



## Wildfire Operations Research Advisory Committee Meeting Minutes November 7, 2017

<http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/PresentationList.aspx>

### Location

Alberta Innovates Technology Futures, 250 Karl Clark Road, Edmonton, AB

### Attendees

#### FPInnovations

Dominik Roser	Fibre Supply
Chad Gardeski	Wildfire Operations Research
Rex Hsieh	Wildfire Operations Research
Greg Baxter	Wildfire Operations Research
Steven Hvenegaard	Wildfire Operations Research
Roy Campbell	Wildfire Operations Research
Oleg Melnik	Wildfire Operations Research

#### Agencies

Marc Mousseau	CIFFC
Jon Large	Parks Canada
Dave Schroeder	Alberta Agriculture and Forestry
Quentin Spila	Alberta Agriculture and Forestry
Maria Sharpe	Alberta Agriculture and Forestry
Kelsy Gibos	Alberta Agriculture and Forestry
Patrick Loewen	Alberta Agriculture and Forestry
Kimberly Morrison	Alberta Agriculture and Forestry
Wesley Steed	Environment and Natural Resources, Northwest Territories

Kris Johnson	Government of Yukon
Chris Dallyn (online)	Saskatchewan Environment
Larry Freemont (online)	Saskatchewan Environment

## Associations

Cliff Henderson	FRIAA – Forest Resource Improvement Association of Alberta
Tom Burton	AAMDC – Alberta Association of Municipal Districts and Counties

## Companies

Revie Lieskovsky	Conair - Conair Group Inc., Abbotsford, BC
Rick Solomon	Fire Fox
Duane Floden	Barracuda
Peter de Bruijn	BRUIN Fire Services
Laura Blazejewski	Campbell Scientific Canada, Edmonton, AB
Mark Ackerman	MYAC Consulting Inc., Sherwood Park, AB
Mark Campbell	ICL – Israel Chemicals Ltd., Tel Aviv, Israel
Rob Thompson	ALPAC - Alberta-Pacific Forest Industries Inc., Boyle, AB
Kevin Younkens	Younkens Welding, Athabasca, AB
Robert Atwood	Hummingbird Network, Kamloops, BC
Wayne Wald	Firefox Fire Solutions, Edmonton, AB

## University of Alberta

Karen Blouin	Canadian Partnership for Wildland Fire Science
Razim Refai	Department of Mechanical Engineering

## Meeting start

<b>Welcome and introductions.....</b>	<b>Rex Hsieh</b>
<b>Approval of spring 2017 Minutes.....</b>	<b>Rex Hsieh</b>
✓ Approved by: Quentin Spila	
✓ Seconded by: Jon Large	
<b>Housekeeping and emergency response information.....</b>	<b>Rex Hsieh</b>

## Updates

**FPInnovations update**.....  
<http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/Wildfire%20PAC%20update.pdf>

**Dominik Roser**

- Introduction of new Wildfire Operations Research Leader Chad Gardeski
- Recognition of excellent job done by Rex Hsieh for last four months, Chad Gardeski will continue
- New path for FPInnovations for accelerating innovation
- Close connection to industry
- Stronger partnership with academia, research institutions
- New horizontal and vertical baseline structure in place for 2018/19 to provide more substantial impact
- Roles and responsibilities, direction to matrix structure to allow for people from different groups work together
- Next steps and other development: new president; new business model; Vancouver and Quebec offices consolidation; renewed focus on wildfire operations research within FPInnovations and on collaboration and partnership with universities and other research institutions

**Completed projects/ documents** .....  
[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/02\\_CompletedProjects\\_Rex.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/02_CompletedProjects_Rex.pdf)

