Internationalization of Pharmacy Education in the (post) Covid era

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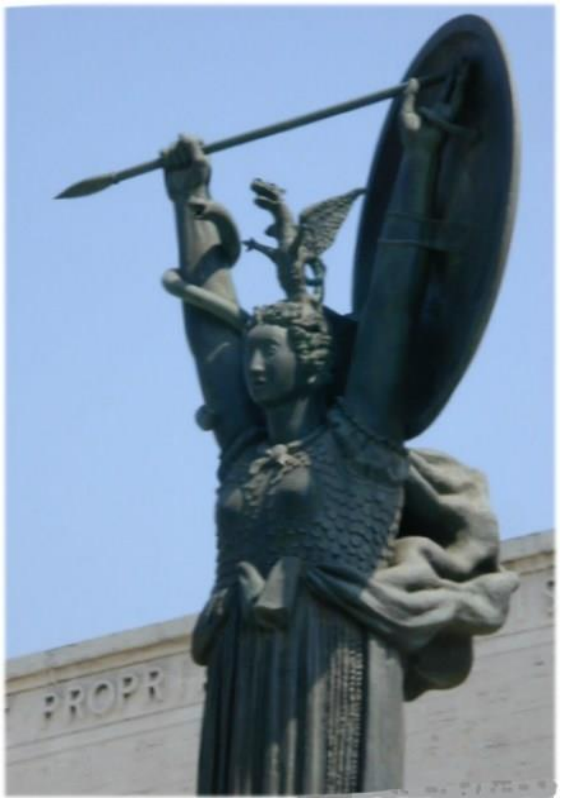


