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Campus Computing News



UNT Plans High Performance Computing Upgrade

By [Dr. Philip Baczewski](#), Senior Director of Academic Computing and User Services and Deputy Chief Information Officer for University Information Technology

In 2009, UNT made a major investment in supporting computational research with the purchase of a large-scale campus-wide High Performance Computing (HPC) installation that the University named [Talon](#). The Talon system was expected to operate for three years, after which a replacement system would need to be purchased. Talon is now in its fourth year of operation, and since High Performance Computing stresses the compute servers by constantly applying 100 percent processing loads, disk and memory failures are becoming more common as the equipment ages.

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Spring Break Hours



By [Claudia Lynch](#), *Benchmarks* [Online](#) Editor

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R.K. Milholland to be Featured Speaker at UNT Comic Studies Conference



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By the Numbers

Down the Corridor of Years

In 1962, [the computing era at UNT began](#) with the purchase of an IBM 1620 computer to support academic research. The following is a comparison of that first research computer at UNT to the current Talon HPC system and the upgraded Talon system [as planned](#).

Processing:

IBM 1620: (on average) 54 Floating point Operations per Second (FLOPS)

Talon: 20 TeraFLOPS - 370 billion times faster than the IBM 1620 Talon

Upgrade: 88 TeraFLOPS - 1.6 TRILLION times faster than the IBM 1620

Memory (RAM):

IBM 1620: Equivalent to roughly 60 KB

Talon: 8704 GB - About 145 million times more than the IBM 1620 Talon

Upgrade: 14,446 GB - About 238 million times more than the IBM 1620

Storage (Disk/other):

IBM 1620: punched cards - 80 bytes ea.

Talon: 200TB - about 2.5 trillion punched cards
Talon Upgrade: 1920TB

Upgrade: 1920TB - about 24 trillion punched cards

2013 Keynote Speaker for the UNT Comics Studies Conference.

[Read more](#)    

[2013 University Forum on Teaching & Learning](#)



A [CLEAR](#) Announcement

Register Now! Free and open to **ALL** UNT faculty, staff, graduate teaching fellows and assistants! Lunch is provided!

[Read more](#)    

TODAY'S CARTOON

Click on the link above for an information age laugh.



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Since the 2009 installation of Talon, there has been an increase from 9 research groups in 4 departments to over 53 Principal Investigator groups in 12 departments using HPC resources. The sheer number of users has grown from 55 to over 300.

Departments utilizing central HPC resources include: Biological Sciences, Chemistry, Mathematics, and Physics in the College of

Arts & Sciences; Materials Science and Engineering, Computer Science and Engineering, Electrical Engineering, Mechanical & Energy Engineering, Engineering Technology in the College of Engineering; Sociology in the College of Public Affairs and Community Service. This is expected to expand in the future. The current system is heavily used, with 70-80% of system capacity commonly occupied and 100% of servers frequently engaged in research calculations. Talon averages about 800,000 processing hours (91 processing years) per month, with 8 out of 36 months exceeding a million processing hours. 1.4 million processing hours were achieved in February of 2012.

Replacing our current HPC equipment

At the February 14 meeting of the UNT Board of Regents, a proposal was approved to enter into a three-year lease with Dell for the replacement of our current HPC equipment. Coordination between UNT's Research and Economic Development, University Information Technology, and UNT's Finance and Budget office has resulted in a funding model that establishes a regular 3-year cycle to replenish HPC technology in order to keep researchers competitive while providing a base level of broad usage HPC technology as a utility for the entire campus. As part of the new lease agreement, Dell has offered to provide UNT 4 additional months of lease at no additional charge. Accepting the extended lease offer provides UNT researchers early access to current HPC technology and allows a smoother transition between the current Talon system and its replacement equipment.

The proposed system has roughly 5 times the processing power of the original Talon system with 248 compute nodes, 4096 cores, and 16,384 Nvidia graphical processor unit (GPU) cores. The proposed system has about 10 times the high-performance storage of the original Talon system, for close to 1.5 petabytes of usable storage. Installation of this system will enable researchers to solve problems that involve use of larger amounts of RAM and disk storage than is currently available and will enable support of new research areas such as those involving large data science. The heterogeneous design of the HPC system, featuring 4 distinct types of compute servers that can handle specialized workloads or function as part of a large processor group, ensures that the system can support the varied

computational problems pursued by UNT researchers and will enable the system to be adapted to new research areas that may be pursued at UNT.

