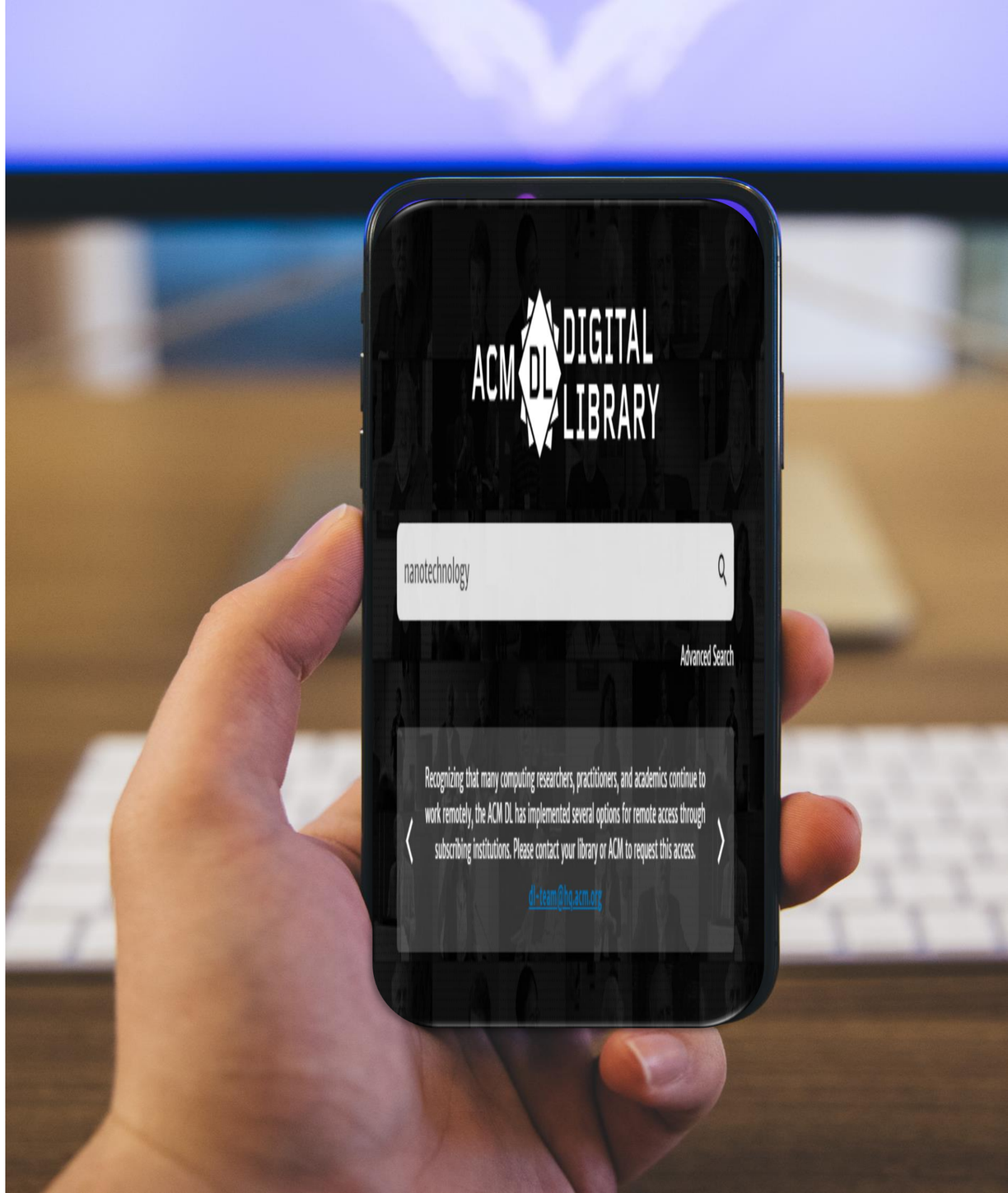
Perpustakaan Tun Abdul Razak
UNIVERSITI TEKNOLOGI MARA