**Rex Hsieh**

- ✓ Debris loading and fire behaviour potential: a comparative analysis of two harvesting methods in the Nazko Region of Central British Columbia – Technical Report
- ✓ Productivity of a motor-manual forest-fuel reduction treatment: a case study in central Alberta – Technical report
- ✓ Productivity of a semi-mechanized forest-fuel reduction treatment: a case study in central Alberta – Technical report
- ✓ Wildfire tested fuel treatments: 2015 Weyakin and Wadin Bay, Saskatchewan – Technical report
- ✓ Fire behaviour in jack pine/black spruce forest fuels following mulch fuel treatments: a case study at the Canadian Boreal Community FireSmart project – Technical report
- ✓ The rapid response kit: data collection methods for documenting encounters between wildfires and forest fuel treatments – Technical report
- ✓ Firebrand transfer and spot fire propagation: observations from an experimental fire at the Canadian Boreal Community FireSmart project – Technical report
- ✓ Windrow burning project – site description and data collection in 2017 – Info note

- *Is this list on the Wildfire Operations Research website?* Dave Schroeder
- *All new items are posted on our website; we will post today's presentations on the website as well* Rex Hsieh

**NWT update. August 2017** ..... **Greg Baxter**  
[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/03\\_NWT-update2017\\_GB.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/03_NWT-update2017_GB.pdf)

- This season was the first one when we selected a later timeframe to conduct experimental fires; July 29 – August 8
- List of agencies and people that took part in the experiments
- Underburning (four burns) – narrowing a window of burning conditions (FWI conditions) for the given fuel type to succeed
- One high-intensity burn, ignition using a Terra-Torch
- Spotting distribution study
- Fire ignitions in blackened area
- Fire shelters, participants and results
- Carbon data collection by University of Swansea
- AAF Fire Cause Investigation trials
- Basic information about black spruce fuel amendment project; plot established and ¾ cut (AAF project)
  - *Next year – is it going to be same time (July-August) for starting experimental fires?* Greg Baxter
  - *It is under discussion right now* Wesley Steed

**Pelican Mt. FireSmart fuel management research site. 2017 update** ..... **Greg Baxter**  
[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/04\\_Pelican\\_update2017\\_GB.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/04_Pelican_update2017_GB.pdf)

- Thinning effectiveness
- Black spruce fuel hazard reduction
- Fuel treatment productivity
- Fire behaviour in open mulch fuel
- Fire behaviour and fire suppression in logging debris fuels
- Ground based retardant effectiveness in mulched fuel
- Aspen underburn
- May 2018 attempt a mulch re-burn
  - *We saw spotting from mulch fuel and had consistence ignition from the burn mulch plot. We would like to re-burn the mulch plot from this year to have a better understanding* Dave Schroeder
  - *Only at the burned plots from this year* Greg Baxter
  - *When?* Wesley Steed
  - *First week of May; right conditions and wind direction; to have opportunity to use winds of different directions; we hope for high-intensity fire behaviour to test* Dave Schroeder

**Quantifying air-tanker treatment area and effectiveness. Using thermal infrared remote sensing .....** Rex Hsieh

<https://www.youtube.com/watch?v=q0V0tpLQR7w>

- Video on water bombers drops efficiency
- Evaluation of drops efficiency/ distribution using thermal infrared video imagery
- Partners
- Data/ results acquired during tests still need processed/ verified
  - *Is this video on public channel?*
  - *Yes*
  - *That is the next?*
  - *They will decide if they need more drops*

*Dave Schroeder*  
*Rex Hsieh*  
*Marc Mousseau*  
*Rex Hsieh*

## Aviation

**Wildfire chemical performance evaluation road map .....** Rex Hsieh

[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/06\\_WildfireChemicalPerformanceRoadMap\\_Rex.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/06_WildfireChemicalPerformanceRoadMap_Rex.pdf)

