ITS UPDATE

ISSUE 25 September 2017

TRU's Update on Information Technology

THOMPSON RIVERS UNIVERSITY

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myTRU Portal Update

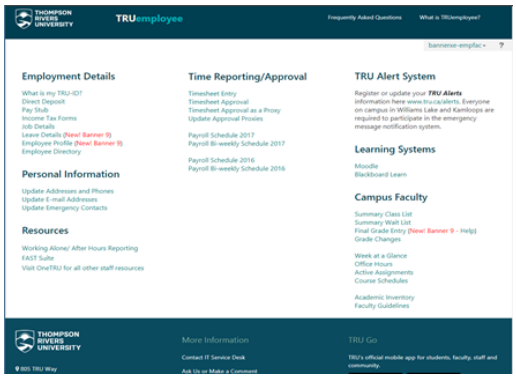
- E. Herbert

IT Services is updating the **myTRU portal** to a new version. The old version is still available, but we encourage TRU employees to start using the updated one at truemployee.tru.ca.

While you are looking at the updated myTRU, please take a minute and review your contact info.

The updated version has some improved features and doesn't require a separate password. To log in to truemployee.tru.ca simply use your network account credentials—the same username and password that you use for Outlook email, OneTRU and Eduroam.

IT Services will release further updates over the summer and collect feedback before the portal update is released to students. The old version will be discontinued in the fall.



You can give feedback by using the comment feature within truemployee.tru.ca, or contact the IT Service Desk with your questions at itservicedesk@tru.ca.

Download BeeTagg Reader and view this newsletter on the web!
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New Registration Experience with Banner 9

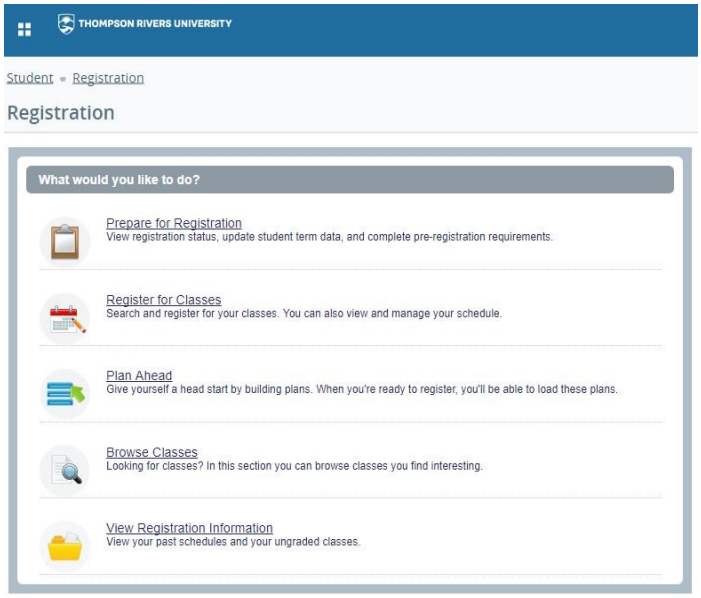
- E. Herbert

Fall registration at Thompson Rivers University (TRU) was a significant occasion, due to the launch of the new Banner 9 ERP student web registration experience. This new Banner 9 registration module is the latest milestone in a long line of Banner 9 deliverables that have put TRU at the forefront of the Banner 9 evolution. With a transformation roadmap set to achieve early returns on investment, Banner 9 improvements are already adding significant value to TRU's enterprise.

The transformation to Banner 9 brings considerable enhancements to TRU's technology and business processes, while providing students, staff, and administrators with a user experience that is smooth, modern, and intuitive. TRU is very proud of the accomplishments associated with this implementation and acknowledges the strong effort by their Information Technology Services (IT Services) team and partners.