eRESOURCES
ACM DIGITAL LIBRARY



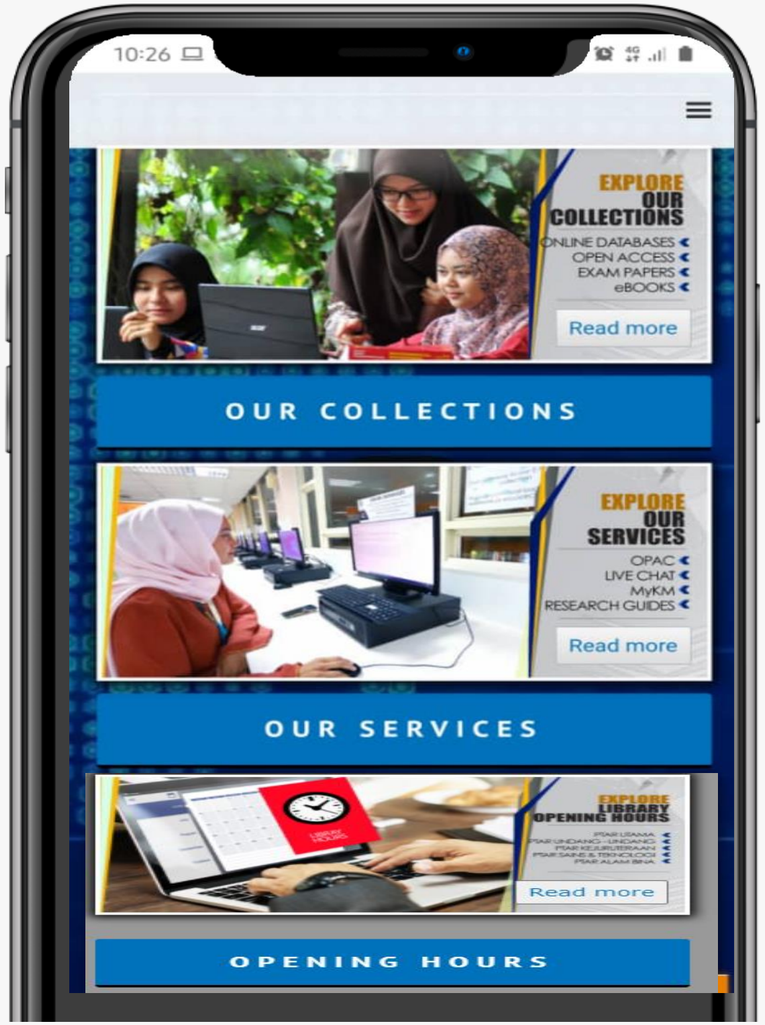
USER MANUAL

Guide 1

1. Go to https://library.uitm.edu.my/

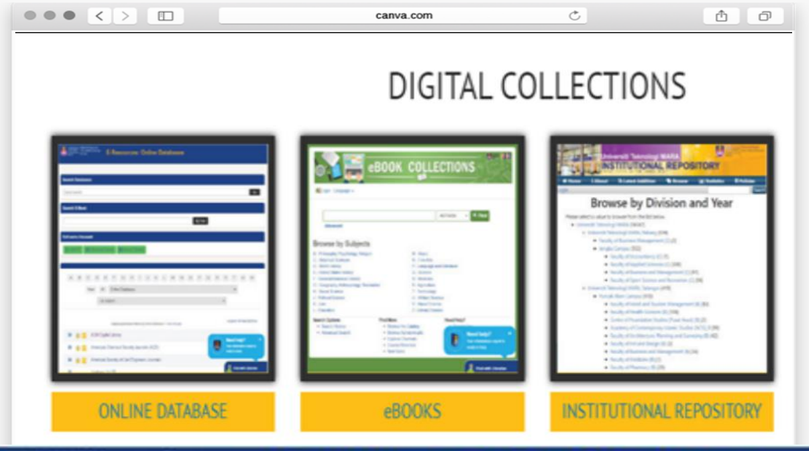
2. From the library portal website there are three categories namely our collections, our services and opening hours.

