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# **INSTITUTIONALIZING ETHICS: HOW MAY COMEST HELP MALAYSIA**



Theme of Conference:  
Enculturation of Ethics for Scientists &  
Engineers.

“Is not ethics already institutionalize within the  
scientific community?”

# Robert Merton (1973), The Normative Structure of Science

- Internal rigorous policing.
- Self-regulated by the 'scientific ethos'.
- CUDOS – communalism/communism, universalism, disinterested and organized skepticism.

# Mertonian norms


<b>Communalism</b>	Entails that scientific results are the common property of the entire scientific community.
<b>Universalism</b>	All scientists can contribute to science regardless of race, nationality, culture, or gender.
<b>Disinterestedness</b>	Scientists should not present their results entangled with their personal beliefs or activism for a cause.
<b>Organized Skepticism</b>	Skepticism means that scientific claims must be exposed to critical scrutiny before being accepted.

# 'Competitive Cooperation'

Reward for scientific work – recognition, esteem and reputation.

# The currency of science

- Gaining credit and respect from fellow scientists.
- Recorded within the Scientific Citation Index.



1970's - mass media began reporting several hundreds and thousands of scientific misconduct, fraud and plagiarism.

Critics say that the drive for the Nobel Prize has driven scientists to succumb to amoral activities and this has been exacerbated when Universities embarked on the process for commercialization and filing of patents.



Institutionalising ethics may become a problem when scientific research become increasingly market-driven.

Today research is dominated by the need to commercialise, to design patents...



# Research Audits

## Research Universities in Malaysia:

1. University of Malaya,
2. UKM,
3. USM and,
4. UPM.

## Research Audit Criteria

- determine the worthiness of research intensive institutions

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# Malaysian Research University

No.	Criteria	Weightage (%)
1	Quantity and Quality of Researchers	25
2	Quantity and Quality of Research	30
3	Quantity and Quality of Postgraduates	15
4	Innovation	10
5	Professional Services and Gifts	7
6	Networking and Linkages	8
7	Support Facilities	5


# Malaysian Research University

No.	Criteria	Measurement in numbers
2.	Quantity and Quality of Research	Publication and the acquirement of research grants (national and international)
4.	Innovation	Commercialization and patents

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- The Mertonian norm, Communalism, implies that results of scientific research are to be communicated openly, or in other words, published within a reasonable time.



Privatization and commercialization are threatening the objectivity of scientific research because uncontrolled market mechanisms focused on profit are nurturing conflict of interest that generate bias and unreliability into research.

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- Let us hope that the scramble by universities to compete to be in the first rank do not displace scientific integrity or **'ETHICAL CORRECTNESS'**.

# ETHICAL CORRECTNESS

is given by moral indicators such as,

- 'honesty',
- 'truthfulness',
- 'objectivity',
- 'selflessness' and
- 'impartiality.'

