The NTU Library is a treasure trove of information resources. Anyone who has browsed through our online resources and shelves in our 7 libraries can attest to that. Each day, more than 7,200 users visit our libraries and borrow 1,500 books. There are about 22,000 searches on our e-resources and thousands of scholarly articles downloaded daily. Our librarians conduct classes almost daily on doing good literature searches, mastering online research tools, using specific resources, etc., and help users navigate their way around the myriad of information sources.

Yet, there are still many who may not be aware of the rich resources available and the useful services we provide. One of the important roles of the Library is to ensure that the cumulated knowledge of mankind is effectively utilized to support research and learning in our community. Our librarians are constantly looking for ways to reach out and engage our users and non-users to make the best use of what we have.

For those who have few encounters with the Library, I recommend that you spend some time to discover and explore what our libraries have to offer for your research and learning efforts. I believe the time spent will be worth your effort. You can start with:

**LIBRARY PORTAL**
Go to www.ntu.edu.sg/library and online shop front that leads you to a variety of resources. You will also notice a flash banner that introduces you to a subscribed resource. Click to try. The banner is changed weekly.

**LIBRARY BLOGS**
Each of our 7 subject libraries maintain a blog to keep their target communities updated on new resources, services and activities. They also feature short articles and tips on using specific resources, and provide information about developments in their respective industry and community. All the subject blogs can be found at http://www.ntu.edu.sg/library/collections/Pages/blogs.aspx

**EXHIBITIONS**
Library exhibitions is like shining a spotlight on parts of the stacks that users normally miss. Check out our new Exhibition blog at http://blogs.ntu.edu.sg/library/exhibitions to see an exhibition schedule and browse through past exhibitions.

**LIBRARY CLASSES**
Regular classes are conducted to help users use resources and conduct library research fruitfully. Check the Library Instructional Services page http://www.ntu.edu.sg/library/Lip/Pages/default.aspx for a description of classes and their availability.
The Singapore economy is undergoing a recession and we hear negative news about the economic downturn everyday: companies losses, retrenchments, and pay cuts.

The world is entering one of the worst economic crisis since 1940. New graduates have to face the fact that there will be fewer job opportunities in the market.

This might be a good time for fresh graduates to consider starting their own business. There are many business opportunities for small startups even though the Singapore economy is going through a recession. Here are some helpful resources to get started.

**Books in the Library**

*“Regulatory and Business Guide for Start-Ups: Doing Business The Right Way”* by Walter Woon, who is now the Attorney-General of Singapore. This book is a MUST READ guide. It was published in 2007 by the Accounting and Corporate Regulatory Authority of Singapore (ACRA) and Action Community for Entrepreneurship (ACE). It offers concise and comprehensive coverage on contract and agency laws, commercial transactions, and most importantly business organizations.

Call Number: HD62.5 R344


Call Number: KPP7.3.B87W873 2000

**Electronic Resources Subscribed by the Library**

Singstat [http://www3.ntu.edu.sg/lib/collections/db/a329930.htm](http://www3.ntu.edu.sg/lib/collections/db/a329930.htm)

Singstat provides economic indicators of Singapore. Do your research on the Singapore economic indicators on your products or services to have better understanding of your market.


Euromonitor International’s GMID provides business intelligence on countries, consumers and industries. Similarly you can do quick market research based on available sources.

**Other Online Resources**


In Singapore, you can register and start a business within 1 day. Do this through the online business/company registration provided by ACRA.


A one-stop business portal for government assistance programmes, licence applications and more.

Budding entrepreneurs can now look forward to greater help with the launch of a $30 million Incubator Development Programme (IDP). [http://www.spring.gov.sg](http://www.spring.gov.sg)

Spring Singapore has 5 incubators/venture accelerators:

3. iAxil Venture Accelerator Centre [http://www.iaxil.net/](http://www.iaxil.net/)

Nanyang Technopreneurship Centre (NTC) also conducts short entrepreneurship courses and the Masters of Science in Technopreneurship and Innovation Programme (MSc TIP). [http://ntu.edu.sg/ntc/](http://ntu.edu.sg/ntc/)

Consider entrepreneurship as an alternative to employment!
Research and industry information on aerospace engineering is available through our online database American Institute of Aeronautics and Astronautics (AIAA) from the library homepage. The American Rocket Society and the Institute of Aerospace Science merged in 1963 to become AIAA. Both these societies have a long and eventful history that stretches as far back as 1930.