- History 2005-2017
- Challenges
- Road Map – how to move forward
- Cost efficiency formula – index – decision
- Validation of cost effectiveness formula by Canadian agencies
- LIFT test; thermal Canister test; wood Crib Test
- Next steps: continue field operations evaluation on different products + delivery systems; CIFFC AWG feedback
  - *CIFFC Aviation Working Group supports the road map and development of the cost effectiveness index. We would like to see the index part completed before get into the field evaluation*
  - *Do you support our efforts on development road map?*
  - *We need to see efficiency, cost of extra we can probably to evaluate case by case*
  - *How long will it take, we had ten tests already, and now canister test? How many tests and thousands of dollars we need more? We have spent 12 years and 25 million gallons? Field testing again?*
  - *LIFT test is done, only thermal canisters*
  - *Not so important; need to provide cost efficiency to provincial agencies: what is cost versus water, compare cost of different products*
  - *Application to application will still be different*
  - *Good discussion, unbiased index is necessary for industry and producers*
  - *It is enough of discussion, we can do it later*
  - *Cost is different from application to application; small*

*Marc Mousseau*  
*Rex Hsieh*  
*Quentin Spila*  
*Rick Solomon*  
*Rex Hsieh*  
*Marc Mousseau*  
*Quentin Spila*  
*Dominik Roser*  
*Rex Hsieh*  
*Dominik Roser*

- *investments for canister test*
- *We continue work*
- *You have to hire some contractor*

*Rex Hsieh  
Revie Lieskovsky*

**Quantification of performance evaluation of wildland fire chemicals using a custom-build thermal canister .....**

**Razim Refai**

- ❖ *In room discussion. The presentation and the result will not be available outside of the meeting*

**Evaluating performance of fire suppressants using crib tests .....**  
[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/08\\_CribTesting\\_Razim.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/08_CribTesting_Razim.pdf)

**Razim Refai**

- Overview
- Suppressant Delivery
- Crib and Ignition
- Test Procedure
- Continued Work

**Heavy helicopter and gel field evaluation .....**  
[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/09\\_HeavyHelicopterAndGelFieldEvaluation\\_v1.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/09_HeavyHelicopterAndGelFieldEvaluation_v1.pdf)

**Rex Hsieh**

- Project Background, delivery system, methods
- Visual inspection of the gel mixture on the tarp – completely mixed
- Unable to judge mix ration without doing a Marsh funnel viscosity test
- Bell 214B + Isolair on-board mixing system + Firewall II gel can deliver mixed gel effectively
  - *We have already done field testing – do we need more*
  - *Only with agency request*
  - *What was flame height on fire gel was dropped on? A crown or surface fire?*
  - *Light slash and surface fires*

*Rick Solomon  
Rex Hsieh  
Revie Lieskovsky  
  
Rex Hsieh*

## Detection

**Effectiveness of distributed decision (Crowdsourcing) wildfire detection – Hummingbird Network evaluation .....**  
[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/10\\_HummingbirdWatch\\_Rex.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/10_HummingbirdWatch_Rex.pdf)

**Rex Hsieh**

- Project Background, system diagram, methods
- The Hummingbird Network system works when the cameras and communications performs
- The detection system requires working closely between the

infrastructure provider (AAF radio shop) and detection service provider (Hummingbird Network)

- Some turkers were engaged and accumulating experience
- 0.1 ha = 31.62m x 31.62 m
  - *Millions of people are watching on-line; there are environmental issues such as thunder storms or fog that impact the system performance*
  - *What is turker?*
  - *“Turker” - a person who watches the computer to look for smoke, etc. Paid by the number of 'clicks' they make ... they watch for a lot of different things....*
  - *Is there infrared ability on these cameras?*
  - *No*

Robert Atwood

Mark Ackerman

Robert Atwood

Tom Burton

Rex Hsieh

## Coffee break

## Operations

**Harvest debris – IA effectiveness .....**  
[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/11\\_Harvest\\_debris\\_GB.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/11_Harvest_debris_GB.pdf)

Greg Baxter

- Project was revived this past spring due to renewed interest from AAF as they have a new Directive on harvest debris loading near communities. Advisory discussed at spring meeting and wanted results within 2 years. Objective – to relate fire behaviour in known harvest debris loads to the capability of 4-person Helitack (HAC) crews.
- Harvest Debris – Update
- Harvest Debris – Next Milestone and 2018 Plans