SAPIENZA
UNIVERSITÀ DI ROMA

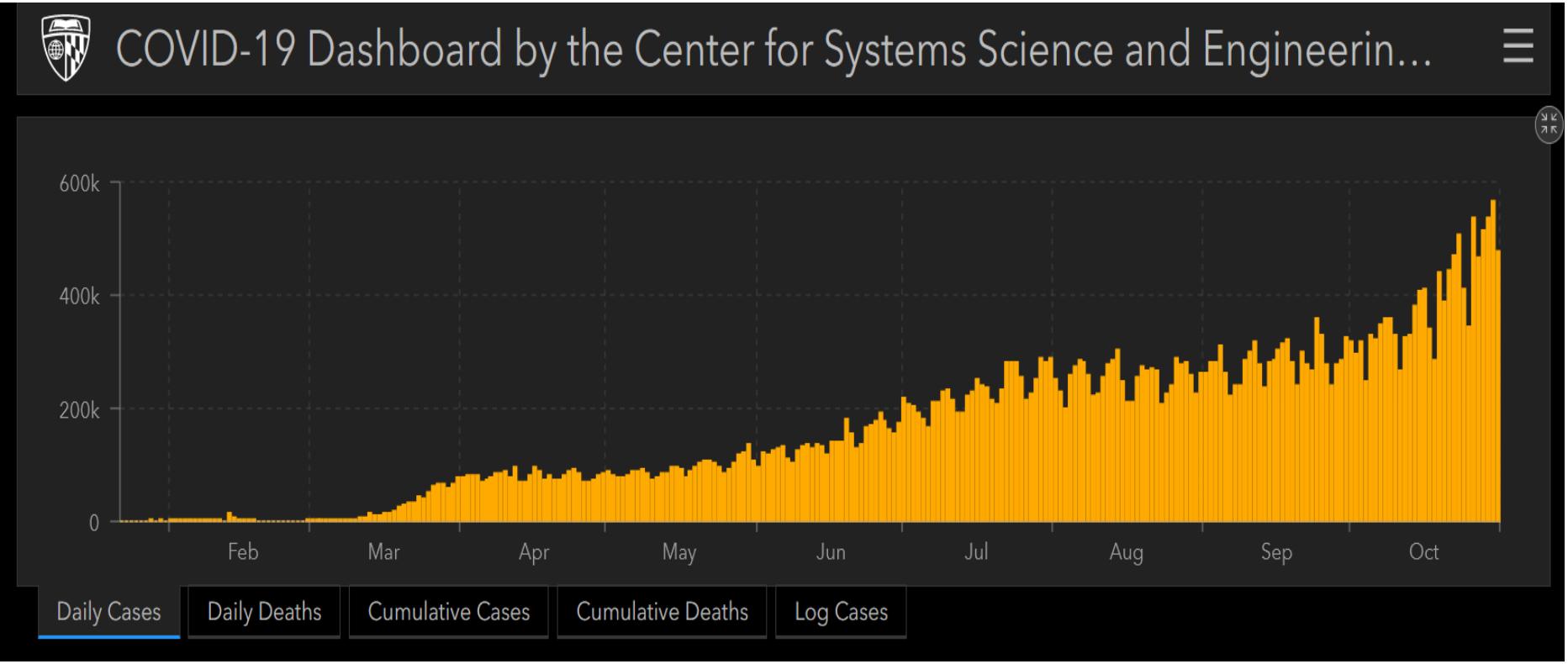
www.uniroma1.it

about 112,000 Students

about 4000 Teaching Staff Members

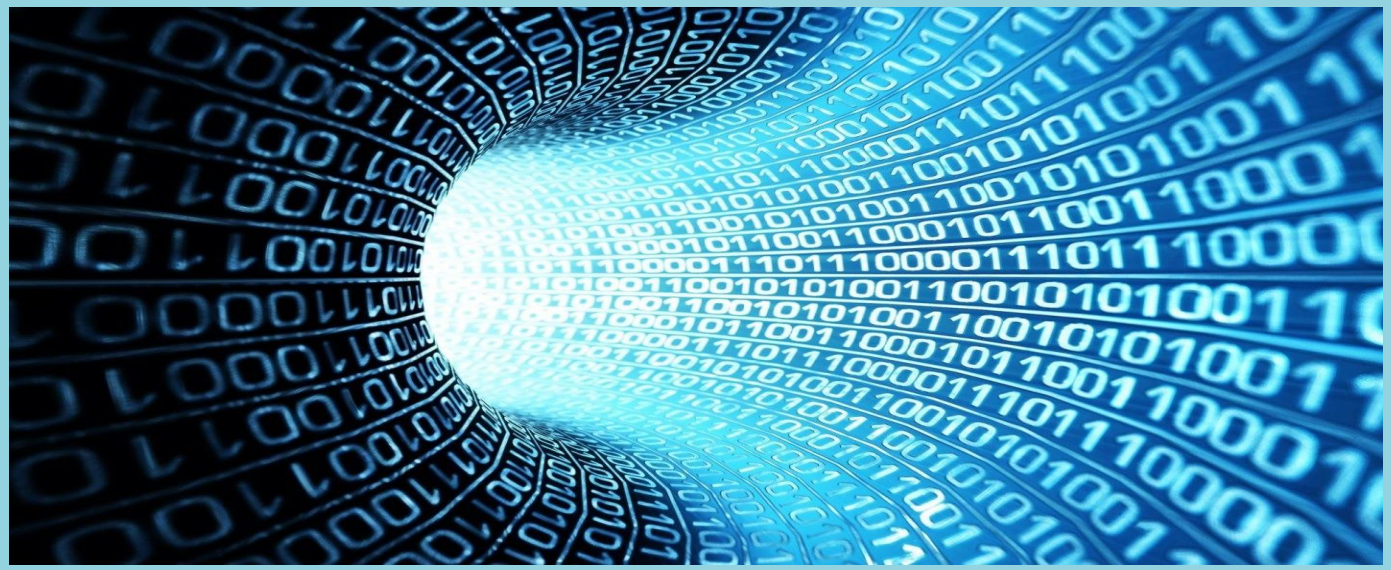
About 4000 Administrative and Technical Staff

COVID-19



https://coronavirus.jhu.edu/map.html

Higher education in the digital era



Universities are among the oldest Institutions in the World

Karueein, Fez : 859

Al-Azhar, Cairo: 970

Bologna: 1088

……

……

……

Sapienza, Rome: 1303

Will they survive in the new digital era?