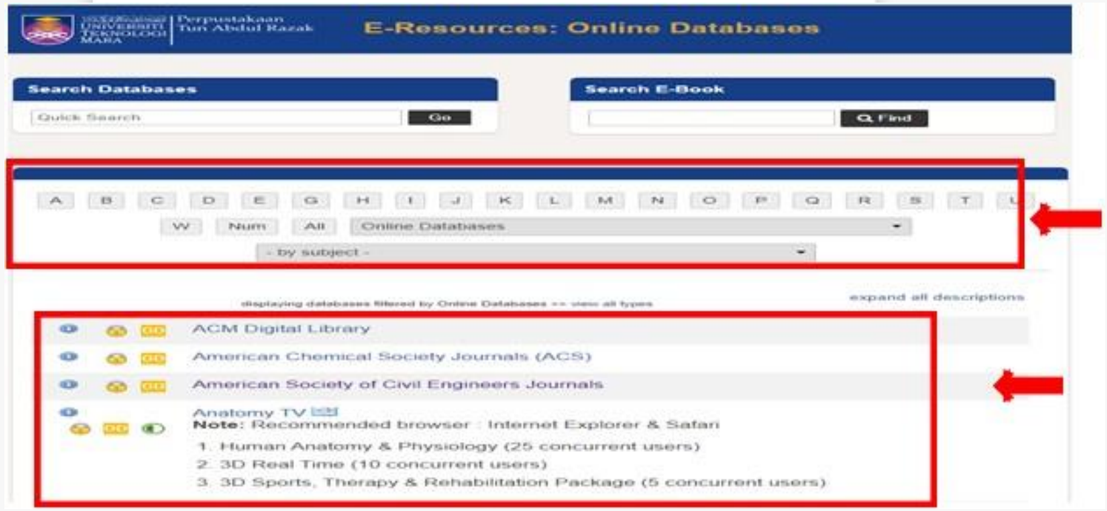
3. Click 'Our collections' to access eResources Online Database



USER MANUAL

Guide 2





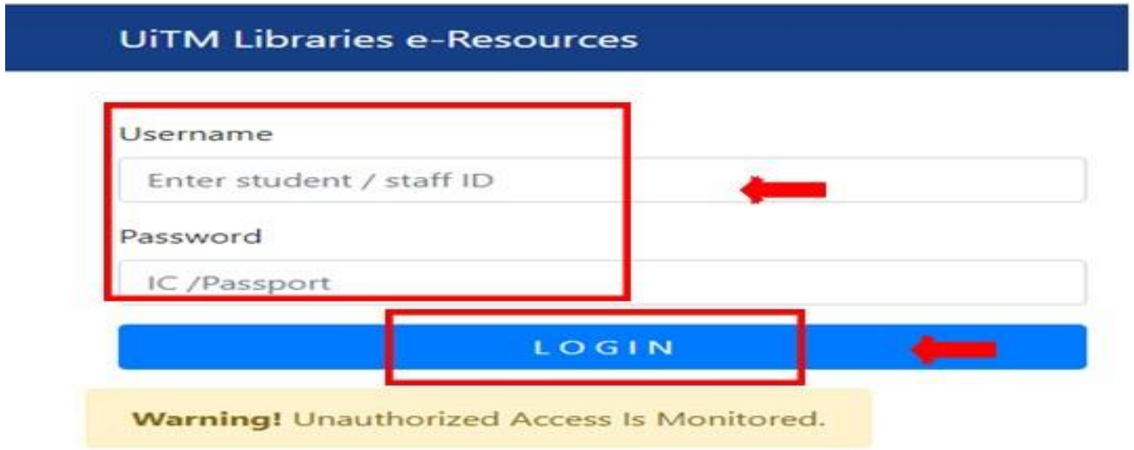
1. In the Digital Collections view, Click Online Database to access the Online Database.