# In Business

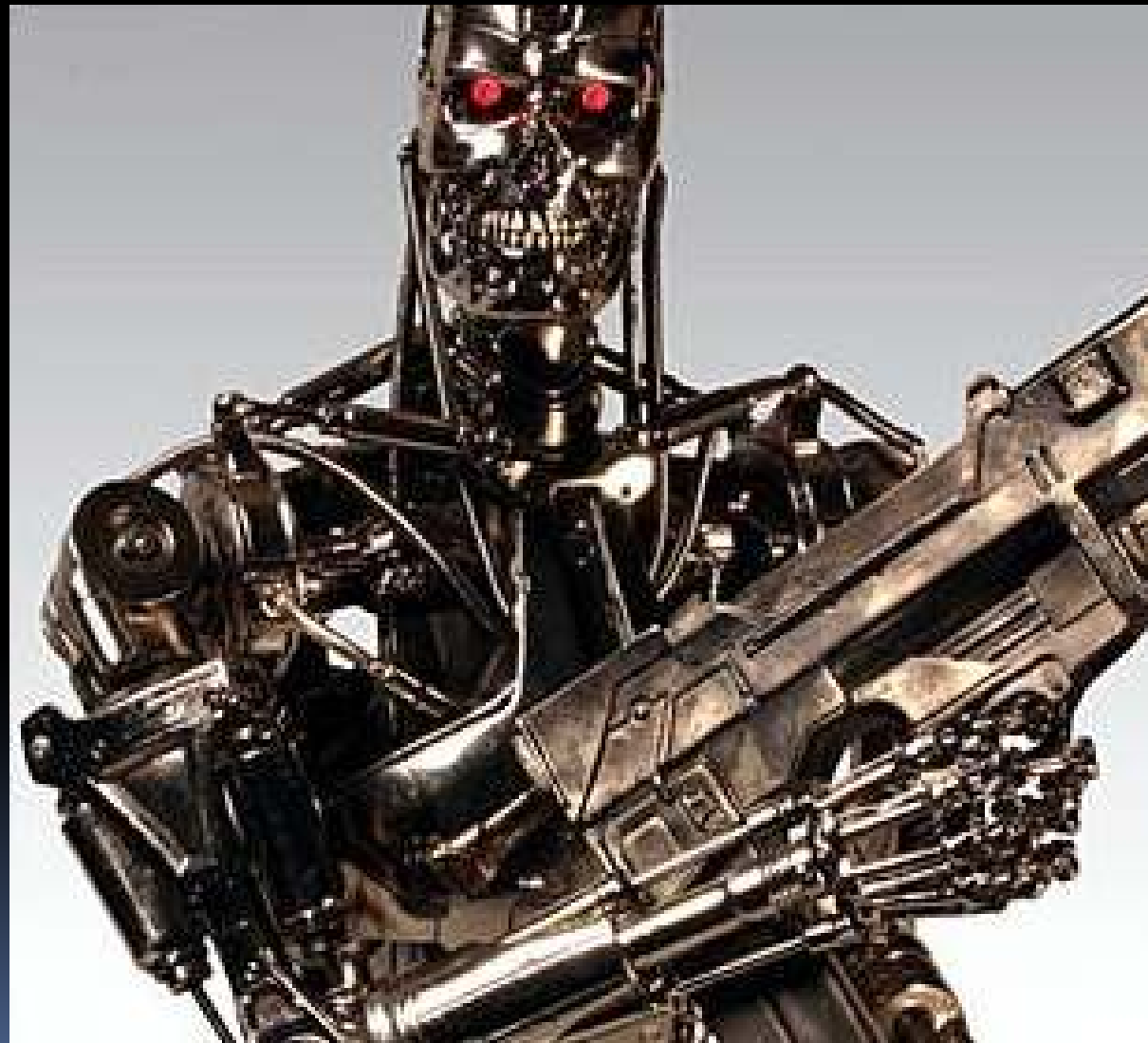
If you wish to build a sustainable company,  
And run a sound business operation.

- Operate by ethical standards.
- Build a culture of INTEGRITY (GOOD CORPORATE CITIZEN)