MANY CHALLENGES INCLUDING:

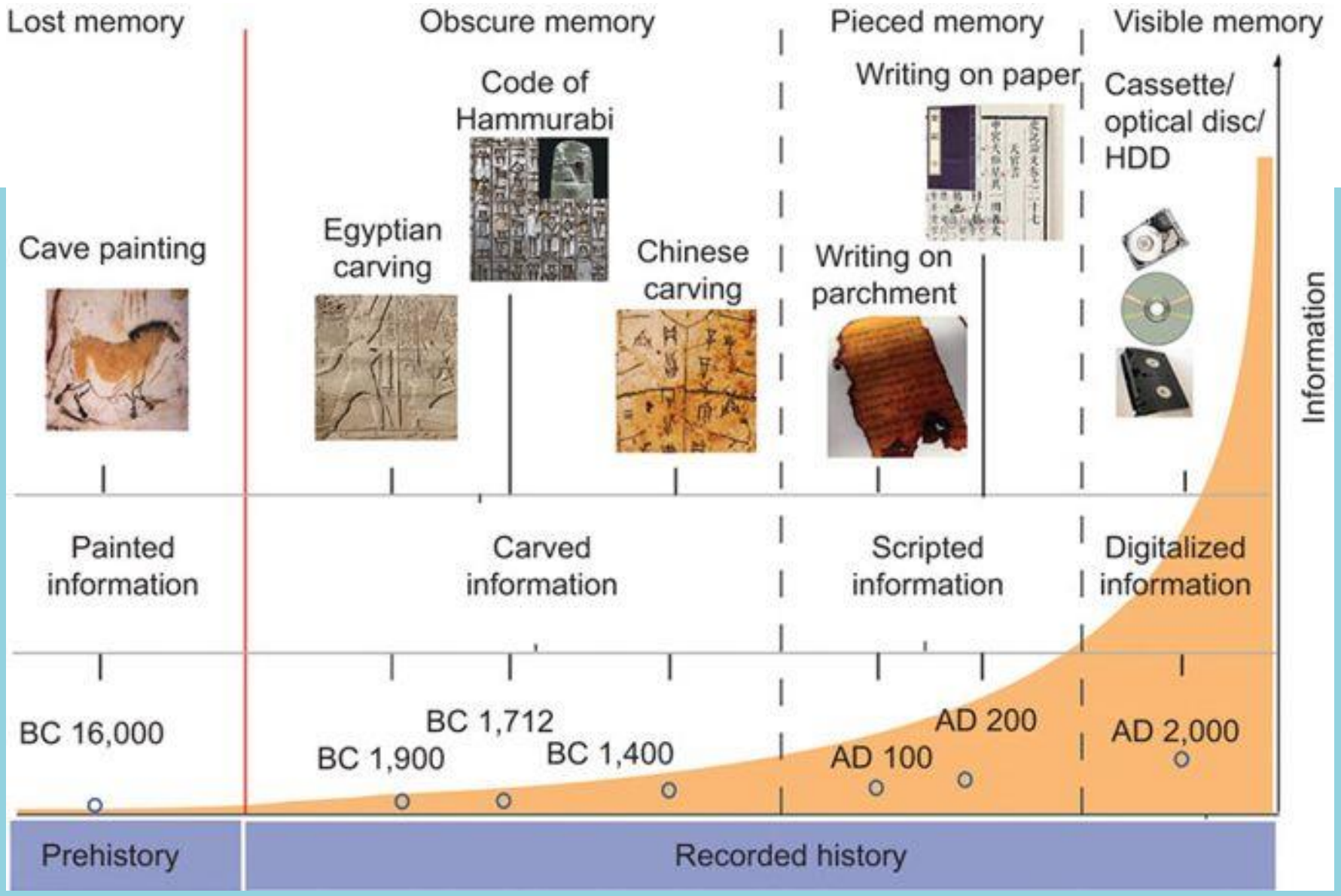
Information more and more easily available

New distance learning actors

The Birth of the Internet

1993 - The WWW Revolution truly begins

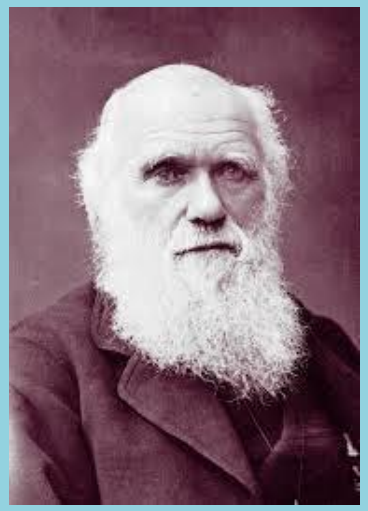
- Number of Hosts 2 Million. 600 WWW sites.
- The Mosaic Web browser is released (by a group of 10 students from U of I at Champaign-Urbana) on the Net, gaining 2 million and fueling a 341,634% annual growth rate for Web traffic.