2. User can access ACM Digital Library either by alphabet or by format or by subject.

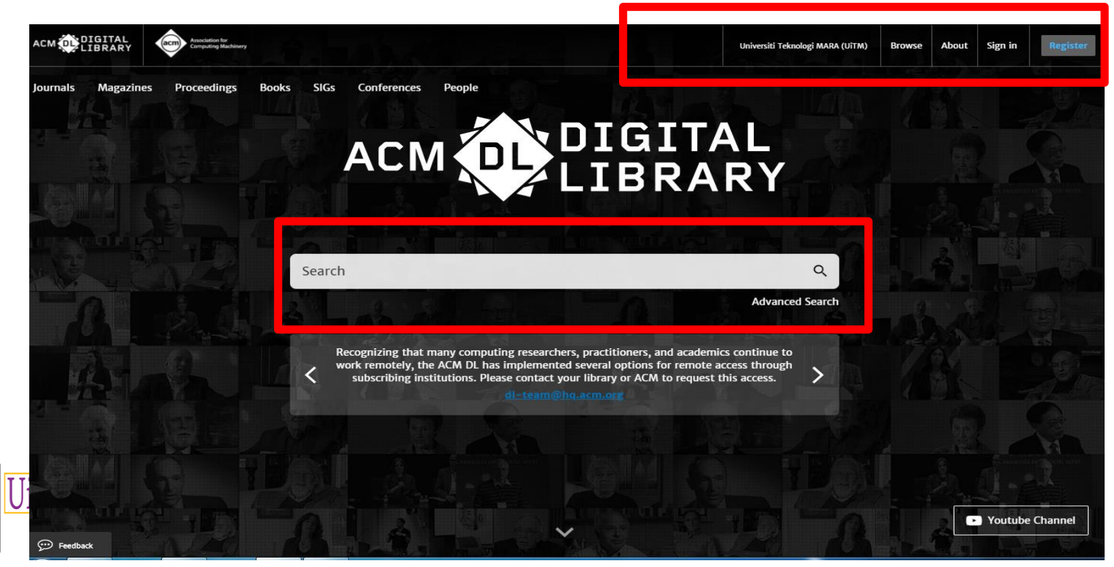
3. Click ACM Digital Library

USER MANUAL

Guide 3



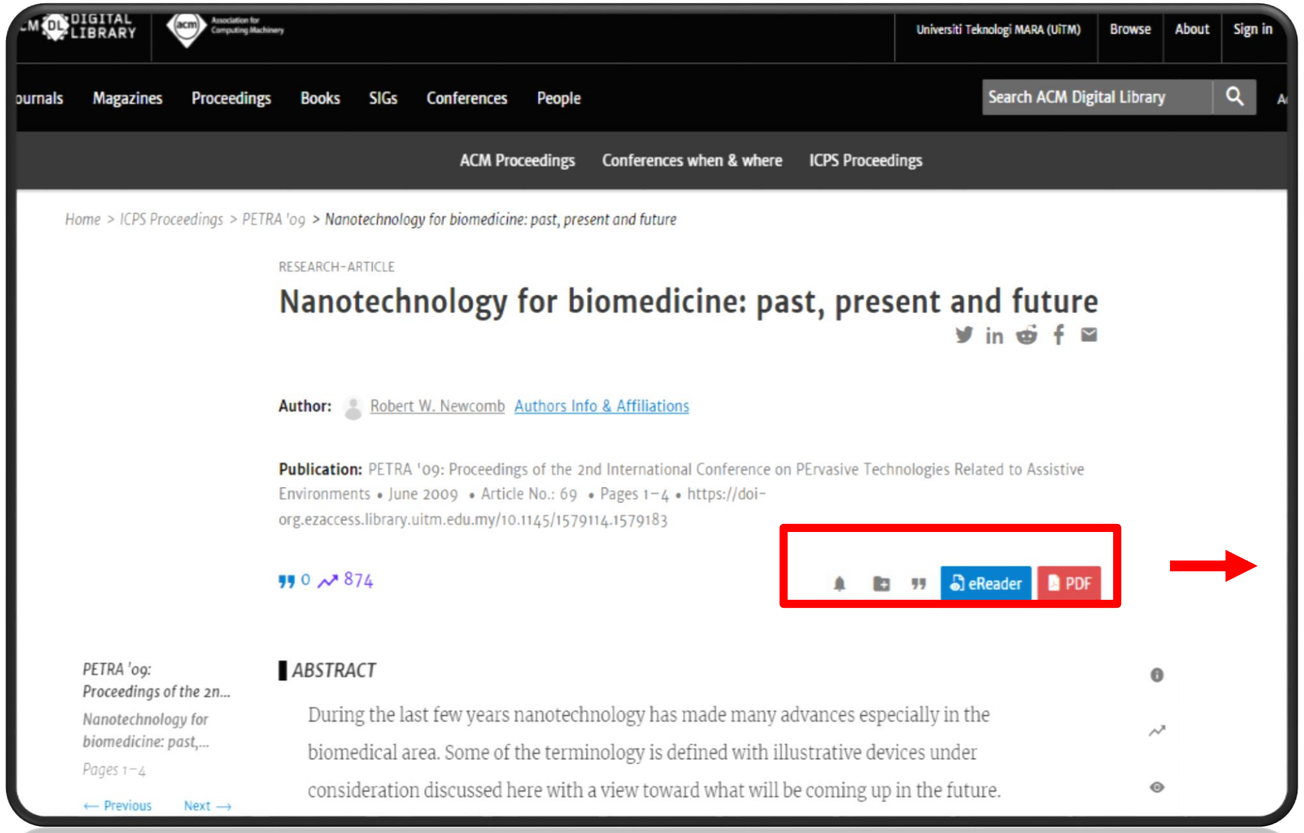
- Key in user's id and password.
  Username: student no./ staff no.
  Password: ic no. / passport no.
- Then, click login.