The AIAA database has articles from the following journals.
- **AIAA Journal**: This journal covers the theoretical developments and experimental results across a far-reaching range of disciplines.
- **Journal of Aerospace Computing, Information, and Communication**: Applied science and engineering of aerospace computing, information, and communication are the areas covered by this journal.
- **Journal of Aircraft**: This journal covers major advances in aircraft, the operation of aircraft, and applications of aircraft technology to other fields.
- **Journal of Guidance, Control, and Dynamics**: Articles in this journal keep pace with the research and engineering applications that are driving new generations of high-performance air and space vehicles - both manned and unmanned.
- **Journal of Propulsion and Power**: Topics covered in this journal include powerlifting, air-breathing, electric, and advanced propulsion, plus power generation and conversion, and terrestrial energy systems.
- **Journal of Spacecraft and Rockets**: Topics covered in this include spacecraft and missile systems (tactical and strategic), including subsystems, applications, missions, environmental interactions, and space sciences.
- **Journal of Thermophysics and Heat Transfer**: This journal covers the latest developments in thermal energy transfer and storage - in gases, liquids, and solids.

To access the AIAA database
1. Go to the Library Homepage at [www.ntu.edu.sg/library](http://www.ntu.edu.sg/library)
2. On the library home page choose **databases**.
3. Select **Engineering** from the subject list and scroll down to click **aiaa database** under Mechanical & Aerospace.
4. Provide your NTU network ID and password if prompted.

The CrossFire Database Suite comprises the Beilstein, Gmelin and Patent Chemistry Databases.

The Beilstein database covers the scientific literature on organic chemistry from 1771 to the present and contains experimentally validated information on millions of chemical reactions and substances from original scientific publications.

The Gmelin database covers organometallic and inorganic substance data relevant to materials science. It includes millions of substances for development of materials, such as phosphors, catalysts, and polymers, as well as other substances used in electronics, magnets and nanoscience.

Types of chemical information available include:
- **Structures**
- **Physical properties**
- **Reactions**
- Over 8 million organic compounds (Beilstein)
- 1.4 million inorganic and organometallic compounds (Gmelin)

Searchable fields available include:
- Chemical structure and/or sub-structure
- Physical data
- Reactant or product
- Literature references

The CrossFire Database Suite is client based and users have to install the client commander onto their local PC to access. It is also available at Standalone PC 1 and 2 at Lee Wee Nam Library Level 3.

To download the CrossFire Database Suite:
1. Go to Library Homepage at [www.ntu.edu.sg/library](http://www.ntu.edu.sg/library)
2. Click **Databases** under **Finding Information**
3. Select B and G from the Alphabetical List to look for Beilstein and Gmelin respectively
4. Click on the information page of the respective databases and follow the installation instructions
ACTIVITIES / EVENTS

MYTH OR HISTORY?

Fort Canning Hill

- Wang Dayuan, a Chinese traveller who visited Singapore in 1325 and 1330 observed and wrote in 1349, that the people had a ruler that lived on Fort Canning Hill.

- In 1822, Crawford noted that much of the northern and western side of Fort Canning Hill was covered with the remains of building foundations, some composed of baked brick.

- These ruins included those seated on a terrace approximately 12 square metres. Fourteen large sandstone blocks were arranged along the edge of this terrace. Each of these sandstone blocks had a hole, suggesting that they were pedestals of wooden support posts which had since deteriorated. There was a circular enclosure formed of rough sandstone which all had a hollow centre.

- It appeared to Crawford that these were the remains of a place of worship, and the central sandstone structure had possibly contained an image. Crawford also noted old fruit trees at the eastern side of the hill, which could possibly have been part of the royal gardens belonging to the ancient rulers.

- From the artefacts discovered at Fort Canning, researchers have found that it was inhabited by a more wealthy community as compared to the artefacts found at the sites near the mouth of the Singapore River.

- There have not been any artefacts found on Fort Canning Hill that date later than the fourteenth century, while artefacts found near the mouth of Singapore River suggest that the latter area remained active past the fourteenth century.

Did you know?

John Crawford
(b. 1783, Scotland - d. 1868, England)

John Crawford was the second British Resident of Singapore from 1823 – 1826 after Stamford Raffles and William Farquhar left. He was a key figure in the implementation of some of the key elements of Raffles’ vision for Singapore and laid the foundation for the future economic growth of Singapore. Crawford Bridge, Crawford Street, Crawford Bridge and Crawford Park in Singapore are named after him.

During Crawford’s administration, there was a vigorous increase in population, trade and revenue. Crawford focused on increasing government revenue and promoting free trade. A key contribution would be his decision to make Singapore unique as a port free from tariffs as well as port charges.

