

Adaptations for working in the year 2020

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ABSTRACT

There is no question that the COVID-19 pandemic has changed the day to day lives of everybody. As with the rest of the world, CREWES has had to adapt and change not only how research projects are carried out, but the day to day operations in the office as well. Work must now be carried out in a way that meets the restrictions imposed by the Alberta government and the governing body of the University of Calgary.

INTRODUCTION

When 2020 started no one at CREWES could foresee how the world was going to change. The expectation was that this year would continue with the same routine as previous years. From conventions to classes that CREWES provides support for, to field experiments that still in the planning stages. CREWES was looking forward to another year of research and discussions over coffee in the office, at meetings, and with sponsors.

Needless to say, this year has changed how many people think about not only work, but socialization. This year has highlighted the importance of self care for many people.

MARCH 2020: THE BEGINNING

For several years now members of CREWES have been attending Earth Science for Society, Figure 1. This is an exhibition that takes place in Calgary every March with several different exhibitors. It is designed to expose young students and anyone who would like to stop by to the geosciences. The CREWES booth has always had active demonstrations of actual field equipment used for research. There is a seismometer, three Geometrics Geodes with just under sixty geophones, and a ground penetrating radar cart for people to use. It tends to be a popular experience.

On the CREWES Friday tech talk of February 28th the first call for CREWES volunteers to attend ESfS was made. There were seven different shifts that members could sign up for starting on Saturday March 14th for setup through to Tuesday March 17th. In the first week of March all the equipment to be displayed was being made ready.

On Wednesday March 11th the World Health Organization declared a pandemic with COVID-19. On this date Alberta had a total of nineteen cases, all of which were travel related. Provincial health officials were cautioning against large gatherings of people which lead to the cancellation of the City of Calgary's Safety Expo and a pair of international speed-skating events at the University of Calgary's Olympic Oval. Schools in the province also cancelled overseas travel. At this point the province was leaving the decisions to go ahead with mass gatherings up to the organizers. As of Wednesday morning the organizers of ESfS had no plans to cancel the event.



FIG. 1. The CREWES exhibit at Earth Science for Society in 2019.

In the early afternoon the Geoscience Department of the University of Calgary decided to cancel their appearance at ESfS. The decision for CREWES to pull out was made at roughly the same time.

On Thursday March 12th the Alberta Chief Medical Officer stated that any gathering of more than 250 people were to be cancelled immediately. ESfS usually has a few thousand attendees and as such the event was obviously cancelled.

This was the first sense of how things were going to change this year for many CREWES researchers.

Later in the day there was an email sent to everyone at the University of Calgary outlining precautionary measures. These included self isolation for those returning from regions of high infection rates, washing of hands, disinfecting frequently touched surfaces, etc. One item in this list that hinted at things to come was to ensure that all staff and faculty ensured that they could access their computers remotely.

Early morning on Friday March 13th classes at the University were suspended for the day. The university would remain open with all services available and staff at work to allow consultation with public health experts and government officials. Mid morning an email was sent requesting information from all staff in the geoscience department regarding essential personnel who may be required to enter campus to look after equipment should the university be closed. Mathew Eaid presented what was to become the last in person Friday tech talk: “The role of fiber gauge length in FWI of DAS strain data”.

Late afternoon it was announced that the university would remain open and staff and faculty will be at work, but in person classes would no longer be held. This meant that all instructors had the two day weekend to switch to an online delivery method for course material.

On Sunday March 15th Alberta Health announced that all K-12 schools, daycares, and universities would be closed to ward off the continued spread of COVID-19. An extra day was given for instructors to setup online delivery of course material. Online classes would start on Thursday March 17th.

On Monday March 16th Kris Innanen, the director of CREWES informed all CREWES members to stay at home and practice social distancing.

CREWES was planning a seismic survey for a student of Dr. Rachel Lauer to be carried out near the end of the month. This was to be a reflection line transecting and perpendicular to the Sulphur Mountain Thrust fault zone. This research was postponed on Tuesday March 17th. All CREWES Friday tech talks were cancelled for the foreseeable future as well.