**Windrow burning. Data Collection 2107 .....**  
[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/12\\_Windrow\\_burning\\_GB.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/12_Windrow_burning_GB.pdf)

Greg Baxter

- An AAF WMST project promoted by the High Level Wildfire Management Area in response to the hazard created from the smoke produced by land-owners burning debris when the fire season ends (Nov 1st). Objective – to compile moisture content data and develop a hazard assessment protocol for surrounding fuels including smoke dispersal scenarios to identify if there are alternative periods when windrow burning may take place safely.
- Year 2017 Update
- Next Milestone
  - *What is Blue Sky model? Can it give spotting distance?*
  - *What are inputs into model?*
  - *FWI Indices*
  - *ALPAC clears thousands hectares of land, we can work*

Cliff Henderson

Mark Campbell

Dave Schroeder

Rob Thompson?

- together, need to discuss this
- Why go so far to High Level, we can do it somewhere closer  
Revie Lieskovsky
- High Level promoted project.  
Greg Baxter
- How many accidents related to smoke you had this year?  
Dominik Roser
- Can you predict where smoke will go?  
Revie Lieskovsky
- I will send a web link  
Greg Baxter

**Lapse Rate. Completed Project** .....  
[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/13\\_Lapserate\\_GB.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/13_Lapserate_GB.pdf)

**Greg Baxter**

- Objective – to identify techniques to measure when the atmosphere in proximity to a wildfire is in a super-adiabatic condition (extremely unstable) and then to deliver this information to fire managers in almost real-time.
- The data collected from the RJ85 was both accurate and timely. The aircraft provided accurate temperature profiles over a fire which could be used by fire managers if a data transmission system is set up.
  - Is “crossover” related to this?  
Cliff Henderson
  - Yes, because with the breakdown of the cap, drier air can be brought down onto the fire. Next step is providing data for fire managers  
Greg Baxter
  - Project is not over, needs more collaboration with Universities and other research institutions  
Dominik Roser
  - Discussion? Proposal?  
Roy Campbell
  - No formal proposal  
Greg Baxter
  - Australia fire season has started already  
Revie Lieskovsky
  - Instead of agencies only, to give this information directly who need  
Dave Schroeder
  - Up to agencies. It would be interesting if Australia would be interested  
Revie Lieskovsky

## Equipment

**Alberta helitorch re-design** .....  
[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/14\\_Helitroch\\_Redesign.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/14_Helitroch_Redesign.pdf)

**Roy Campbell**

- Goal: Modernize and improve Alberta's aging helitorch. Objectives: complete re-design engineering; build, test and evaluate new helitorch prototype; document & report findings
- Re-design work focused on: utilization of standard fuel barrel (used barrel returned to vendor); mixing system re-design (mix in-barrel through pump circulation; frame & barrel stand re-design (act as helitorch frame and unit stabilizer); electronic ignition (no propane bottle)



- *Standard valve* Mark Ackerman
- *Are you looking for 3-d printing?* Tom Burton
- *We can use aluminum; 3-d printing only for testing* Mark Ackerman
- *Is any evaluation of initiation of fire, results on the ground in the different fuel types?* Maria Sharpe
- *Testing of the concept, mostly technical side of the project, no check the fire behavior result from the torch* Roy Campbell
- *Want to see effects on the ground for different fuel types* Maria Sharpe
- *Parks had issues with its torches this year. Even cancelled a burn.* Jon Large
- *Vendors will take barrels back, they will take care empties* Roy Campbell
- *Parks has interest in the project* Jon Large
- *Do not be too excited, AAF is trying to sell some old torches* Roy Campbell

**Developing an instrument to measure wildfire intensity..... Rex Hsieh**

[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/15\\_InstrumentToMeasureWildfireIntensity\\_Rex.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/15_InstrumentToMeasureWildfireIntensity_Rex.pdf)