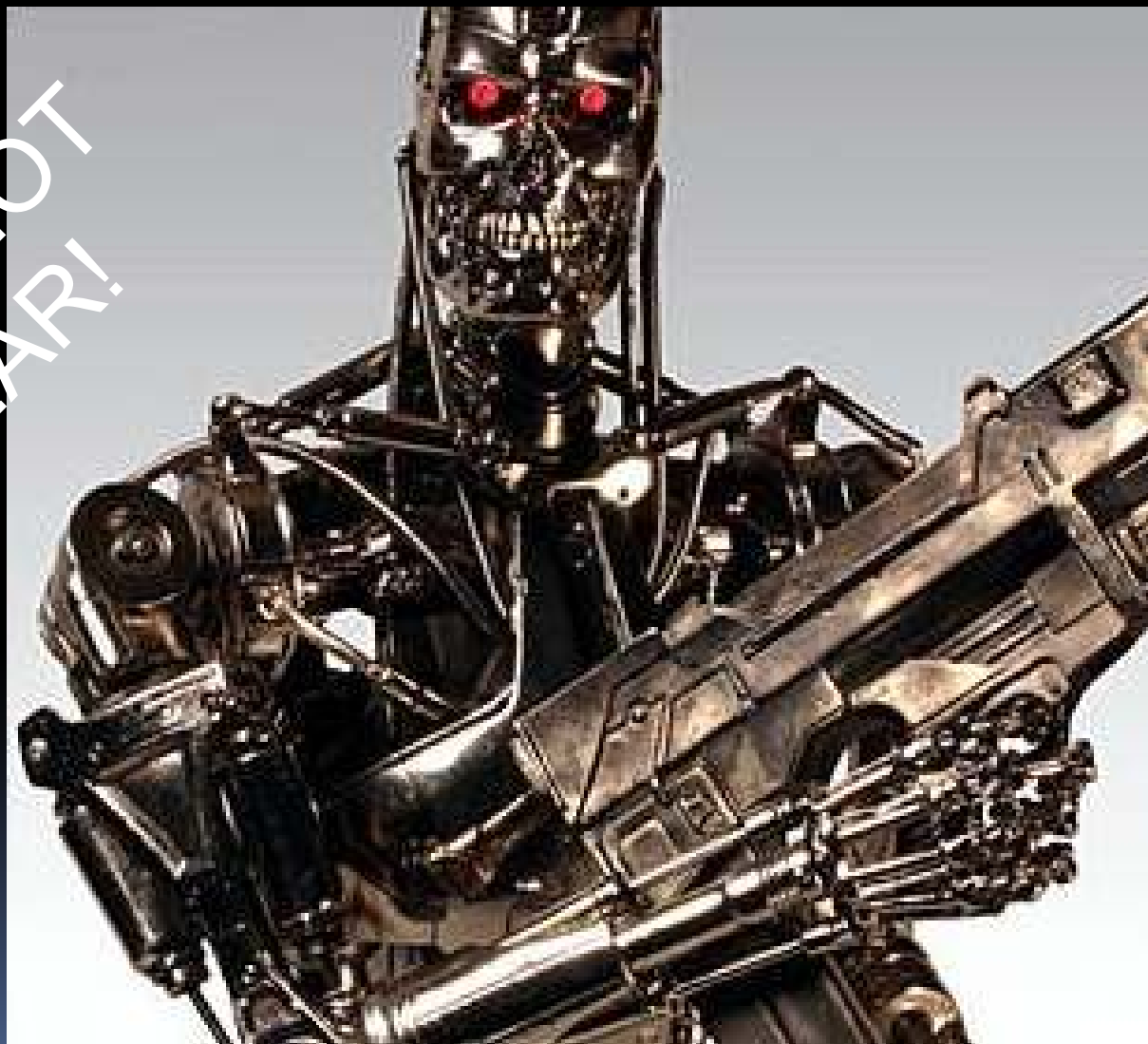
# Ronald Arkin (May 2009). "Governing Lethal Behavior in Autonomous Robots."

On the battlefield every day, more smart missiles, rolling robots, and flying drones are currently controlled by humans.

But what happens when humans are taken out of the loop, and **ROBOTS** are left to make decisions, like who to kill or what to bomb, on their own? .



DO NOT  
FEAR!



Ronald Arkin (May 2009). "Governing Lethal Behavior in Autonomous Robots."

...a professor of computer science at Georgia Tech, is in the first stages of developing an "ethical governor," a package of software and hardware that tells robots when and what to fire.




How do we institutionalize ethics?




Do we establish a fixed code for scientists?

Is it necessary to instill ethics governance within the science community for effectiveness?



In 2007, BBC reported that a Universal Code of Ethics for Scientists, the scientific equivalent of the Hippocratic Oath\*, was being proposed by the UK government chief scientific advisor.

\*First mooted in 2001.

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- Act with skill and care in all scientific work. Maintain up to date skills and assist their development in others.
  - Take steps to prevent corrupt practices and professional misconduct. Declare conflicts of interest.
  - Be alert to the ways in which research derives from and affects the work of other people, and respect the rights and reputations of others.
  - Ensure that your work is lawful and justified.
  - Minimise and justify any adverse effect your work may have on people, animals and the natural environment.
  - Seek to discuss the issues that science raises for society. Listen to the aspirations and concerns of others.
  - Do not knowingly mislead, or allow others to be misled, about scientific matters. Present and review scientific evidence, theory or interpretation honestly and accurately.