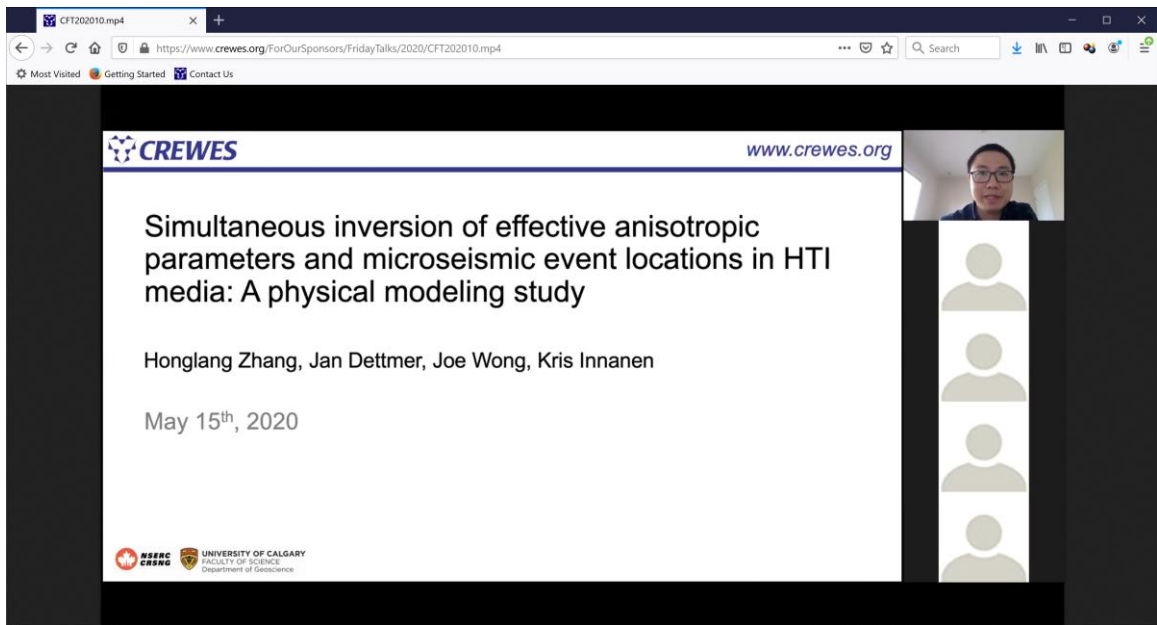
At 12:01AM on the morning of Saturday March 21st the Canadian and US border was closed to all non-essential travel.

WORKING FROM HOME

Most of the members of CREWES were already set up to remotely access their computers in the office. The same is true for the machines in the server room. This made it easier to transition away from working in the office. For the last half of March and for the month of April all correspondence took place over email.

With the need to keep everyone connected it was decided to resume the Friday technical presentations in an online format using the Zoom application. The main format of the meetings was the same as previous Friday meetings with a welcome and announcements. Then one member of CREWES would present a talk based on their research. As always members of sponsoring companies are welcome to join.

The first online tech talk took place on May 15th. It was presented by Honglang Zhang and was titled “Simultaneous inversion of effective anisotropic parameters and microseismic event locations in HTI media: A physical modeling study”.



FIELD WORK

CREWES is typically involved with several field acquisition projects over the course of a year. There was survey planned in the Banff National Park that was to take place before the snow melted in the spring. As mentioned before this was postponed, and possibly cancelled.

In August some of the restrictions were lifted and the decision to carry out the Banff field work was given the green light. CREWES was only involved in the seismic component of the survey which was carried out on August 17th and 18th.

The survey was carried out along Vermilion Lake Road just north of the Banff Townsite. The university has created some new guidelines to deal with the pandemic while in the field. These include needing to have a method to wash hands with soap frequently in the field. Masks must be worn. Gloves are needed to handle equipment that other people have touched as well. While travelling to and from the field there can only be two people in a vehicle at a time and they both must wear masks and sit as far a physically possible from each other.

The only other field work that CREWES was involve in this year was a one day trip to the CaMI FRS for a walk away VSP. This survey was done with a single line of geophones laid out along the fibre trench centred on the geophysics observation well.

GEOCONVENTION AND SEG

CREWES participates in the Geoconvention held in Calgary every spring. This year the convention was to take place on May 11th through to the 13th. CREWES researchers present material that was worked on in the previous year. These presentations usually contain material that was presented at the previous year's sponsors' meeting. It is a good way to stay in contact with the industry and forge new connections. Unsurprisingly the convention in May was cancelled.

The Geoconvention was later rescheduled for September 28th through to the 31st. The entire convention had to be transitioned to an online format.