- Goal is to develop an instrument to measure fire intensity as a field-ready package using design by U of A student and MYAC
- Works after flame front, but still cannot find fireproof solution without burying data loggers
  - *Are those for sale?*
  - *Eventually*

Jon Large  
Mark Ackerman

**Infrared hotspot prototype construction, testing and evaluation ..... Rex Hsieh**

[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/16\\_InfraredHotspotPrototypeConstructionTestingEvaluation\\_Roy.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/16_InfraredHotspotPrototypeConstructionTestingEvaluation_Roy.pdf)

- Goal: Develop simulated hotspot target device for Hinton Infrared Scanning Grid. Objectives: develop project criteria, enlist contractor, build & test prototype
- Poses no ignition threat; criteria met (+ or - 200 Celsius); AAF now in talks with contractor to produce 35 – 40 Units

**Trident high-volume pump and water delivery system evaluation ..... Roy Campbell**

[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/17\\_TridentWaterDeliverySystemn\\_Roy.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/17_TridentWaterDeliverySystemn_Roy.pdf)

- Goal: Evaluate the Trident pump & water delivery system. Objectives: develop evaluation criteria and conduct field evaluation and document results
- Potentially fills a gap between larger volume pumps and common wildfire pressure pumps
  - *Is this project on the FPInnovations website?*
  - *Yes...correction not yet...Project page created and InfoNote has been posted, but presentation has yet to be posted (posting of all presentation will likely occur after the Advisory meeting).*
  - *Was a cost analysis done as part of the project?*

Marc Mousseau  
Roy Campbell

Tom Burton

- *No, we were only asked to look at technical aspects of the system* Roy Campbell
- *Are you testing other pumps?* Marc Mousseau
- *Not at this time, but will consider other project proposals* Roy Campbell
- *As noted in the presentation, we see this system as potentially filling a gap between the current smaller fireline pumps used by most agencies and larger volume pumps used to move water. However, to fully realize the Trident system's capabilities and where it fits into operations, it will take both deployment and use under different applications* Roy Campbell

**Harvesting Robot. A collaborative internal project with Scion, NZ..... Greg Baxter**  
[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/18\\_Harvesting\\_robot\\_GB.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/18_Harvesting_robot_GB.pdf)

- While in NZ I was shown a robot designed for thinning and stand tending their plantations. We had an idea this could be used for thinning around communities- specifically for FireSmart treatments. Submitted a proposal that was accepted to scope out the project.
- Next Step is to develop and test a prototype in a black spruce stand if project successful in moving to next stage. Work will be done as one project under an MOU with Scion from NZ
  - *What will be a diameter of trees* Cliff Henderson
  - *Cutting lines?* Jon Large
  - *Clearcuts?* Cliff Henderson
  - *Only falling? Direction?* Dave Schroeder
  - *Why are we building one if a prototype exists* Unknown
  - *Did you talk with harvesting companies?* Dave Schroeder
  - *Next, will work further with Harvesting Group and industry* Greg Baxter

**Lunch break**

## **Community Protection / Forest Fuel Treatments**

**Designing a forest fuel treatment decision support system. Reviewing 15 years of research to help us move forward ..... Steven Hvenegaard**  
[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/19\\_ForestFuelTreatmentRetrospectiveFutureDirections\\_Steve.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/19_ForestFuelTreatmentRetrospectiveFutureDirections_Steve.pdf)

- Issue: community planners and forest fuels managers have several outstanding questions on how to deliver fuel treatment and maintenance programs cost-effectively at an expanded scale. Goal: provide a systematic approach to applying fuel treatment solutions to specific ecosites
- Objectives of this presentation: summarize and present research work to date that has been used to evaluate fuel treatment

effectiveness

- *Since last meeting, two grants a FireSmart Decision Support System have been proposed – FPI and UofA. In the process, as Steven described, we are getting there and we are happy to see it* Dave Schroeder
- *Two factors are missing: education and communication (for communities)* Tom Burton
- *The list of variables in open-ended* Steven Hvenegaard

