesis.American Geophysical Union Annual General Meeting, San Francisco, United States
Main Audience: Researcher
Invited?: No, Keynote?: No

36. Metivier KA*, and Pattey E. (2010). Using the Ecosys mathematical model to simulate topographic effects on spatial variability of nitrous oxide emissions from a fertilized agricultural soil.American Geophysical Union Annual General Meeting, San Francisco, United States
Main Audience: Researcher
Invited?: No, Keynote?: No

37. Mezbahuddin M* and Hirano T. (2010). Modeling Environmental Controls on Net Ecosystem CO2 Exchange of a Tropical Bog. American Geophysical Union Annual General Meeting, San Francisco, United States
Main Audience: Researcher
Invited?: No, Keynote?: No

38. Humphreys ER, Lafleur PM and Dimitrov DD*. (2010). Ecological controls on net ecosystem productivity of a mesic arctic tundra under current and future climates. 5th Annual PPS Arctic Meeting, Edmonton, Canada
Main Audience: Researcher
Invited?: No, Keynote?: No

39. Barr AG, Black TA, Margolis HA, McCaughey JH and Trofymow JA. (2010). Net ecosystem productivity of temperate and boreal forests after clearcutting – a Fluxnet-Canada synthesis. Special lecture at Dept. of Plant and Environmental Sciences, Univ. Of Gothenburg, Gothernburg, Sweden
Main Audience: Researcher
Invited?: Yes, Keynote?: Yes

40. Barr AG, Black TA, Margolis HA, McCaughey JH and Trofymow JA. (2010). Net ecosystem productivity of temperate and boreal forests after clearcutting – a Fluxnet-Canada synthesis.Special lecture at Dept. of Land and Water Resources Engineering, Royal Institute of Technology, Stockolm, Sweden
Main Audience: Researcher
Invited?: Yes, Keynote?: Yes

41. Metivier KA* and Pattey E. (2010). Using the Ecosys mathematical model to simulate topographic effects on spatial variability of nitrous oxide emissions from a fertilized agricultural soil.European Geosciences Union Annual General Meeting, Vienna, Austria
Main Audience: Researcher
Invited?: No, Keynote?: No

42. Barr AG, Black TA, Margolis HA, McCaughey JH and Trofymow JA. (2010). Net ecosystem productivity of temperate and boreal forests after clearcutting – a Fluxnet-Canada synthesis. European Geosciences Union Annual General Meeting, Vienna, Austria
Main Audience: Researcher
Invited?: No, Keynote?: No

43. Kimball BA and Conley MM. (2010). Modelling the effects of supplementary infrared radiation on energy exchange, temperature and growth of wheat. 40th annual general meeting of the Biological Systems Simulation Group, Phonix, United States
Main Audience: Researcher
Invited?: Yes, Keynote?: No

44. Metivier KA* and Van Rees K. (2010). Using the ecosys mathematical model to simulate sustainable productivity and greenhouse gas exchange of short rotation willow for biofuel.Canadian Carbon Program Annual General Meeting, Montreal, Canada
Main Audience: Researcher
Invited?: No, Keynote?: No

45. Barr AG, Black TA, Margolis HA, McCaughey JH and Trofymow JA. (2010). Net ecosystem productivity of Canadian forests after clearcutting – a Fluxnet-Canada synthesis.Canadian Carbon Program Annual General Meeting, Montreal, Canada
Main Audience: Researcher
Invited?: No, Keynote?: No

46. Mezbahuddin M* and Hirano T. (2010). Environmental controls on variability of net ecosystem productivity of a tropical peatland – A modeling analysis. Canadian Carbon Program Annual General Meeting, Montreal, Canada
Main Audience: Researcher
Invited?: No, Keynote?: No

47. Wang Z*, Arain A, Bernier P, Chen B, Chen J, Coops N, Govind A, Guindon L, Hember R, Kurz WA, Peng C, Price DT, Stinson G, Sun J, Trofymow JA and Yeluripati J. (2010). Model intercomparisons of historic carbon dynamics to evaluate temperature sensitivity of forest landscapes in western and eastern Canada.Canadian Carbon Program Annual General Meeting, Montreal, Canada
Main Audience: Researcher
Invited?: No, Keynote?: No

48. Metivier KA*, Pattey E. (2010). Using the Ecosys mathematical model to simulate topographic effects on spatial variability of nitrous oxide emissions from a fertilized agricultural soil. NitroEurope Open Science Conference, Solothurn, Switzerland
Main Audience: Researcher
Invited?: Yes, Keynote?: No