The SEG is a larger convention than the Geoconvention and has representative from all over the world in attendance. Of course this year no one was able to travel to the convention site due to all the travel restrictions.

The SEG took place on October 11th through to October 16th. Unlike the Geoconvention the dates weren't changed as they had enough time to prepare for an online format. Presentations were prerecorded and displayed online in the timeslots that they were originally going to take place in person.

FALL SEMESTER

The geophysics field school usually takes place at the end of summer. The past two favourite locations for field school are near the Castle Mountain Ski Resort and at the CaMI FRS near Brooks Alberta. Both locations require that instructors and students stay in local accommodations. Obviously, this was not possible this year. Instead the field school was modified to be an online course simply so students nearing the end of their degree could graduate. However, this would get them their degree only and they are required to take the in person field school at a later date to obtain their certification.

As the summer came to an end the restrictions mostly stayed in place. The university decided to move as much content online as possible. This was a little bit less of a shock to the system than the March transition to an online format. There are some labs that obviously can not be done at home. New cleaning and sanitization protocols were put in place for these labs.

Members of CREWES have been asked to continue to work at home when possible, Figure 2.

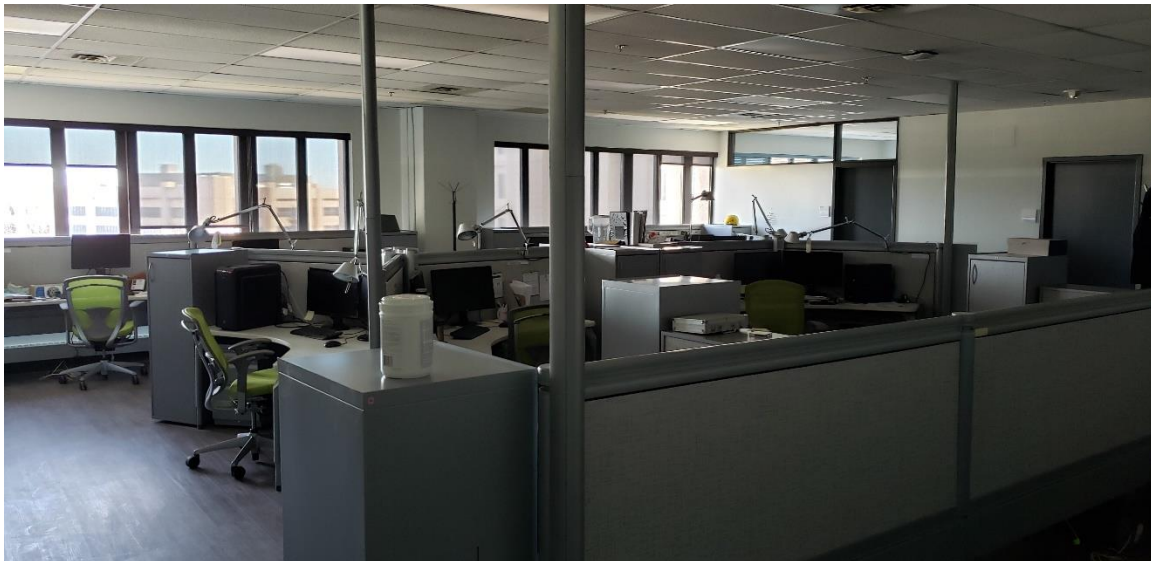


FIG. 2. The CREWES student area on the sixth floor of the Geosciences building remains empty.

SPONSORS MEETING

The CREWES Sponsors' Meeting takes place at the end of November/beginning of December every year. Usually it is held at a hotel near Calgary in the mountain towns of Banff or Canmore. This year the plan was to attend the Banff Park Lodge. Unfortunately, the pandemic is still preventing most people from travelling. As such, like all other meetings and conventions this year, the decision was made to move it to an all online format. Presentations will be pre-recorded and played over Zoom. The creators of the content in the presentations will be in attendance to answer any questions after their presentation.

CONCLUSION

Although this pandemic has brought much hardship and sadness into the world, it is fortunate that at this point the technology exists to allow for physically distanced work and socialization to occur. Life would be significantly more difficult if video conferencing/calling were not possible.

At the time of writing this the number of new cases in Alberta is increasing. It is expected that new strict regulations will be brought in by the Alberta government soon. There is good news being reported in the form of successful vaccine testing. Hopefully there will be a traditional CREWES Sponsors Meeting in 2021.

ACKNOWLEDGEMENTS

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