**Underburning. Case Studies NWT..... Greg Baxter**

[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/20\\_Underburning\\_GB.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/20_Underburning_GB.pdf)

- Underburning is promoted as a FireSmart tool to reduce fire intensity. What are the indices that achieve the best results given a specific fuel type?
- Objective – to determine the range of indices give a specific fuel type when underburning achieves the desired results
  - *What are you doing at Pelican Mountain study site* Wesley Steed
  - *Burn aspen understory* Greg Baxter
  - *Would be interesting to see* Wesley Steed
  - *A factor of moss moisture content, important for fire spread* Dave Schroeder
  - *We'll stay in touch* Wesley Steed
  - *What is desirable result of the underburning?* Tom Burton
  - *The 1m height of burning without crowning using minimal suppression means* Greg Baxter

**Fire behaviour in mulched debris. Observations from experimental fires at the Pelican Mountain FireSmart Research Area. Case study by Louis Price .....**

**Steven Hvenegaard**

[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/21\\_FireBehaviourInMulchedFuels.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/21_FireBehaviourInMulchedFuels.pdf)

- Observations from experimental fires at the Pelican Mountain FireSmart Research Area – line and point ignition
  - *Challenging fire, observations are helpful; surface fire on mulch is better than crown fire* Dave Schroeder

**Black spruce fuel amendment. Project update – developments at two research areas in Alberta and Northwest Territories .....**

**Steven Hvenegaard**

[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/22\\_BlackSpruceFuelAmendment\\_Steve.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/22_BlackSpruceFuelAmendment_Steve.pdf)

- Issue: Large expanses of black spruce fuels in Alberta and other parts of Canada pose a major wildfire threat to values at risk. Fuel treatment is expensive.
- Objectives: Determine if low hazard test burns in black spruce stands, altered to increase fuel volatility can sufficiently reduce canopy fine fuel weight to prevent subsequent crown fires

**Debris loading and fire behaviour potential: a comparative analysis of two harvest methods in the Nazko region of central BC.....**

**Steven Hvenegaard**

[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/23\\_Steve\\_Debris%20loading%20and%20fire%20behaviour%20potential.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/23_Steve_Debris%20loading%20and%20fire%20behaviour%20potential.pdf)

- Goal: Explore and compare two harvest methods in order to identify efficiencies and limitations in providing cost-effective methods for harvesting low value fibre
- Objective: assessing pre- and post-harvest debris loading and arrangement to evaluate potential fire behaviour in each harvest area

**Firebrand transfer and spot fire propagation: observations from an experimental fire at the Canadian Boreal Community FireSmart project**

**Steven Hvenegaard**

[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/24\\_EMBERTRANSFERSPOTFIREPROPAGATIONOBSERVATIONSCBCFS2017.PDF](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/24_EMBERTRANSFERSPOTFIREPROPAGATIONOBSERVATIONSCBCFS2017.PDF)

- Issue: Firebrand source, transport and receptor materials are key elements that influence fire growth and spread.
- Goal: Contribute to fuel treatment planning and maintenance standards.
- Objectives: Evaluate ember transport distribution patterns and maximum spotting distance. Evaluate spot fire propagation in a fuel removed environment.

**Open Projects. Wildfire Operations Research .....**

**Rex Hsieh**

[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/26\\_OpenProject\\_Rex.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/26_OpenProject_Rex.pdf)

- Rex took over after Ray, 36 projects, still 23 left

**New Projects. Wildfire Operations Research .....**

**Rex Hsieh**

(not posted yet)

- No new projects this meeting. Will ask for new project proposals at the next meeting

**Closing Comments .....**

**Chad Gardeski**

<http://wildfire.fpinnovations.ca/AdvisoryMeeting/2017Fall/Wildfire%20Introduction%20and%20vision.pdf>

- Thanks to Rex
- Chad went over his background and future vision for the group
- March 20, 2018 – next meeting proposed date