Ellis Herbert, Director of Enterprise Systems and Deputy CIO, is very pleased with the tremendous progress with the Banner 9 Transformation at TRU and believes the investment in resources for the initiative has certainly paid off. Ellis remarked that "the new technology stack for Banner 9 offers enhanced functionality with an entirely new user interface and responsive design which fits very well with TRU's strategy." Ease of maintenance and lower cost of ownership are other areas where Ellis also believes Banner 9 puts TRU in a very good position. A common architecture, scalability, extensibility, and the ability to have both Banner 8 and Banner 9 coexist lends itself to the optimum velocity of change for the Banner 9 evolution. It also enables TRU IT Services to adapt to the fast pace of change with TRU's dynamic business strategy. Ellis acknowledges that early investment in R&D by his team and an agile implementation process were instrumental in delivering the goods.

Marion Hannaford, TRU's Associate Registrar, Systems and Reporting, is happy that "the days of students having to drop courses to take a chance on registering in a different course are over with Banner 9's conditional add and drop feature. With the ease of checking a box students will either be registered in the new course if there are no errors or not dropped from the old." Hannaford also observed that "faculty appreciate the ability to upload final grades from an excel spreadsheet rather than manually matching student names and adding grades individually."



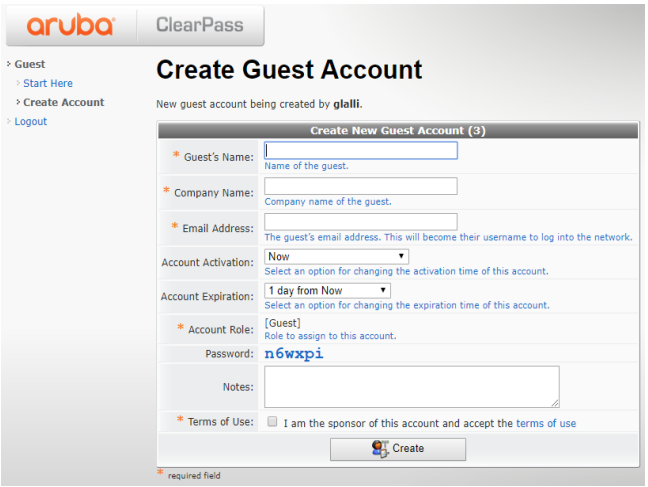
TRU IT Services continues to work in earnest on its Banner 9 transformation initiative, and will continue to deliver enhanced functionality to TRU's students, staff, and faculty.

Self Service Guest Accounts for Visitors

- D. MacNeil

The new wireless network allows for better guest wireless services. Both faculty and guests can now request an account without any interaction from IT Services.

To make a guest account in advance, you can login to the Aruba Guest Management system to create the account and email the log in information to the guest prior to the their visit. If you are unable to create a login in advance, the guest can connect to "TRU" wireless network and on the login page simply select "Create Account" to have an account request emailed to their TRU sponsor for immediate approval. For more instructions, visit OneTRU.



BCNET

TRU Regional sites network connectivity has moved from PLNet to BCNET. Lillooet, Williams Lake and Clearwater sites will see improved network performance and allow TRU IT Services to manage the networks more effectively.

Moodle in the Cloud

- G. Lalli

TRU Moodle/LMS has been migrated to Educloud. Users logging into Moodle will see no difference as the migration to Educloud is complete.

Some improvements made along the way include:

- All data passing to and from Moodle is now SSL encrypted
- SSL encryption is enabled server wide
- Unoconv is enabled to improve the rendering of word documents in online grading windows.

The performance is outstanding! IT will continue to monitor and fine-tune the server.