Crawford also made many contributions in the planning and physical development of Singapore town. Roads were widened and levelled, and a proper bridge was built across the river. English street signs and street lighting were introduced. Land was also allotted to religious buildings.

Treasures of the Hill

While excavating a reservoir near the summit of the hill on 7 July 1925, workers also discovered gold ornaments. According to the notes of the engineer who took charge of the excavation, he recorded that the ornaments were lying about 1.5 to 1.8 metres beneath ground level.

Fort Canning is also the only site in Singapore where ancient gold ornaments have been discovered.

Did you know?

Gold ornaments found at Fort Canning Hill. The arrowlet bears the motif of a Javanese bull head.

Related Books

Archaeological Research on the “Forbidden Hill” of Singapore: Excavations at Fort Canning, 1984 by John N. Miksic
NTU Call No.: DS598.S73M636
Location: Wang Gungwu Library

Impressions of the Malay Peninsula in Ancient Times by Paul Wheatley
NTU Call No.: PP9579.T55W574
Location: HSS Library

Myths and Legends of Singapore by Pugalenthi Sr.
NTU Call No.: PR9570.S5P978
Location: HSS Library

The Singapore River, A Social History 1819 - 2002 by Stephen Dodds
NTU Call No.: TD313.S53D632
Location: HSS Library

Myth or History Fort Canning Hill is part of an exhibition put up by the NTU Art & Heritage Museum during Heritage Week 2009 held from 16 - 18 February 2009.

This is done in collaboration with NTU Heritage Club.

The museum aims to be an integral part of the NTU experience and is always open to partnerships with both staff and students. Contact us via museum@ntu.edu.sg

We have more exciting plans installed for the rest of the year, so do keep a look out!
In recent years, libraries have become more than just mere physical places where books on varied topics can be found in one setting. Instead librarians are keenly aware of the great functionality of the interior space of a library, and how that physical space can be fully utilized and optimized in their outreach programmes through exhibitions, recitals, movie screening, etc.

Traditionally, libraries, especially academic libraries, held exhibitions which were tied to their special collections. But in recent years, there seems to be greater fluidity in what can or should be exhibited due in part to the fact that the idea and concept of a library is rapidly evolving. The idea of the library as a space for interaction or a social hub is no longer a quirky idea but a widely accepted one. It is fair to say that the “rebranding” of libraries has influenced the choice of exhibits to a greater or lesser extent. Academic libraries are not just looking for exhibits that will bring educational value to a specified group of patrons but rather those that will appeal to a wider audience. The recent guitar exhibition at the Art, Design and Media Library is one such example.

Organized by the Nanyang Arts Festival, the guitar exhibition featured ten guitars, designed and handcrafted by Maestro Guitars -- the first of its kind in Singapore. The guitar exhibition appears to have generated a lot of interest in the wider NTU community judging from the number of people who attended the talk given by a representative of Maestro Guitars during the third week of the exhibition.

Although exhibitions in libraries should not take away the main focus of a library which is to provide patrons with relevant information, exhibits do help to make learning more accessible, interactive and enjoyable if done correctly. But most importantly, exhibitions in libraries tend to enhance the surroundings by turning the library into a space not only for reading or studying but also into one for communal learning, understanding and sharing.

The rapid advancement of science and technology has brought forth a new pillar of research, Computational Science and Engineering. This has driven the hunger for computational power and the need for High Performance Computing (HPC). Undeniably, HPC has become a valuable asset in the research community. Addressing areas from computational science to risk management, HPC allows for even larger and more precise computer simulations.

Assoc Prof Francis Lee, Associate Chair (Research), SCE

High performance computing (HPC) is currently one of the hottest multi-disciplinary computing topics.

A High Performance Computing Exhibition & Seminar was jointly organized by the School of Computer Engineering (SCE), College of Engineering (CoE) and NTU Library to create awareness and showcase the latest books, print journals as well as electronic resources from the Library on HPC and related fields.

The seminar was held on 21 January 2009. Speakers from both the industry as well as NTU presented on the global development, applications and trends of HPC.

The exhibition, held at Lee Wee Nam Library from 19 Jan to 13 Feb 2009, highlighted the latest HPC technology by IBM, HP, Microsoft and Sun Microsystems as well as research work by NTU researchers.