New System Configuration

The new system configuration will be as follows:

- 160 Parallel nodes (32G RAM, 16 cores each) – useful for computations that use multiple nodes (servers) to perform one set of calculations, such as materials science applications.
- 64 Large-memory nodes (64G RAM, 16 cores each) – useful for single-server, multi-core computations that require a large memory space, but also available for parallel processing, such as computational physics applications.
- 8 Extra-large memory nodes (512G RAM, 32 cores each) – useful for single-server calculations that are the most memory intensive, such as computational chemistry modeling of large molecular systems.
- 16 GP-GPU nodes (64G RAM, 8 cores each, 1024 CPU cores each) – onboard NVidia co-processor cards provide access to thousands of additional processor cores in a single or parallel processing model. These nodes can be applied to some existing computational problems, but could also be used for tasks like rendering complex visual output.

ETA?

We expect that equipment delivery for the upgraded HPC system may begin arriving by the end of March. Installation will likely occur in April and May, and partial operations on the new equipment could begin as early as May. For more information on UNT's High Performance Computing services, see it.unt.edu/hpc. Researchers interested in using HPC services should contact [Dr. Scott Yockel](mailto:Dr.Scott.Yockel@unt.edu), Manager of HPC Services within Academic Computing and User Services.



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Spring Break Hours

By [Claudia Lynch](#), *Benchmarks* *Online* Editor

Spring Break is here! If you're not leaving town for the entire week, the hours for various areas noted in this article could come in handy.

Following are the hours for University Information Technology-managed facilities during Spring Break. The University is officially open for Spring Break, however students have no classes the week of March 11-17.

- The [Helpdesk](#) will maintain standard hours and availability during the week March 11-17.
- [Data Management Services](#) will also maintain standard hours and availability during the week March 11-17.
- The **ACUS General Access/Adaptive Lab** ([SYMR 104](#)) will be open during the break with limited hours.

Sunday, March 10: 1 p.m. – 9 p.m.

Monday, March 11 – Saturday, March 16: 9 a.m. to 9 p.m.

Back at regular hours on Sunday, March 17.

- [Microcomputer Maintenance Shop](#) will be closed on **Monday, March 11**. The power, heating and cooling in Chilton Hall will be off all day due to building renovations and upgrades.

To request technical assistance please send an e-mail to mmstechs@unt.edu or leave a voicemail message at 565-2387.



Hours for Other Campus Facilities

According to their [website](#), **Regular UNT Shuttle service will end on Friday, March 8 and resume on Monday, March 18.**

General Access Labs

- [24 Center](#) (formerly known as WILLIS):
 - Friday, March 8: **Close** at 7 p.m.
 - Saturday, March 9 & Sunday, March 10: **Closed**
 - Monday, March 11 - Sunday, March 17: 7 a.m. - 7 p.m.
 - Monday, March 18: open at 11 a.m. and return to a 24hr schedule.
- [College of Information General Access Computer Lab \(CI-GACLab\)](#) (B205):

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SPRING BREAK NOTICE

2013 UNT Shuttle Spring Break Schedule

The UNT Shuttle will not operate March 9-18.

The Discovery Park route will operate on a limited schedule March 11-15. [Click here for route times.](#)

E-Ride will not operate after March 8 and it will resume March 18.

Saturday, March 9 & Sunday, March 10: **Closed**

Monday, March 11 - Friday, March 15: 10 a.m. - 6 p.m.

Saturday, March 16 & Sunday, March 17: **Closed**

Monday, March 18: Resume regular hours.

- [MUSIC](#): **Closed** for Spring Break (March 9-17). Normal Hours will resume on Monday, March 18.
- [PACS Computing Center](#) (College of Public Affairs and Community Service, Chilton Hall): **Close** at 6 p.m. Friday, March 8 and remain closed until reopening for regular business hours at 7 a.m. Monday, March 18.
- [CVAD](#): **Closed** Friday, March 16 and remain closed until reopening for regular business hours at Noon on Saturday, March 16.
- [COE](#): **Close** at 5 p.m. Saturday, March 9 and remain closed until reopening for regular business hours at 7 a.m. Monday, March 18.
- [COB](#): COB Labs (BLB 185 and 190): Saturday, March 9 8 a.m - 4 p.m. **Closed** Sunday, March 10 - Sunday, March 17. Normal business hours will resume on Monday, March 18.
- [CAS](#): All four CAS labs (GAB 330, GAB 550, TH 220, WH 120) **close** at 5:00 pm on Friday, March 8. GAB 330 will reopen for normal business hours at Noon on Sunday, March 17. The remaining CAS labs (GAB 550, Terrill 220, Wooten 120) will reopen for normal business hours at 8 a.m. on Monday, March 18.
- [Engineering General Access Lab \(CENGAL, \[englab@unt.edu\]\(mailto:englab@unt.edu\), Discovery Park, B129, 891-6733\)](#): **Closed** Friday, March 8 and will remain closed *through* Monday, March 18. Reopen for normal hours on **Tuesday, March 19**.

