

**Title: The developments in artificial intelligence based on biotechnology and the implications with regard to religion and society**

The focus of this paper is to explore developments in artificial intelligence based on biotechnology (B-AI) similar to human beings with regard to its utility, and the myriad of ethical and philosophical questions this raises with regard to religion and society.

Mainstream computing is at transistor level and is attuned to serial processing. However there are development with regard to quantum computing at atomic level that ultimately is attuned to parallel processing. Using quantum computing B-AI can be realised similar to the human brain (i.e. neurons and neurotransmitters). Issues arising from development of B-AI include:

- How to incorporate and manifest such B-AI?
- What can be the legal rights and accountability of B-AI?

Examples of utilisation of B-AI can be to carry out mundane tasks so the humans will have more leisurely time, subject to medical experimentation, and to undertake dangerous activities such as fight wars at the front line. However this utilisation is not without dangers to humanity and environment. Stephen Hawking has expressed concerns about such dangers. In addition there are ethical, religious and societal factors to be considered.

This leads to two further alternatives that are not mutually exclusive.

1) Create B-AI with mental deficiencies compared to an average human, such as omissions of:

- Spiritual sensation (e.g. associated with temporal lobe, parietal lobe)
- Criminality (e.g. associated with amygdala, anterior cingulate cortex)
- Creativity (e.g. associate with superior temporal gyrus, frontal lobes)
- Emotion (e.g. associates with amygdala, thalamus, hypothalamus, cingulate gyrus)

2) Regulate creation of B-AI similar to ethical guidelines for genetic testing

One estimate places the timeline for development of B-AI to few decades, however it requires careful consideration on its repercussions based on social sciences and inherent dangers. In order to mitigate but not remove the danger of unexpected and undesired decision making and actions by B-AI it is proposed that such application to be limited to operational level as oppose to strategic level.

### **Literature Cited Section**

BBC News (02/10/2014), Stephen Hawking warns artificial intelligence could end mankind, <http://www.bbc.co.uk/news/technology-30290540>