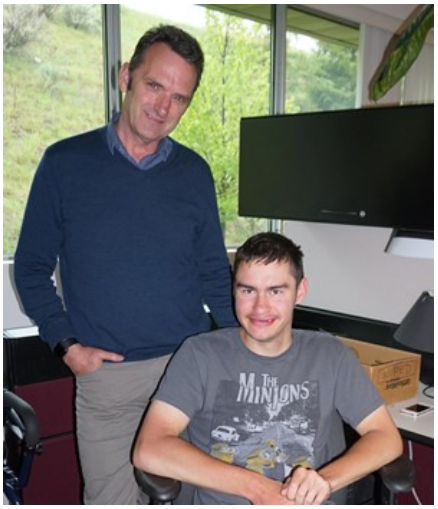
Successful ESTR Practicum

-G. Lalli

From May 1 - 12, 2017, IT Services supported ESTR practicum student, Kyle Hunt.

During his practicum, Kyle was able to create a template for the ITS Update newsletter in publisher. He also learned how to inventory wireless devices, along with maintaining and caring for hardware equipment.

Kyle showed us how determination and a great attitude can help push past some physical barriers.



Digital Research in Action

- Brandon Turner, Darryl E Carlyle-Moses, David J Hill

Hobbyist Electronics Offer a Low-Cost Alternative for the Study of Key Stemflow Processes.

Understanding the way precipitation is partitioned by tree canopies including the generation of stemflow – understory precipitation that is directed down the bole of a tree, is an important consideration in urban and forest hydrology. Whether it is in a forest or in a city, there is a need to understand how water moves from canopy to soil in order to better model factors such as flood risk, forest health and nutrient transit. However, the methods and techniques used to monitor canopy interception have been slow to adapt to new technologies. Stemflow, the portion of rainfall partitioning this project will address, has been monitored in largely the same manner since some of the earliest studies into the topic. Current techniques allow for mediocre temporal resolutions and rely upon expensive equipment not designed for this purpose. The researchers in the GeoX lab, Dr. Hill (director), Dr. Carlyle-Moses (collaborator), and Brandon Turner (undergraduate research assistant), are developing a stemflow monitoring platform based around readily available, inexpensive hobbyist electronics. The sensor platform consists of an Arduino microcontroller equipped with ultrasonic rangefinder, wetness, and temperature/relative humidity sensors and a GPS receiver.

The overarching goal of this emerging research program is whether or not low-cost hobbyist grade sensor platforms be leveraged as a means of enhancing hydrologic research? Specifically, this project will explore whether off-the-shelf hobbyist technology can measure intra-storm stemflow dynamics sufficiently accurately to lead to new insights on the mechanisms driving stemflow generation and local-scale models of stemflow that can be used to inform forest hydrology. To achieve this goal, the research team will develop and deploy several low-cost sensor platforms built around the Arduino Uno microcontroller that utilize wireless communication technology, GPS receivers, ultrasonic sensors, temperature sensors and wetness sensors. The mark-I version of this sensor was deployed in the summer of 2016, and this summer an updated mark-II sensor, that has been hardened and enabled with wireless technology. The mark-II sensors are deployed on the Thompson River University campus to monitor several trees throughout the spring/summer/fall of 2017. The data collected by the sensors will be supplemented by data from a high-resolution tipping-bucket rain gauge and weather station equipped with pyranometer, anemometer, temperature/humid humidity and leaf-wetness sensors. Multiple regression analysis will be used to identify the meteorological variables that best predict stemflow, and these variables will be investigated to suggest the mechanisms driving stemflow generation.

Using this sensor platform, we hope to demonstrate, not only that it is possible to dramatically increase the temporal resolution of stemflow data, but also that this increased resolution will assist in the creation of new, more sophisticated models of the stemflow process that consider the effects of wind, temperature and other highly-dynamic meteorological variables. Once the sensing system is validated, it will be used to collect data that will be used to build new models that account for the effects of local-scale meteorological variables that can be more easily measured than stemflow. These models have the potential to improve our understanding and predictive modelling of forest hydrology. In addition, the methodology employed in this study will stand as a demonstration of the efficacy, affordability and flexibility of sensor platforms based on off-the-shelf electronic components.