Remember:

[Get your alerts fast in case of inclement weather](#)

Visit the Emergency Management [website](#)

City of Denton Residents, sign up for the [CodeRED](#) Emergency Notification System



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The UNT logo features the letters "UNT" in a bold, white, sans-serif font, centered within a circular emblem. The emblem has a green background with a grid of white lines, resembling a globe or a technical diagram.

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R.K. Milholland to be Featured Speaker at UNT Comic Studies Conference

By [Claudia Lynch](#), *Benchmarks Online* Editor

Long time readers of *Benchmarks Online* will probably recognize the name "Randy Milholland." Randy, AKA R.K., was a UNT student and worked as a Documentation Services Assistant for me back in the late 1990s. He is now famous as the creator of the award-winning webcomic SOMETHING POSITIVE! and is the 2013 Keynote Speaker for the UNT Comics Studies Conference.

The conference will be held on March 22 and 23 here on the main UNT campus. For more information see:

- <http://cas-csid.cas.unt.edu/?p=4106> and
- <https://www.facebook.com/UntComicStudiesConference>

You can see from the cartoons that Randy drew when he was a student here that he was going to go far:

1996

- <http://www.unt.edu/UNT/departments/CC/Benchmarks/jafema96/shift.htm>
- <http://www.unt.edu/UNT/departments/CC/Benchmarks/aprmay96/shift.htm>

1997

- <http://www.unt.edu/UNT/departments/CC/Benchmarks/sprsum97/shiftb.htm>

1998

- <http://www.unt.edu/benchmarks/archives/1998/april98/shift.htm>
- <http://www.unt.edu/benchmarks/archives/1998/may98/shift.htm>
- <http://www.unt.edu/benchmarks/archives/1998/june98/shift.htm>
- <http://www.unt.edu/benchmarks/archives/1998/August98/shift.htm>
- <http://www.unt.edu/benchmarks/archives/1998/september98/shift.htm>

- <http://www.unt.edu/benchmarks/archives/1998/october98/shift.htm>
- <http://www.unt.edu/benchmarks/archives/1998/november98/shift.htm>
- <http://www.unt.edu/benchmarks/archives/1998/december98/shift.htm>

1999

- <http://www.unt.edu/benchmarks/archives/1999/january99/shift.htm>
- <http://www.unt.edu/benchmarks/archives/1999/march99/shift.htm>
- <http://www.unt.edu/benchmarks/archives/1999/april99/shift.htm>

R. K. Milholland

And now, ladies and gentlemen:

http://en.wikipedia.org/wiki/R._K._Milholland



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Network Connection

By [Dr. Philip Baczewski](#), Senior Director of Academic Computing and User Services and Deputy Chief Information Officer for University Information Technology

The Seed of an Idea

Let's say you're a farmer and you buy some seeds. You plant them and grow your crop. Then you're hit with a law suit because those seeds you bought were grown from a genetically modified plant. You've been accused of farming without a license -- a license for the modified genetic material that was contained in those seeds.

This seems like a far fetched scenario, but it is playing out right now in the [Supreme Court](#). The case is central to the [question](#) as to whether patent rights apply to the offspring of living things. Is a copy always an infringement, even if that copy was made via the most basic of living processes? What if you [don't want anything to do with](#) genetic modifications, but they naturally find their way into the crop you are growing? Do you lose the right to grow your seeds during the next season? If you can patent a living thing, does that give you the right to [control it](#) in perpetuity?

Here's a thought experiment. You receive a patented gene therapy treatment that cures a hereditary disease. Your subsequently have children who inherit the "new" set of genes you've received. Are your children now literally in debt to the patent holder? Does the patent holder own your children? Rumpelstiltskin lives and his name may be Monsanto.

Doctrine of first sale?

When you buy a book, you have the right to loan it to a friend or resell it. The same is true for a CD or DVD that you buy. This is known as the [doctrine of first sale](#). Once that first sale is made, the original seller loses any rights to control subsequent legal exchange or use of the item. This allows libraries to exist. It means that proprietors of resale shops are not pirates.