Lost memory
Obscure memory
Pieced memory
Visible memory
Code of Hammurabi
Writing on paper
Cassette/ optical disc/ HDD
Cave painting
Egyptian carving
Chinese carving
Writing on parchment
Information
Painted information
Carved information
Scripted information
Digitalized information
BC 16,000
BC 1,900
BC 1,712
BC 1,400
AD 100
AD 200
AD 2,000
Prehistory
Recorded history

Medical knowledge doubling every 18 months: the risk of information and cognitive overload

The need to change..

It is not the strongest of the species that survives, nor the most intelligent that survives. **It is the one that is most adaptable to change**



The role of Professors

Guiding Students in the «dark wood» of knowledge

The role of Professors

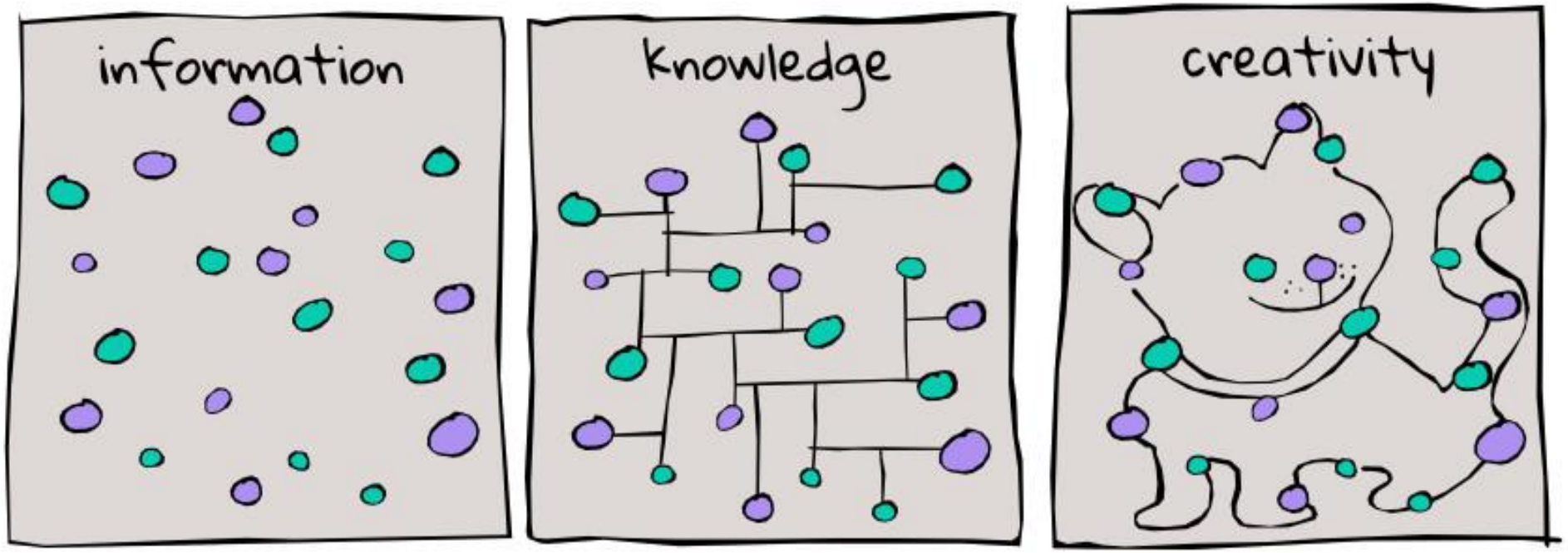
Guiding

Inspiring

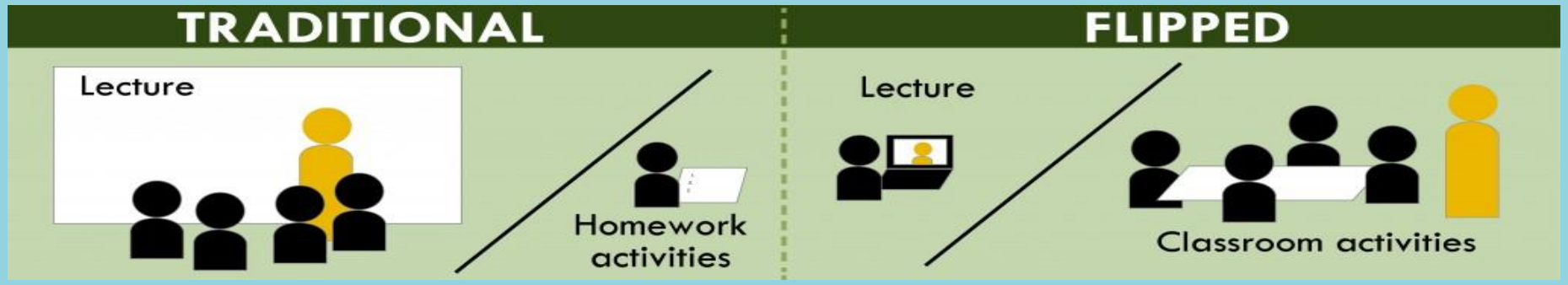
MOTIVATING

Etc.

The role of Professors: fostering critical thinking and creativity



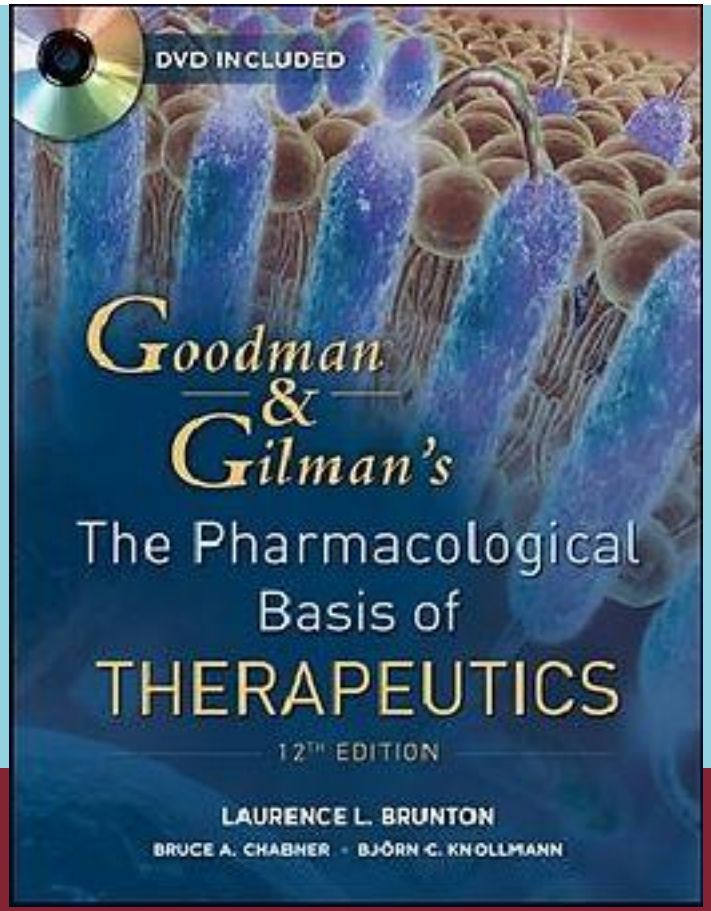
Flipping the classroom (expose students to course content before they come to class)



Using new educational resources

McGraw-Hill's ACCESSMedicine

Trusted Content. Instant Answers.



The dream of interdisciplinarity coming true (again)?