If you are interested to know more about HPC, the Engineering librarians compiled a resource list:

1. Go to our Library homepage
2. Under “Libraries & Collections”, select Subject Library Blogs
3. Select Engineering Library Blog
4. In the Search box, enter “HPC”
5. In the post, click on the given link to retrieve the full list of library resources on HPC
一、线装古籍
古朴典雅的装帧，泛黄的书页述说着沧桑久远。抚书而幽思，汉赋、唐诗、宋词、元曲纷至沓来，令人沉醉。更有《古今图书集成》、《四部备要》等大型丛书，卷帙浩繁，包罗万象，中华文化精髓尽在其中了。试想酌一杯清茶，纸香墨飞词赋满室，那是何等惬意之事！

二、民国珍本
历史变迁，天灾人祸，多少珍贵书籍付之一炬。物以稀为贵，劫后余生，自然是珍贵无比。王赓武图书馆所珍藏的民国珍本，可谓价值不菲。如上海开明书店1928年毛边版《达夫全集》，上海观察社1948版出储安平著《美国采风录》，林语堂顾问编辑的民国著名杂志《西风》合订本等，不胜枚举。去中国的旧书网看，价值都在几百元以上。虽算不上价值连城，却也弥足珍贵，更何况其中所包涵的文化意义和研究价值，是难以估量的。

三、签名珍本
大凡作家学者出书，都会送几本给自己好友或同仁，书上自然免不了写上赠语，谓之签名本。透过签名本，我们可以加深对作者的了解，有时，这些赠语、题字也成为史海钩沉的史料与佐证。王赓武图书馆藏书书籍多数为王赓武、崔贵强等学者所赠，因此签名本很多，笔走龙蛇，铁划银钩，很有收藏和研究价值。

四、特色书籍
喜欢中国书画的飘逸淡雅？惊叹民间艺术的神奇？想看中国四大名著的连环画？想了解海外华人的历史与现状？想看看祖辈父辈们使用过的课本？这些你都可以在王赓武图书馆找到答案。我们丰富而多姿的馆藏一定会给你一段奇妙难忘的旅程。
Are you lost in the data smog?

Han Lee Yan :: lyhan@ntu.edu.sg
Librarian (Instructional Services)

Are you suffering from information overload? Can’t find your way in the “Data Smog”? Barely surviving the information glut? You’re probably not alone.

Data Smog is a term coined by David Shenk in his book *Data Smog: Surviving the information glut* to refer to the overwhelming and excessive amount of information that exists which makes it difficult for individuals to process and absorb.

The solution to this Data Smog is Information Literacy. According to the Chartered Institute of Library and Information Professionals, “information literacy is knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner.” In other words, being information literate means having the skills to know when you need information, knowing where to locate it effectively and efficiently, and at the same time, being able to analyse and evaluate the authenticity and value of the information you find.

Why is Information Literacy Important?
The days of the library as the only source of information for research and scholarly activity by the faculty and students are over. With basic infrastructure laid out and a high penetration rate of personal computers, faculty members and students are being drawn to the Internet and the World Wide Web to search for and retrieve the information they require. With a myriad of information on different topics available on the Internet, it is not an easy task trying to verify the authenticity of something posted on the web.

This is where the library can play an integral role, by moving from the traditional role of the custodian of the vast library resources to that of an educator, educating users in information literacy, and training them in effective information retrieval, be it from the library collection itself, or from the Internet.

**NTU LIBRARY INSTRUCTIONAL SERVICES DIVISION**

It is to this end that the Library Instructional Services Division exists, to provide quality campus-wide library instructional programmes so that the NTU community is empowered with the necessary information literacy skills for their study, research, teaching and work, enriching and contributing towards their advancement of knowledge and life-long learning.

Heading the division is Mrs Rashmi Lad who has more than a decade’s experience in library instruction and information dissemination. She leads a team which includes two other instructional librarians, Mr Rama Ravikumar Ramakrishnan and Ms Han Lee Yan.

With a background in the IT industry, Rama puts his experience to good use in the instructional services programmes he conducts, equipping library users with the necessary skills to aid information seeking and research.

The third member of the team is Lee Yan, a new addition to the division. She joined the library in the beginning of this year after completing her MSc (Information Studies) at WKWSCI. A former teacher, she hopes to put her teaching experience to good use in the instructional classes that ISD conducts, helping library users to navigate in the “Data Smog” and survive the information glut. You may have already attended some of the instructional classes the division has conducted, such as the Advanced Research Seminars, Resource Discovery Workshops and the ever popular EndNote workshops.

For more information about the division and the courses it conducts, email to: instructionalservices@ntu.edu.sg


The Information Literacy website, available at http://www.informationliteracy.org.uk/


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A heartfelt thank you to the 4,617 members of the NTU community who took time to respond to our survey last October. Particular thanks to the 2,180 individuals who also gave us comments on our services. We have heard you and we will respond. Congratulations to our 6 prize winners. Details are available at www.ntu.edu.sg/library/about/survey/pages/default.aspx