If you buy an e-book, your right to resell it is not so clear. When you transfer a paper book to someone else, there is no duplication of the original. When you transfer an e-book to someone else, it is inherent in the technology that the transfer process creates a duplicate of the original file at the transfer destination and then deletes the originating copy. In these normal circumstances, the transfer of the file infringes on the reproduction and distribution rights of the copyright holder. But when you loan a book, are you just loaning a bundle of paper, glue, and cardboard? Is an e-book more than just a series of ones and zeros stored in an electronic media? When you buy a book, do you gain the right to control your experience of it, and share, or sell the entirety of its contents? When you buy an e-book, do you lose the right to control your experience of it, and have no right to lend or sell it?

The doctrine of first sale is currently being [litigated](#) in a number of cases. The most interesting of these may be [Capital Records versus Redigi](#). Redigi has developed a system to allow you to sell your itunes tracks to others on the Internet. It does so by verifying you purchased the track legally from iTunes, transfers the file, and deletes the original from the reseller's computer or cloud storage. This process would seem to be compliant with the doctrine of first sale, but Capital Records claims that the fact that the transfer makes a copy means that there is inherent copyright infringement. It is now up to the courts to decide.

Fair Use?

Monsanto claims that they control a concept through any manifestation in a physical instance. Capital Records claim they control a concept through the lack of a physical instance. Does this new world of intellectual property negate the fair uses that we've traditionally experienced with published copies? Perhaps Apple will ride to the rescue. They are [reported](#) to be developing a method to allow the sale or loan of digital content purchased on iTunes. When the future of digital music lay in the ashes of Napster, Apple introduced iTunes and provided a convenient and economically fair system that was an incentive for people to legally purchase digital content. Will they bring the same

simple elegance to the resale of digital content. Or, in a fit of irony, will they end up suing Redigi?



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Mean Green Pride

Did you know that last year the Mayor of Denton and the City Council [proclaimed](#) "every Friday through **May 10**, 2013, as Mean Green Pride Friday and encouraged all residents of Denton to support UNT by proudly wearing green."?

The *InHouse* article on this topic continues, stating:

The mayor also encouraged everyone to support Denton and UNT with the Mean Green Pride – We're All In program – a unique apparel line that supports [The Big Event](#) annual volunteer program. More than 2,000 students, faculty and staff participate in community services activities on the annual The Big Event Day, which will be April 6, 2013.

Community involvement is one of the university's [four bold goals](#), the touchstones of its strategic plan.

- Learn more about [Mean Green Pride – We're All In](#).

Denton merchants and restaurants are showing their Green Pride, too. Wear green on Fridays and receive a discount on pizza, burgers, UNT-branded clothing and merchandise at area stores.

- Find a list of participating businesses with [Green Pride Fridays discounts](#).

You can show your Mean Green Pride on campus and be eligible to win a gift card at the UNT Bookstore. Get your green on, bring your UNT ID and stop by the **Willis Library** Green Pride Station from 11 a.m. to 1 p.m. each Friday to swipe your ID. A faculty and staff winner will be randomly selected the following Monday.

<https://meangreenpride.unt.edu/>



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Helpdesk FYI

By [Jonathan "Mac" Edwards](#), CITC Helpdesk Manager

Be Safe Out There

We recently received some questions from UNT's ODA regarding safe computing practices for students. I thought they were good questions and in this month's Helpdesk FYI we will look at those questions and discuss some ways to use safe computing practices to avoid phishing scams and malware.

1) What are the most common threats or dangers that may appear on the internet? There are so many different kinds (spyware, malware, etc.) What should we be most vigilant against?

While you hear about threats being everywhere on the internet, if you use safe computing practices it can actually be a pretty safe place. Websites can distribute malware and viruses via pop-ups, harmful downloads, or outdated browser plugins. Email can contain harmful attachments or employ phishing scams in an attempt to get unwary users to release sensitive account or personal information. All of these are bad, so in a sense, you should remain vigilant against all threats. At the same time using common sense and some safe computing practices can help you avoid these dangers.

2) How dangerous can this malicious coding be? Have we, as people, built the "virus" to be more than it is really capable of being? In other words, are we too paranoid?

Malicious coding can be very dangerous. A virus can use your computer to distribute viruses or malware to other machines, spreading just like a virus spreads between people. It can also negatively impact the usability of your machine often "locking you out" or potentially give others access to sensitive information on your computer. You should not live in fear of malware or viruses, but you should remain vigilant against them.

3) How can we protect ourselves from "infecting" our computers?