Wannacry

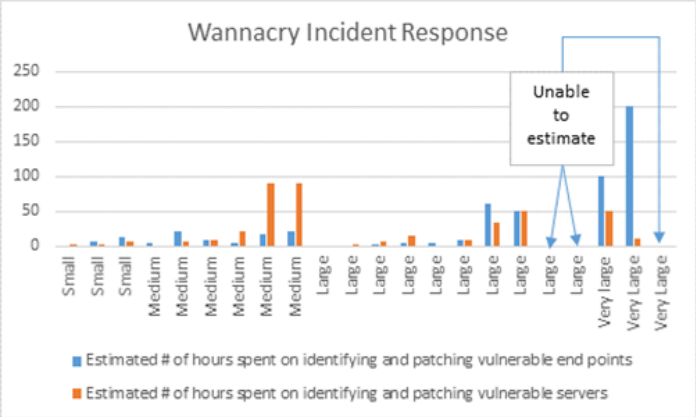
- H. Burley

Monday mornings in the TRU Information Security Office are never pretty, but before we had even gotten into the office on Monday May 15th 2017 the TRU Information Security Office was hearing about a massive malware attack sweeping through Europe and Great Britain. The victims included huge organizations like FedEx, the British National Health Services and Telefonica. By the time our offices were open, hundreds of thousands of unpatched machines in over 150 countries had been affected by something called Wannacrypt, the first network enable ransomware. Fortunately, the ports used to transfer the infection were blocked at the TRU firewall and we had updated all of our desktop PC's weeks before, but what about our 220+ Windows servers? Could someone downloading and opening an infected attachment disable a large part of TRU's critical system infrastructure? A quick analysis indicated that in fact could happen and that the only reasonable course was to undertake intensive upgrading. Thanks to some dedication from our Technology Services Department, and approximately 90 hours of labour later, the situation was under control. It was with this experience fresh in our minds that the Information Security Office set out to compare our situation with other Canadian universities.

A key result of a survey of 22 institutions is that none reported any malware infections related to Wannacry. Therefore no ransoms were payed, no time was allocated to recovery and no information was lost as a result of an infection. A second result of this survey is the comparative time spent to patch systems. Not surprisingly there is a relationship between the amount of time expended on scanning, patching and communication and the size and organizational structure of the institution. The larger and more distributed IT organizations generally expended more effort than smaller centralized organizations.

One issue that stands out is that some institutions have rigorous patching programs and therefore spent relatively little time patching systems during this incident while others required substantial time to address patching during the incident. It is assumed from comments included in the CUCCIO SIG list that a significant portion of the patching time was allocated to scanning for vulnerabilities, communicating the issue and contacting distributed IT departments in larger institutions. In some of the largest and most distributed institutions, even attempting to determine the amount of effort required was not possible within the time frame of the survey. It is likely safe to assume that efforts on scanning, patching and communications in these institutions are among the highest levels.

Finally and perhaps most importantly, this survey and the associated threads, show that the CUCCIO SIG list remains a high value information sharing site which helped to resolve a number of issues with scanning tools and allows participants to gain a better understanding of how they compare. If you did well it is time to get some well-earned kudos and if not it is time to determine why and get the message out that your institution could be doing better.



Augmented & Virtual Reality in Action

- A. Fergus, Dept. of Human, Enterprise & Innovation, SoBE

Virtual Reality (VR), 360-degree video, immersive experience, augmented reality and enhanced engagement are all technologies and terms that are increasingly commonplace in today's world. While VR has been with us for a number of years, it has now become a mainstream industry - experts anticipate that the VR will be a multi-billion-dollar industry in the next few years.

The goal of the 'VR Studio' is to have students and faculty engage with the technology at an early stage in its development. Currently we are establishing a small VR studio where we are introducing students and faculty to the VR experience and exploring the implications and opportunities of its use.