49. (2009). Modelling and measuring climate and disturbance effects on net ecosystem productivity of Canadian forests – the Canadian Carbon Program. Special lecture at Kangwon National University, Chuncheon, Korea, Republic of
Main Audience: Researcher
Invited?: Yes, Keynote?: Yes

50. (2009). Modelling and measuring climate and disturbance effects on net ecosystem productivity of Canadian forests – the Canadian Carbon Program. Symposium on Modeling Technology in Agricultural and Biological Systems, annual general meeting of the Korean Society of Agricultural and Forestry Meteorology, Seoul, Korea, Republic of
Main Audience: Researcher
Invited?: Yes, Keynote?: No

51. Metivier KA* and Van Rees K. (2009). Using the ecosys mathematical model to simulate sustainable productivity and greenhouse gas exchange of short rotation willow for biofuel. Eighth International Carbon Dioxide Conference, Jena, Germany
Main Audience: Researcher
Invited?: No, Keynote?: No

52. Barr AG, Black TA, Margolis HA, Dunn AL, Metsaranta J, Wang S, McCaughey JH and Bourque CP. (2009). Interannual variation in net ecosystem productivity of Canadian forests as affected by regional weather patterns – a Fluxnet-Canada synthesis.Eighth International Carbon Dioxide Conference. Jena, Jena, Germany
Main Audience: Researcher
Invited?: No, Keynote?: No

53. Wang Z*, Arain A, Bernier P, Chen B, Chen J, Coops N, Govind A, Guindon L, Hember R, Kurz WA, Peng C, Price DT, Stinson G, Sun J, Trofymow JA and Yeluripati J. (2009). Model intercomparisons of historic carbon dynamics to evaluate climate sensitivity of forest landscapes in western and eastern Canada.Eighth International Carbon Dioxide Conference, Jena, Germany
Main Audience: Researcher
Invited?: No, Keynote?: No

54. Dimitrov DD*, Humphreys E and Lafleur P. (2009). Climate controls on CO2 Exchange at Daring Lake.Climate Impacts on Canadian Arctic Tundra 3rd Annual General Meeting, Yellowknife, Canada
Main Audience: Knowledge User
Invited?: No, Keynote?: No

55. Van Rees K and Metivier KA*. (2009). Using the ecosys mathematical model to simulate sustainable productivity and greenhouse gas exchange of short rotation willow for biofuel.Willow Crops: Research Update and Opportunity, Saskatoon, Canada
Main Audience: Knowledge User
Invited?: No, Keynote?: No

56. Dimitrov DD*, Lafleur PM and Humphreys E. (2009). Modelling of hydrological and thermal controls at CO2 exchange at Mer Bleue bog. Canadian Carbon Program Annual General Meeting, Vancouver, Canada
Main Audience: Knowledge User
Invited?: No, Keynote?: No

57. Wang Z*, Arain A, Bernier P, Chen B, Chen J, Coops N, Govind A, Guindon L, Hember R, Kurz WA, Peng C, Price DT, Stinson G, Sun J, Trofymow JA and Yeluripati J. (2009). Model intercomparison of historic carbon dynamics in Oyster River and Chibougamau forest areas.Canadian Carbon Program Annual General Meeting, Vancouver, Canada
Main Audience: Knowledge User
Invited?: No, Keynote?: No

58. Dimitrov DD*, Lafleur PM, and Humphreys E. (2009). Modelling of hydrological and thermal controls at CO2 exchange at Mer Bleue bog. 2nd North American Carbon Program All-Investigators Meeting, San Diego, United States
Main Audience: Researcher
Invited?: No, Keynote?: No

59. Wang Z, Arain A, Bernier P, Chen B, Chen J, Coops N, Govind A, Guindon L, Hember R, Kurz WA, Peng C, Price DT, Stinson G, Sun J, Trofymow JA and Yeluripati, J. (2009). Model intercomparison of historic carbon dynamics in Oyster River and Chibougamau forest areas. 2nd North American Carbon Program All-Investigators Meeting, San Diego, United States
Main Audience: Researcher
Invited?: No, Keynote?: No

Broadcast Interviews

2010-10-06 - 2010-10-06	climate change initiatives from the federal government, and climate change impacts on western Canadian agriculture and forestry, news, CHQR radio
2009-12-18 - 2009-12-18	climate change and the COP in Copenhagen, News, OMNI TV