First think of the internet like real life. Should you visit with the individual offering free DVDs on the corner or should you purchase them at Best Buy? Should you give away your bank account number to someone you met on the bus or to a teller inside your bank?

Websites:

- Know what websites you are visiting. Do they seem reputable? Most major websites aren't going to be a "den of scum and villainy." On the other hand, visiting sites offering something for free that would otherwise cost money or sites you might not want your mom to know you visit could be dangerous.
- Know what you are doing on those websites. If you want to download something or click on a pop-up, read carefully and be sure you understand what the website asking you to do. If you don't know specifically what you are being asked to click on or download, don't do it.
- Be careful where you distribute information. If asked to enter in sensitive information know where and why you are doing it. If in doubt login through the main website, i.e. only enter account information after going directly to <https://www.bankofamerica.com>.
- Read carefully when installing applications or accepting terms. Many installations will include a number of screens asking you to install additional software such as toolbars or other applications. Be sure to uncheck any of those boxes if you are unfamiliar with those applications. If you are ever nervous about the number of such prompts or checkboxes you see when installing an application click cancel and do some research on

the application. Many websites will also have options for you to agree to outside of their terms of service. When in doubt uncheck these boxes.

Email:

- Know who you are talking to; if it is an unknown sender be more wary.
- Only download attachments from trusted sources, and avoid downloading unknown file types or an executable (.exe).
- Only click on links in emails from trusted senders, and never click on a suspicious link.
- Never share personal, account, or financial information that is requested via an email. Instead contact the company directly to verify the request, and only make account changes by going directly to their website i.e. <https://www.wellsfargo.com>.
- The above items refer to Phishing emails. For more information please visit the UNT Security Team's phishing information page: <https://security.unt.edu/phishing>.

4) I've heard that the IT department may offer **free anti-virus software to the student body. Is this true?**

Yes, UNT offers a free download of McAfee virus scan for students, faculty, and staff. This can be downloaded at <https://security.unt.edu/antivirus>. It is highly encouraged that if you are not currently using an up-to-date antivirus program that you install McAfee.

5) In regards to being on the campus servers, why do we need any anti-virus software, firewalls, etc? Doesn't the IT department take care of any sites that may be malicious, already?

UNT websites, those hosted by UNT, are safe and should not be distributing any malware or viruses. Once you leave UNT websites, and visit websites UNT doesn't control, then you are once again open to all the risks that may exist on the internet. Even though UNT IT takes great pains to keep its users and websites secure there is always the possibility that a phishing email could come through or a website could be compromised. No matter where you are be sure you practice safe computing.

6) Are there any other hints, tips, or final words that you'd like to share in regards to computer behavior or usage?

Practice Defensive computing:

- Keep your computer and applications up to date installing updates regularly and when prompted.
- Keep your firewall turned on, and your anti-virus software up to date.
- Use secure unique passwords for websites containing sensitive information i.e. have a different password for your Banking, Email, and Facebook.
- When unsure about a website, pop-up, or download; exit out.
- Remember that Phishing Emails will often come from other contacts who have been compromised, read more about Phishing at <http://security.unt.edu/phishing>
- If you feel your account has been compromised reset your password immediately and contact Tech Support for that website.
- If you are prompted to provide financial information to remove a virus from your computer contact your local IT department or Computer repair shop immediately and follow their instructions.

Remember, UNT will never email you asking for passwords or other sensitive account information. If you

receive such an email you can report it to the UIT Helpdesk (helpdesk@unt.edu).

For more information on keeping your computer safe Microsoft has excellent advice in their Safety and Security Center:

<http://www.microsoft.com/security/family-safety/online-safety-tips.aspx>

What to do if my UNT Computer or Account has been compromised

If you feel your UNT account has been compromised please reset your password and secret question immediately at <https://ams.unt.edu>, then contact the UIT Helpdesk (<https://helpdesk.unt.edu>)

If you are UNT faculty or staff and feel that your University owned computer has been compromised or infected with malware, please contact your Network Manager immediately. You can find their contact information at <http://helpdesk.unt.edu/netman>.

Final Thoughts

On a final note, we live in an age of online sharing, but sometimes it's best to keep things private. In our real lives we have grown accustomed to protecting our information and we don't regularly share our address, full name, pictures, current location, or daily activities with everyone we happen to meet. Online it can be easy to forget this, and while sharing can be great, it can be beneficial to be mindful of what we are sharing and who we are sharing it with.