Projects

- First time experience - Recording people's first reaction to VR and their opinion on how they see it being used.
- Team collaboration - Looking at how a VR immersive environment can enhance collaboration and identity building. In this case piloting the Starship Enterprise in a VR simulation environment.
- Video creation – Having students interact and create 360-degree video using a range of 360-degree technology.
- Fast prototyping – linking the 3D VR modelling

Improved Services with Archibus

- A. Hall

IT Services and Facilities are now using an application called Archibus (pronounced ark-a-bus) that helps Facilities prioritize, schedule, and assign work so that requests are handled promptly. TRU has been using Archibus in space planning and management for the past year, but its use for Facilities work requests is new.

Archibus improves service by allowing you to submit your own work request, track its progress and be notified when it is complete. Eventually, the people fulfilling the work will receive requests on their mobile devices, perform the work and complete the request - minus all the paperwork, and without going back to the office.

To submit a Facilities work request, go to OneTRU's Quick Links section and click the Archibus link. Then, use your TRU login credentials to log in (use Google Chrome). Alternatively, go to the Contact Facilities Services page and click the Employee request link.

For details, watch Archibus: Self-Serve on Demand Work, the video help tutorial on how to submit a Facilities work request.

ARCHIBUS
The #1 Solution for Total Infrastructure and Facilities Management

Faculty Survey Results

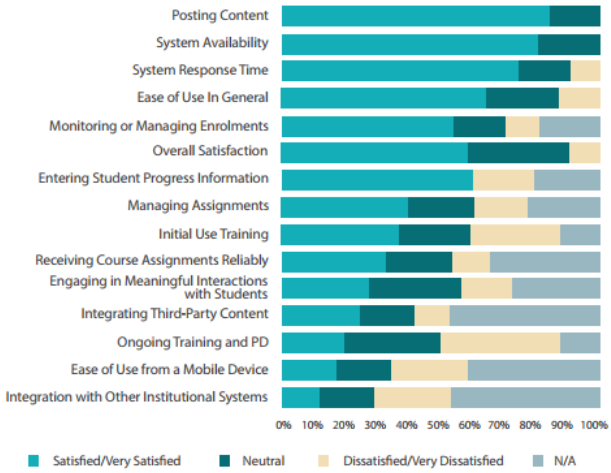
- K. Lussier/T. Lyster
- Digital credit: R. Alfeche