Allowing the use of the internet during the exams

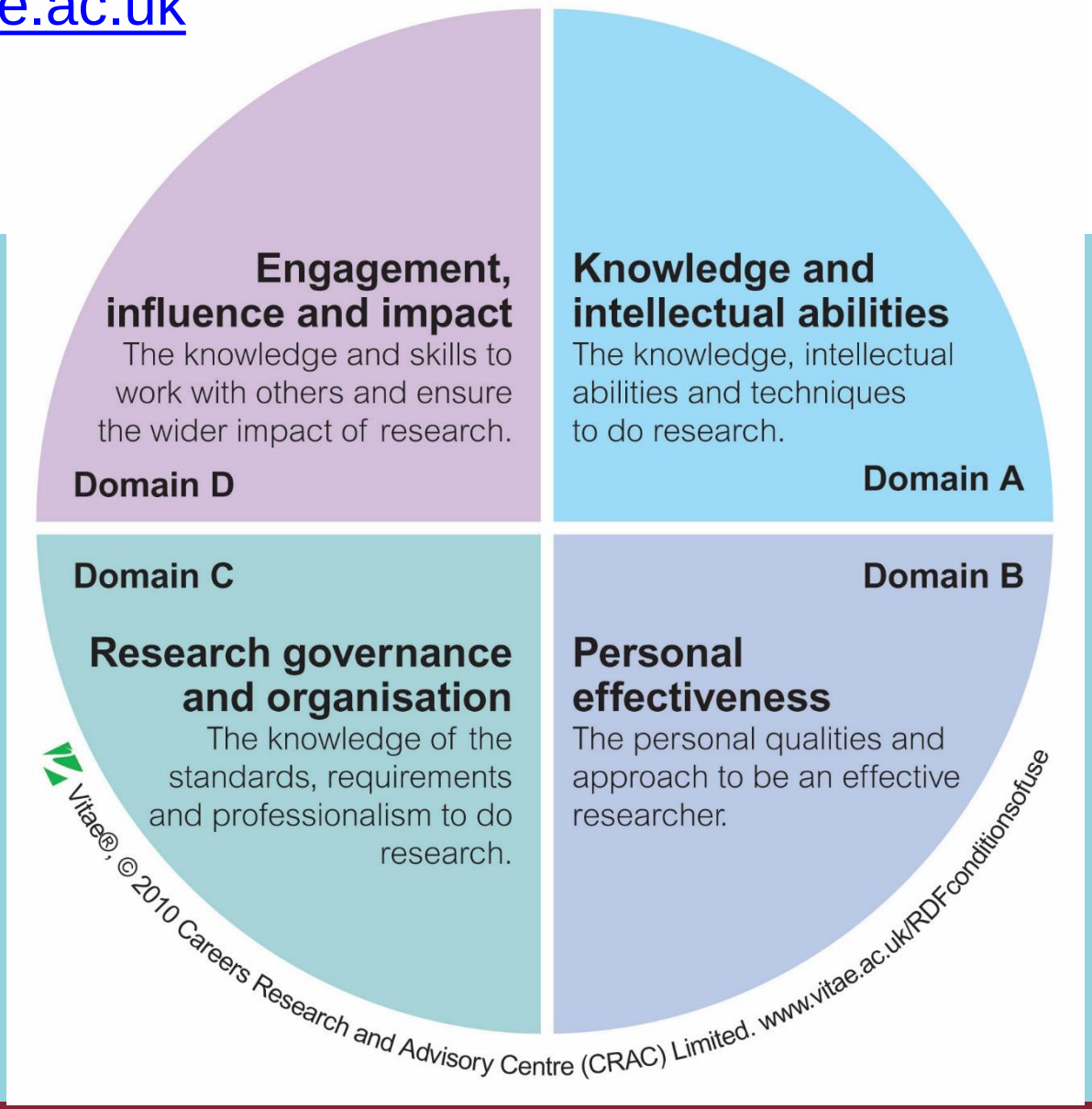
Developing soft skills in addition to hard skills