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RSS Matters

Research and Statistical Support
University of North Texas

A brief reminder about Sample Size

This article originally appeared in the March 2012 issue of Benchmarks Oline. Link to the last RSS article here: [Model Specification Error...Are you straight, or do you have curves?](#) -- Ed.

By **Dr. Jon Starkweather**, Research and Statistical Support Consultant

We've all heard (or spoken) questions similar to those below.

- How many voters should I poll to get an idea of who will win the election?
- What sample size do I need to determine whether people prefer green M&M's over red?
- How many undergraduates should I collect data from to determine if my model of retention is meaningful or predictive?
- How many people should I survey to measure satisfaction with my new product?
- How many mice should I assign to each condition of my experiment?
- How many protein samples should I extract from each person in order to create a composite protein estimate of each person?

These are good questions. However, easy answers do not often follow good questions. The above questions all relate to the issue of sample size and much has been said on the subject. In this issue I'll provide some highlights for your consideration.

Questions of sample size

This paragraph contains information you likely are aware of, but (alas); I'm compelled by my professional conscience to type it. Generally it is suggested that questions of sample size be addressed prior to proposing a study (e.g. as a student; prior to thesis/dissertation proposal & as a faculty/professional researcher; prior to IRB and grant application). Typically during discussions of study design or methodology the issue of sample size should be addressed -- because sample size is directly linked to statistical power and external validity. Post hoc power estimates are virtually useless. Generally, it is recommended that an a-priori power analysis be computed (using a desired level of power, desired effect size, desired error rate, and known/proposed number of parameters, variables, or conditions); which will produce a sample size estimate which in turn gives the researcher a target sample size which is likely to achieve the specified levels of power and effect size for a given error rate and design. We (RSS) like to recommend using [G*Power 3](#) (which is a free download) or any one of several R packages designed for this task. In conducting a-priori power analysis, it is important to remember what statistical power actually is: the ability to detect an effect if one exists (in formula: $\text{power} = 1 - \beta$). Or, if you prefer, as Cohen (1988) put it: "the power of a

statistical test is the probability that it will yield statistically significant results" (p. 1).

The most general, and flippant, guideline for sample sizes often tossed around is "you need to have more cases/participants than you have parameters/variables/questions." The next most stringent phrase you are likely to hear, often associated with a 'step' from descriptive statistics to inferential statistics, is "you need to have at least 5 to 10 cases/participants for each parameter/variable/question." Next, often associated with a 'step' from fairly straightforward inferential techniques (t-test, ANOVA, linear [OLS] regression...) to multivariate statistical techniques is "you need at least 25 (up to 150) cases/participants for each parameter/variable/question." These types of heuristics, although they make nice quick sound-bite answers, are not terribly useful because; real consideration must be taken with respect to a variety of issues. The first issue to consider is the statistical perspective one is planning on taking with the data, will a Bayesian perspective be used or a Frequentist perspective. Generally speaking, Bayesian analyses handle small sample sizes better than analogous Frequentist analyses, largely because of the incorporation of a prior. A Bayesian perspective also allows one to use sequential testing; implementation of a stopping rule (Goodman, 1999a; Goodman, 1999b; Cornfield, 1966). Other considerations include, what types of hypothesis (-es) one is attempting to test, what type of phenomena is being statistically modeled, the size of the population one is sampling from (as well as its diversity), and (certainly not least) the type of analysis one expects to conduct. Some analyses inherently have more power than others (e.g., see discriminant function analysis vs. multinomial logistic regression). Furthermore, one must consider the assumptions of the analysis one is expecting to run. Often data collected does not conform to the assumptions of a proposed analysis and therefore, an alternative analysis must be chosen – one which will provide analogous statistics for addressing the hypothesis or research question posed; but, the alternative often has less power. Another consideration is this; it is well accepted that point estimates (e.g., mean, median, model parameters; such as regression coefficients) are fairly stable and fairly accurate even with *relatively* small sample sizes. The problem (again, well accepted) is that interval estimates (e.g., confidence intervals) will not be terribly accurate with small samples; often the standard errors will be biased. The only real answer is; larger samples are better than smaller samples...

Overcoming small sample size

Contrary to much of the above considerations; some modern methods (e.g., optimal scaling, resampling) can be used to overcome *some* of the pitfalls of a small sample. However, many people are suspicious of these modern methods and they can be quite controversial (e.g. if a journal editor or reviewer has never heard of optimal scaling, how likely do you think you are to get the study published in their journal?). These methods are genuinely controversial because they often assume a particular position or belief about something -- for instance, people who use optimal scaling with survey data have particular beliefs about the characteristics and properties of survey measurement; which others, of equal professional respect, disagree with or hold opposing beliefs.