- At the upper side of the page, there are Browse, About, Sign in, Register.
- Key in title/ author, keyword or click Advanced Search to search

USER MANUAL

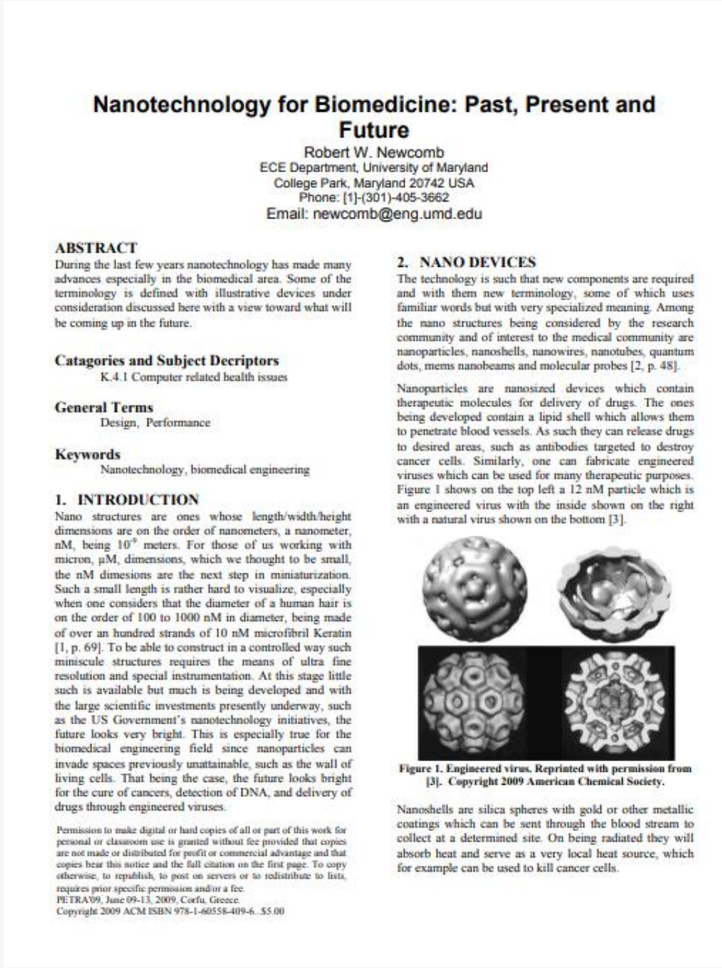
Guide 4



- User can Get Citation Alerts, Save to Binder, Export Citation, View online with eReader, Save to PDF,
- Click PDF to get the full record.