Text Interviews

2009-11-16	C sequestration by hybrid poplar, St. Albert Examiner
2009-09-21	research programs for adaptation to climate change, Canola Council
2009-06-17	climate change impacts, Edmonton Examiner

Publications

Journal Articles

1. Mekonnen ZA* , Grant RF and Schwalm CR. (2015). Sensitivity of modeled NEP to climate and soil drivers at site and regional scales: implications for upscaling ecosystem models.Ecological Modelling.
In Press
Refereed?: Yes, Open Access?: No

2. Webber H, Martre P, Asseng S, Kimball B, White J, Ottman M, Wall GW, De Sanctis G, Doltra J, Grant R, Kassie B, Maiorano A, Olesen JE, Ripoche D, Rezaei EE, Semenov MA, Stratonovitch P, Ewert F. (2015). Canopy temperature for simulation of heat stress in irrigated wheat in a semiarid environment: a multi-model comparison.Field Crops Research.
In Press
Refereed?: Yes, Open Access?: No

3. Makowski D, Asseng S, Ewert F et al.(2015). A statistical analysis of three ensembles of crop model responses to temperature and CO2 concentration .Agricultural and Forest Meteorology.
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4. Mezbahuddin M*, Grant RF and Hirano T.(2015). How hydrology determines seasonal and interannual variations in water table depth, surface energy exchange and water stress in a tropical peatland: modelling vs. measurements.Journal of Geophysical Research - Biogeosciences.
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5. Mekonnen ZA* and Grant RF. (2015). Carbon sources and sinks of North America as affected by major drought events during the past 30 years.Global Change Biology.
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6. Webber H, Martre P, Asseng S, Kimball B, White J, Ottman M, Wall GW, De Sanctis G, Doltra J, Grant R, Kassie B, Maiorano A, Olesen JE, Ripoche D, Rezaei EE, Semenov MA, Stratonovitch P, Ewert F. (2015). Canopy temperature for simulation of heat stress in irrigated wheat in a semiarid environment: a multi-model comparison.Field Crops Research.
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7. Grant RF. (2015). Ecosystem CO2 and CH4 exchange in a mixed tundra and a fen within a hydrologically diverse arctic landscape. Part II. Modelled impacts of climate change. Journal of Geophysical Research – Biogeosciences. 120: 1388–1406.
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8. Grant RF, Humphreys ER and Lafleur PM. (2015). Ecosystem CO2 and CH4 exchange in a mixed tundra and a fen within a hydrologically diverse arctic landscape. Part I. Modelling vs. measurement. Journal of Geophysical Research – Biogeosciences.120: 1366–1387.
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9. Mekonnen ZA* and Grant RF. (2015). Contrasting changes in gross primary productivity of different regions of North America as affected by warming in recent decades.Agricultural and Forest Meteorology.
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10. Reyer CPO, Brouwers N, Rammig A, Brook BW, Epila J, Grant RF, Holmgren M, Langerwisch F, Leuzinger S, Lucht W, Medlyn B, Pfeifer M, Steinkamp J, Vanderwel MC, Verbeeck H and Villela DM. (2015). Forest resilience and tipping points: approaches and challenges.Journal of Ecology. 103: 5 - 15.
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12. Dimitrov DD*, Bhatti JS and Grant RF. (2014). The transition zones (ecotone) between boreal forests and peatlands: Ecological controls on ecosystem productivity along a transition zone between upland black spruce forest and a poor forested fen in central Saskatchewan.Ecological Modelling. 291: 96–108.
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14. Mezbahuddin M*, Grant RF and Hirano T. (2014). Modelling effects of seasonal variation in water table depth on net ecosystem CO2 exchange of a tropical peatland. Biogeosciences. 11: 577-599.
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15. Dimitrov DD*, Bhatti JS, Grant RF and Bauer IE. (2014). The transition zones (ecotone) between boreal forests and peatlands: A brief overview and modelling hydrology along a transition zone between upland black spruce forest and poor forested fen in central Saskatchewan. Ecological Modelling. 274: 57-70.
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20. Asseng S et al. (2013). Uncertainties in simulating wheat yields under climate change. Nature Climate Change. 3: 827-832.
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29. Dimitrov DD*, Grant RF, LaFleur PM and Humphreys E. (2011). Modelling the effects of hydrology on gross primary productivity and net ecosystem productivity at Mer Bleue bog.Journal of Geophysical Research Biogeosciences. 116(G04): G04010.
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