Lastly, with respect to sample size, using new measures/instruments (ones which have not been validated nor had their psychometric properties established/accepted) should motivate the collection of large samples. The larger sample can be divided into 2 or more subsamples so one subsample can be used for validation or confirmatory analysis, while the other subsample(s) can be used to fit the hypothesized models.

Informed decisions

We (RSS) have a rule that the study author(s) or primary investigator(s) should be the one(s) to make decisions regarding what is done and we want those decisions to be as informed as possible by providing as much (often called too much) information as we can. Therefore, we will not provide 'easy' answers to questions of sample size. The amount of data collected for any empirical study should be based on critical thought, on the part of the study authors, directed toward the considerations mentioned in this article. The best two pieces of advice on the subject of sample size are; start to think about sample size very early (i.e. long before data collection begins) and collect as much data as you possibly can.

Until next time, don't play *The Lottery* with Shirley Jackson...

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Training

By [Claudia Lynch](#), *Benchmarks* *Online* Editor

Do you need training on widely used computer programs including those used in statistical analysis? If so, this monthly *Benchmarks Online* column is for you.

Statistical Analysis

Instructor-led courses are offered only by special request. Please contact an [RSS member](#) or [Claudia Lynch](#) if you are interested in taking such a class or wish to have someone offer a class for your students. **SPSS and SAS courses are now offered [online only](#)**. RSS staff will be still be available for consultation on those topics, however. Another class available online is [Introduction to R](#). Make sure and check out the **RSS Matters** article [Statistical Resources](#) in the July issue of *Benchmarks Online*.

Special classes can always be arranged with the RSS staff. Also, you can **always** contact the RSS staff for one-on-one [consultation](#). Please read the [FAQ](#) before requesting an appointment though.

Especially for Faculty and Staff Members

In addition to the online statistical courses, which are available to students, faculty and staff, staff and faculty members can take courses offered through the [Human Resources Department](#) (they have a new comprehensive training curriculum), and the [Center for Learning Enhancement, Assessment, and Redesign](#) (CLEAR). Additionally, the [Center for Achievement and Lifelong Learning](#) (CALL) offers a variety of courses, usually for a small fee.

EIS training is available and expanding. Click [here](#) for online tutorials.

Microsoft IT Academy

All **students, faculty and staff** within the UNT System now have access to online learning via the Microsoft IT Academy. See [this article](#) in the July 2012 issue of *Benchmarks Online* for more information.

Microsoft E-Learning

Microsoft E-Learning courses are available for **faculty and staff** via our UNT-Microsoft Campus Agreement. Please contact Claudia Lynch at lynch@unt.edu for instructions on accessing this training. If you haven't accessed the training since last year you will need to get a new access code. UNT, UNTHSC and UNTSYSTEM e-mail addresses are now able to access Microsoft E-Learning.

Microsoft Outlook Tutorials and much more

The Enterprise Messaging and Directory Services Group has all sorts of useful information on their [website](#), including tutorials and FAQs.

Central Web Support

Central Web Support [provides](#) "End-User and Administrative Support for hosted general web sites, and Drupal websites for academic and administrative departments." Visit their [website](#) for "How-Tos about Everything."

CLEAR

CLEAR offers courses especially for Faculty Members. A list of topics and further information can be found [here](#).

Blackboard Learn 9.1 Spring 2013 Bootcamp - 16 Sessions, January 27 - May 23. Chilton 245

The Blackboard Learn Boot Camp is a workshop introducing instructors to designing your courses for online delivery. ***This hands-on workshop is targeted for instructors new to Blackboard Learn and/or those interested in learning more about quality course design.*** Topics will cover best practices for course design as well as the basics of Blackboard Learn.

Course Code: UO13BC http://clear.unt.edu/sites/default/files/2013_Spring_Bootcamps.pdf

University Forum on Teaching & Learning

Coming in April, register now - [2013 University Forum on Teaching & Learning](#)

Ed2go

Ed2go are courses that are offered, for a fee, to UNT faculty, staff and students as well as the general public. According to the CALL [website](#):

CALL has partnered up to provide online learning on a variety of topics. From standardized test preparation to database programming to training for libraries and their staff, there's a variety of areas from which to choose in online learning.

The online minicourses, provided in conjunction with Ed2go, are standardized 12-lesson modules released over a six week period. (Courses are active for eight weeks to provide some flexibility). Each module features a quiz. Lessons are instructor-led and course participants and instructor communicate through a course discussion board. Lessons can be downloaded and saved. At the end of the course there is a final quiz. A passing grade opens a window that allows students to print out a course completion certificate.