19% Response Rate

100% TRU On-Campus Faculty Respondents

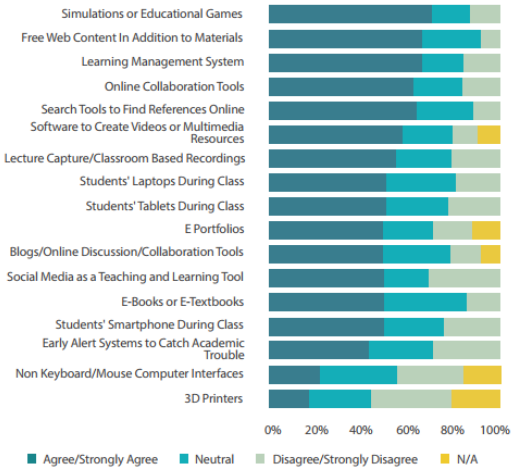
FACULTY PERCEPTIONS

Satisfaction with the Learning Management System



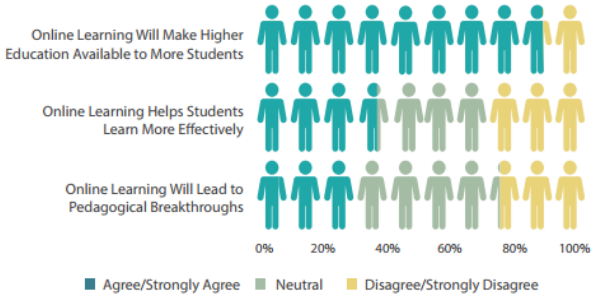
LEARNING TECHNOLOGY

Technology That Could Make Respondents More Effective Instructors



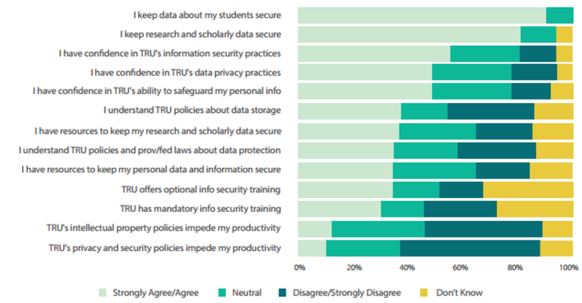
ONLINE LEARNING

Perceptions of Online Learning



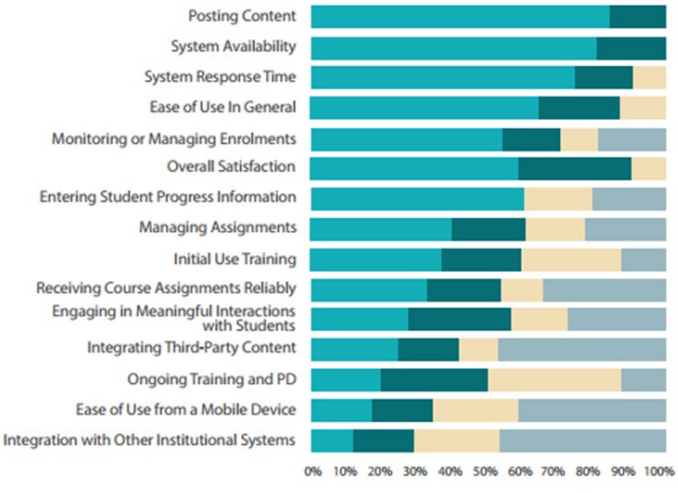
DATA SECURITY

Data/Info Privacy/Security Perceptions



CLASSROOM TECHNOLOGY

Satisfaction with the Learning Management System



Click here for the full Faculty Survey Results

Announcements

We are pleased to announce that **Ms. Wendy Blake** is the successful candidate for the **Director, Network and Technical Services** position. Wendy brings with her many years of IT leadership experience in both the public and private sectors and has spent the last eight years at TRU working as a Senior Analyst. Join me in wishing Wendy every success in her new role.

We are also pleased to announce that **Austin Wang** is the successful candidate for the new role of **Operations Manager in Enterprise Systems**. Austin brings many years of IT experience to this new role and will continue to add further value to the ITS and TRU enterprise in this new capacity. We are excited to watch Austin grow in his

Congratulations to **Pat Howe** on her upcoming retirement after 37 amazing years with TRU. Pat started with us on August 25th, 1980 when TRU was Cariboo College. She was hired as a word processor operator however, when she arrived for her first day of work the equipment hadn't been ordered so she was assigned to work in various departments throughout the campus as needed in the secretarial pool.

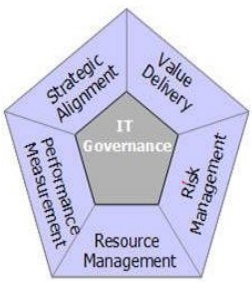
In the following years Pat worked as a Word Processor Operator for the Faculty of Science and Nursing Departments as well as an Administrative Assistant for Human Resources and Computer Services. Pat has been in her current role at the IT Service Desk since the late 1990's.

It was a busy summer in ITS with our staff fulfilling their personal accomplishment. Our very own **Karl Fultz** walked the convocation stage to receive his Bachelor in General Studies. From all of us in IT Services - Congratulations on all your hard work Karl!

Calling all Faculty

We have many positions for faculty to represent their schools on both the Academic Technologies Advisory Committee and the Research Computing Technologies Advisory committees .

These committees make up the IT Governance committees. IT governance is an integral part of enterprise governance, consisting of the leadership, organizational structure and processes that ensure that the enterprise's IT sustains and extends the organizations strategies and objectives. IT Governance ensures that we have effective decision making and priority setting in place at TRU.



To learn more about IT Governance click here.