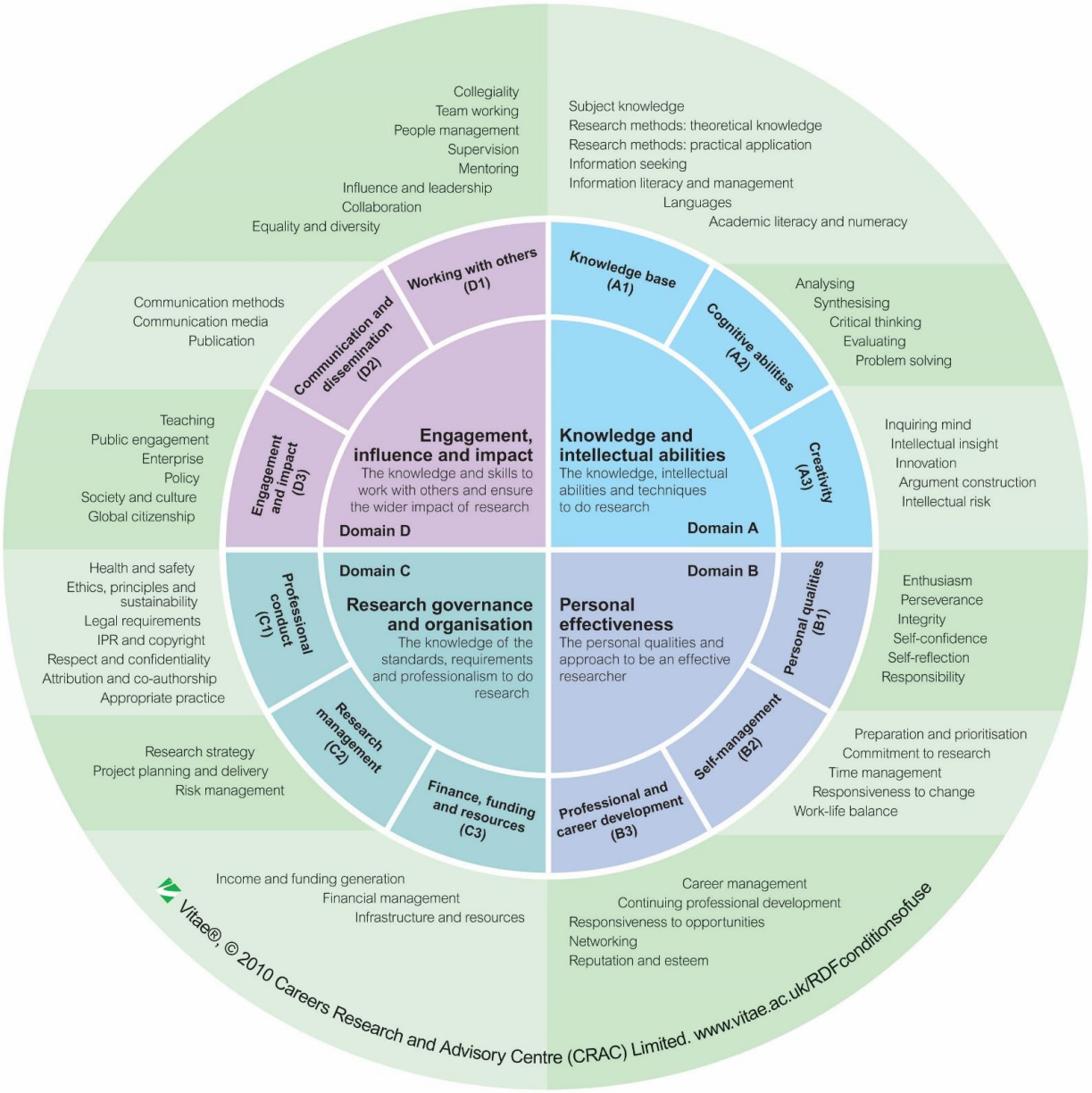
Soft or transferable skills

Problem solving
Creativity and originality
Team playing
Leadership
Supervision and teaching
Communication
Autonomy
Project management
Fund raising
etc

Improving communication skills

https://www.vitae.ac.uk





- 4 domains
- 12 sub-domains
- 63 descriptors

Artificial intelligence: opportunities and challenges

Artificial intelligence in university curricula

Machines will not replace immediately humans but, most probably, **humans using intelligent machines will replace soon humans NOT using them.**

AI and drug development

Computer-calculated compounds

Researchers are deploying artificial intelligence to discover drugs.

BY NIC FLEMING

ILLUSTRATION BY MICHELE MARCONI

An enormous figure looms over scientists searching for new drugs: the estimated US$2.6-billion price tag of developing a treatment. A lot of that effectively goes down the drain, because it includes money spent on the nine out of ten candidate therapies that fail somewhere between phase I trials and regulatory approval. Few people in the field doubt the need to do things differently.

Leading biopharmaceutical companies believe a solution is at hand. Pfizer is using IBM Watson, a system that uses machine learning, to power its search for immuno-oncology drugs. Sanofi has signed a deal to use UK start-up Exscientia's artificial-intelligence (AI) platform to hunt for metabolic-disease therapies, and Roche subsidiary Genentech is using an AI system from GNS Healthcare in Cambridge, Massachusetts, to help drive the multinational company's search for cancer treatments. Most sizeable biopharma players have similar collaborations or internal programmes.