Most courses are \$89, and UNT faculty, staff and students may receive a \$10 discount.



For additional information surf over to <http://www.ed2go.com/unt/>

Ed2go has a blog! Click on the logo on the right to find out more information on company news, videos, career advice and tips from ed2go instructors.

Information Security Awareness

The UNT Information Security team offers Information Security Awareness [courses](#) to all UNT faculty and staff. Topics to be covered will include workstation security, sensitive data handling, copyright infringement issues, identity theft, email security, and more.

It is a policy requirement that ALL staff take an information security course at least once a year.

Please contact [Gabe Marshall](#) in ITSS Information Security if you have any questions, or would like more information about the online training. **Either attending a live class or going through the online training will count towards your training requirement.** You can also request a customized course to be taught for your department.

Alternate Forms of Training

Many of the General Access Labs around campus have tutorials installed on their computers.

See <http://www.gacl.unt.edu/> for a list of labs and their locations. The Willis Library, for example, has a [list of Tutorials and Software Support](#). The Library Instructional Unit also offers workshops and training, including "tech skills" training. Visit their websites for more information: <http://www.library.unt.edu/library-instruction>

The [Training Website](#) has all sorts of information about alternate forms of training. Computer Based Training (CBT) and Web-based training are some of the alternatives offered, although due to the rising costs of training, shrinking budgets and changing technology, computer-based training at UNT is in a state of transition. For up-to-date information on CBT at UNT, see the CBT [website](#).

Info~Tech, UNT's new IT Research Partner

Info~Tech has replaced Gartner Core Research Services as UNT's IT research partner. For more information see the August *Campus Computing News* [article](#).

State of Texas Department of Information Resources

Another possible source of training for staff and, perhaps, faculty members is the Texas Department of Information Resources. A look at their Education and Training [website](#) reveals some interesting possibilities.

New Horizons Computer Learning Centers

New Horizons is a DIR vendor, which means that state agencies, like UNT, get special pricing for their services negotiated at the State level (click [here](#) for more information about DIR vendors). [New Horizons](#) offers courses at their own facilities in Dallas and Fort Worth, but will arrange for onsite training as well.



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Staff Activities

Staff activities for [UIT](#) are reported in this column. ITSS staff activities are handled by [ITSS Communications](#).

Transitions

New Employees:

- **Zachary Adams**, MMS Tech, Microcomputer Maintenance (part-time).
- **Jordan Jackson**, CSS Tech, Classroom Support Services (part-time).
- **Christopher Diamond**, Fiscal Desktop Support (AITS) (part-time).
- **Joel Ashman**, Business Services (AITS) (part-time).
- **Jacob McQueen**, Classroom Desktop Services (ACUS) (part-time).



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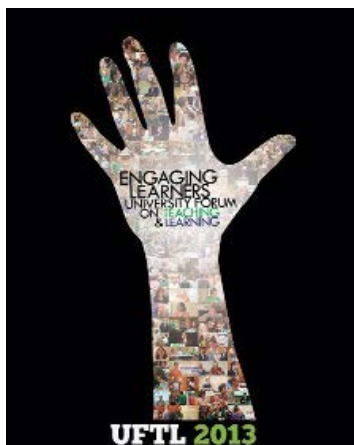
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2013 University Forum on Teaching & Learning

A [CLEAR](#) Announcement

Register Now! Free and open to **ALL** UNT faculty, staff, graduate teaching fellows and assistants! Lunch is provided!

UNT's University Forum on Teaching & Learning (UFTL) is a one-day annual event that enables faculty, graduate teaching fellows, and staff involved in supporting teaching and learning to share ideas and practices that focus on instructional strategies designed to motivate and engage learners, promote critical thinking skills, and better prepare students for life and work in the 21st century.



FREE AND OPEN TO ALL UNT FACULTY, STAFF, GRADUATE TEACHING FELLOWS & ASSISTANTS

Lunch will be provided.

Registrater Now: <http://clear.unt.edu/apps/register/uftl/login.php>

[2013 University Forum on Teaching & Learning](#)

April 12, 2013

8:30 a.m. - 4:00 p.m.

Silver Eagle Suite, University Union third level

Registrater Now!





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Today's Cartoon



“At Survival Camp, I learned how to make an iPod from mud and twigs!”

From "Today's Cartoon by Randy Glasbergen", posted with special permission. For many more cartoons, please visit www.glasbergen.com.



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