USER MANUAL

Guide 5



Nanotechnology for Biomedicine: Past, Present and Future

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ABSTRACT
During the last few years nanotechnology has made many advances especially in the biomedical area. Some of the terminology is defined with illustrative devices under consideration discussed here with a view toward what will be coming up in the future.

Catagories and Subject Decriptors
K.4.1 Computer related health issues

General Terms
Design, Performance

Keywords
Nanotechnology, biomedical engineering

1. INTRODUCTION
Nano structures are ones whose length/width/height dimensions are on the order of nanometers, a nanometer, nM, being 10^{-9} meters. For those of us working with micron, μM, dimensions, which we thought to be small, the nM dimesions are the next step in miniaturization. Such a small length is rather hard to visualize, especially when one considers that the diameter of a human hair is on the order of 100 to 1000 nM in diameter, being made of over an hundred strands of 10 nM microfibril Keratin [1, p. 69]. To be able to construct in a controlled way such miniscule structures requires the means of ultra fine resolution and special instrumentation. At this stage little such is available but much is being developed and with the large scientific investments presently underway, such as the US Government's nanotechnology initiatives, the future looks very bright. This is especially true for the biomedical engineering field since nanoparticles can invade spaces previously unattainable, such as the wall of living cells. That being the case, the future looks bright for the cure of cancers, detection of DNA, and delivery of drugs through engineered viruses.

PETRA'09, June 09-13, 2009, Corfu, Greece.

2. NANO DEVICES
The technology is such that new components are required and with them new terminology, some of which uses familiar words but with very specialized meaning. Among the nano structures being considered by the research community and of interest to the medical community are nanoparticles, nanoshells, nanowires, nanotubes, quantum dots, mems nanobeams and molecular probes [2, p. 48].

Nanoparticles are nanosized devices which contain therapeutic molecules for delivery of drugs. The ones being developed contain a lipid shell which allows them to penetrate blood vessels. As such they can release drugs to desired areas, such as antibodies targeted to destroy cancer cells. Similarly, one can fabricate engineered viruses which can be used for many therapeutic purposes. Figure 1 shows on the top left a 12 nM particle which is an engineered virus with the inside shown on the right with a natural virus shown on the bottom [3].

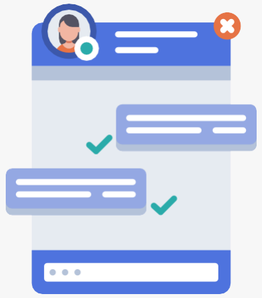
Figure 1. Engineered virus. Reprinted with permission from [3]. Copyright 2009 American Chemical Society.

Nanoshells are silica spheres with gold or other metallic coatings which can be sent through the blood stream to collect at a determined site. On being radiated they will absorb heat and serve as a very local heat source, which for example can be used to kill cancer cells.

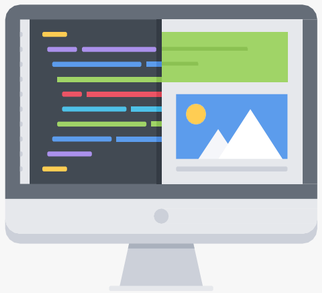
- Full text displayed

CONTACT PERSON

For enquiries on online database searching and access:



Chat with Librarian: https://ptar.uitm.edu.my/libchat/



Link to Online Database:
http://qr.library.uitm.edu.my/onlinedb

Link to ACM Digital Library
https://dl-acm-org.ezaccess.library.uitm.edu.my/