If the proponents of these techniques are right, AI and machine learning will usher in an era of quicker, cheaper and more-effective drug discovery. Some are sceptical, but most experts do expect these tools to become increasingly important. This shift presents both challenges and opportunities for scientists, especially when the techniques are combined with automation (see 'Here come the robots'). Early-career researchers, in particular, need to get to grips with what AI can do and how best to acquire the skills they need to be employable in the job market of tomorrow.

The AI pioneers of the 1950s discussed ▶

AI and drug development

Drug Discovery Today • Volume 24, Number 3 • March 2019

ELSEVIER

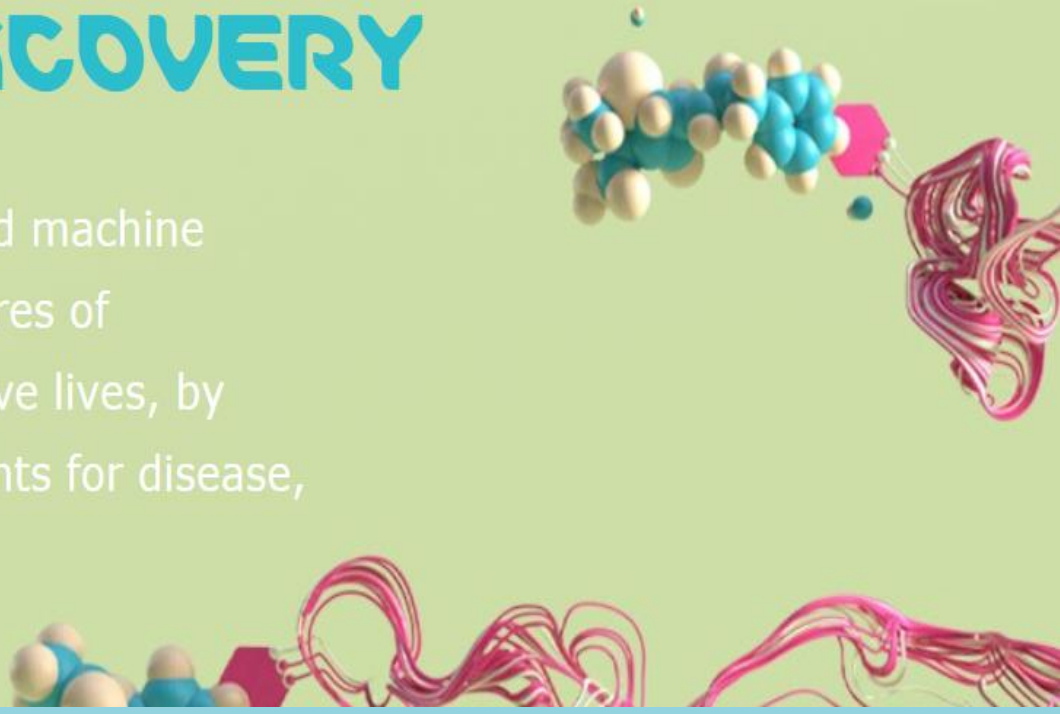
Artificial intelligence in drug development: present status and future prospects

AI and drug development

RESEARCH / SCIENCE SPACE / ENVISIONING TOMORROW / SHAPING THE FUTURE OF HEALTHCARE /

AI IN DRUG DISCOVERY

From Siri to facial recognition, AI and machine learning are becoming familiar features of everyday life. But they could also save lives, by helping find new and better treatments for disease, faster.



https://www.merckgroup.com/en/research/science-space/envisioning-tomorrow/precision-medicine/generativeai.html

Big DATA

Expert Rev Precis Med Drug Dev. 2019 ; 4(3): 189–200. doi:10.1080/23808993.2019.1617632.

Use of big data in drug development for precision medicine: an update

Tongqi Qian[1], Shijia Zhu[2,*], and Yujin Hoshida[2,*]

Internationalization

Physical, virtual & hybrid mobility for Students and Staff Members (Academics and Adm)

The fundamental role of University Networks

UNICA

Network of Universities
from the Capitals of Europe

Institutional network of 53 universities from 37 capitals of Europe, combining over 175,000 staff and 1,950,000 students

The fundamental role of University Networks

Thank you for your attention

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