# "Governance of ethics"


1. **The Enculturation Process through Education** - understanding and building an **ethical culture**.
2. Putting in place ethics management **systems**. (**a sort of risk management system**)
3. **Internal audit** of ethics management systems.
4. **Disclosure and reporting** of scientific misconduct.
5. Independent external **verification** of and **assurance** regarding the ethics performance of the scientific community in relation to sustainability objectives.

# Checking the readiness of the organization

- The same way organizations prepare themselves before adopting a Quality Management System (QMS ISO).

# Checking the readiness of the organization

- First run a self-evaluation programme.
- Allow the scientists to reexamine for themselves, the core ethical values important in scientific activity.
- Reflect on his/her responsibility to peers, fellow scientists/researchers.
- Reflect his/her responsibility to the development of society and humanity.
- Reflect upon responsibility to uphold the integrity of the scientific profession.



Allow the scientists to reexamine for themselves, the core ethical values important in their specific scientific activity.

The adoption of ethical values must be integrative and conform with prevailing local values.

Professional ethics must be internalized for effectiveness.

A diversity of values should be tolerated since this was, has been and is going to be the stabilizing factor for the *rakyat* or the citizens of this country for centuries.

# Assess incidences of scientific misconduct (or malpractice)

- Allow scientists to identify cases of fraud or misconduct or malpractices.
- To be effective, there should parallel education programme.
- There must be formal education of Ethics for Scientists and Engineers.

# Enculturation through Malaysian education initiatives

The major goal of the **2001 Professional Ethics and Morals Program** is to instill an awareness among science undergraduates a sense of ethical responsibility, accountability to public welfare.

For the first time, science students were given lessons and asked to look beyond their microscope, test-tubes and fume chambers and reflect on their roles within the society.



# Recommendation on the Status of Scientific Researchers

20 November 1974

18<sup>th</sup> Session of the General Conference of the  
United Nations Educational, Scientific and  
Cultural Organization (UNESCO), meeting in  
Paris from 17 October to 23 November 1974

**Recommendation on the Status of  
Scientific Researchers, 20 November 1974,  
p. 3.**

### **III. The initial education and training of scientific researchers**

10. Member States should have regard for the fact that effective scientific research calls for scientific researchers of integrity and maturity, combining high moral and intellectual qualities.


11. Among the measures which Member States should take to assist the emergence of scientific researchers of this high calibre are:


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12. .... educational initiatives designed to foster that spirit, such as :



(a) the incorporation or development, in the -curricula and courses concerning the natural sciences and technology, of elements of social and environmental sciences;


(b) the development and use of educational techniques for awakening and stimulating such personal qualities and habits of mind as:

(i) disinterestedness and intellectual integrity;


(ii) the ability to review a problem or situation in perspective and in proportion, with all its human implications ; the search for new knowledge and which may at first sight seem to be of a technical nature only;

(iii) skill in isolating the civic and ethical implications, in issues involving

(iv) vigilance as to the probable and possible social and ecological consequences of scientific research and experimental development activities



(v) willingness to communicate with others not only in scientific and technological circles but also outside those circles, which implies willingness to work in a team and in a multi-occupational context.



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# Objective

- To gain moral autonomy.
- To be ethically competent professionals.



# Where does the scientist's burden of responsibility begin and end?

If a robot does do something ethically wrong, despite its programming, the software engineer or the builder of the robot will likely be held accountable.




Michael Anderson (2009)  
Franklin and Marshall University.

# Importance of Ethics is reflected in pioneering groundbreaking research on ethical behaviour

Joint US and Australian research team:

- Ethical behaviour and social responsibility in business produces on average a positive financial benefit.
- Research in the field of economics has shown a positive relationship between **TRUST WITHIN A NATION** and economic growth.

Peter Bowden (2004),  
Philosopher's Dilemma. The Institutionalising of Ethics.  
*On-line Opinion (Australia's e-journal of social and political debate)*

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- The challenge is to exclusively create a culture of ethical people not one that is subjected (in ad hoc manner) to ethical scrutiny (through ethical review committees) when the need arise.