Computer Architecture - 22966 -

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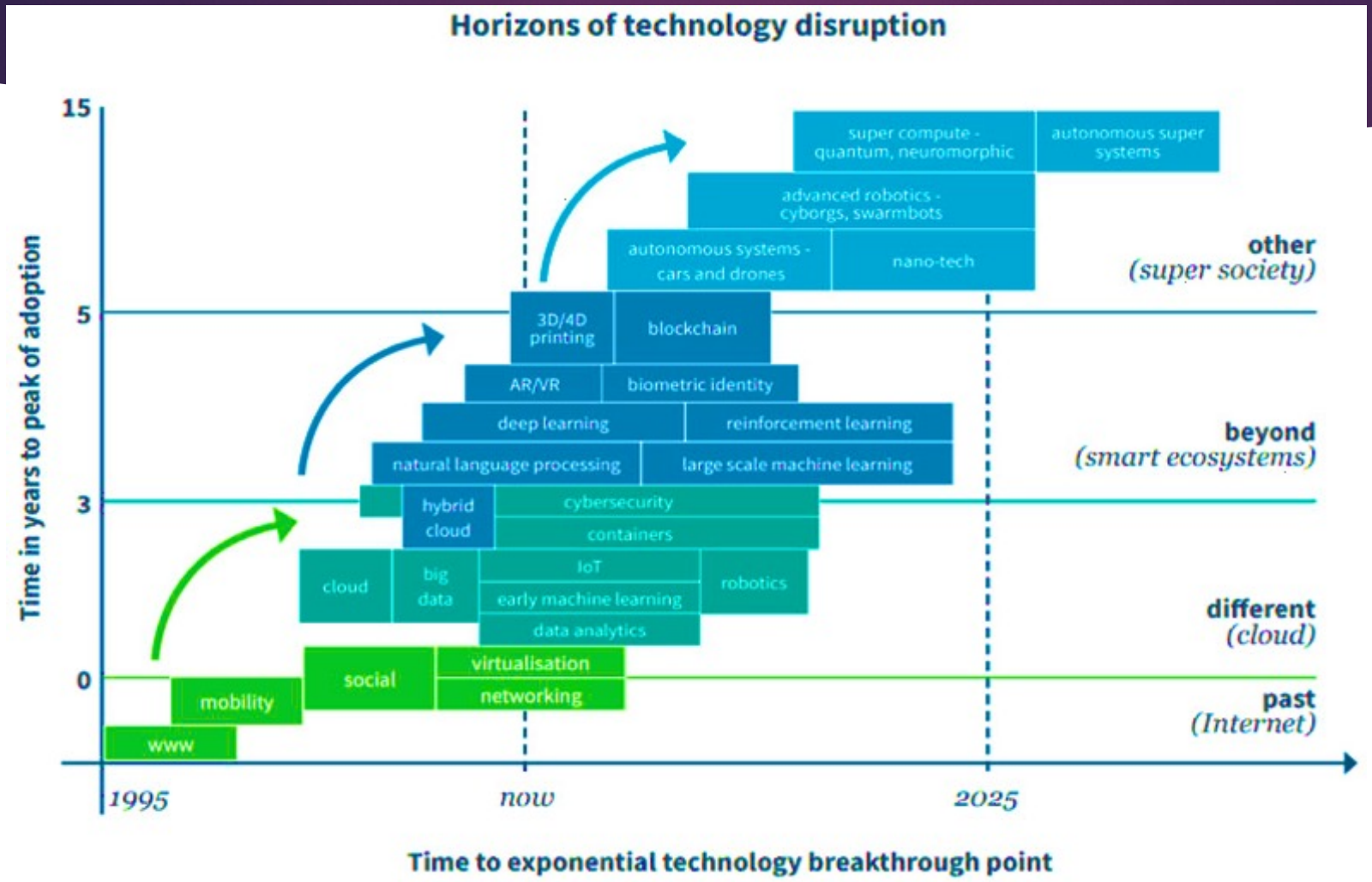
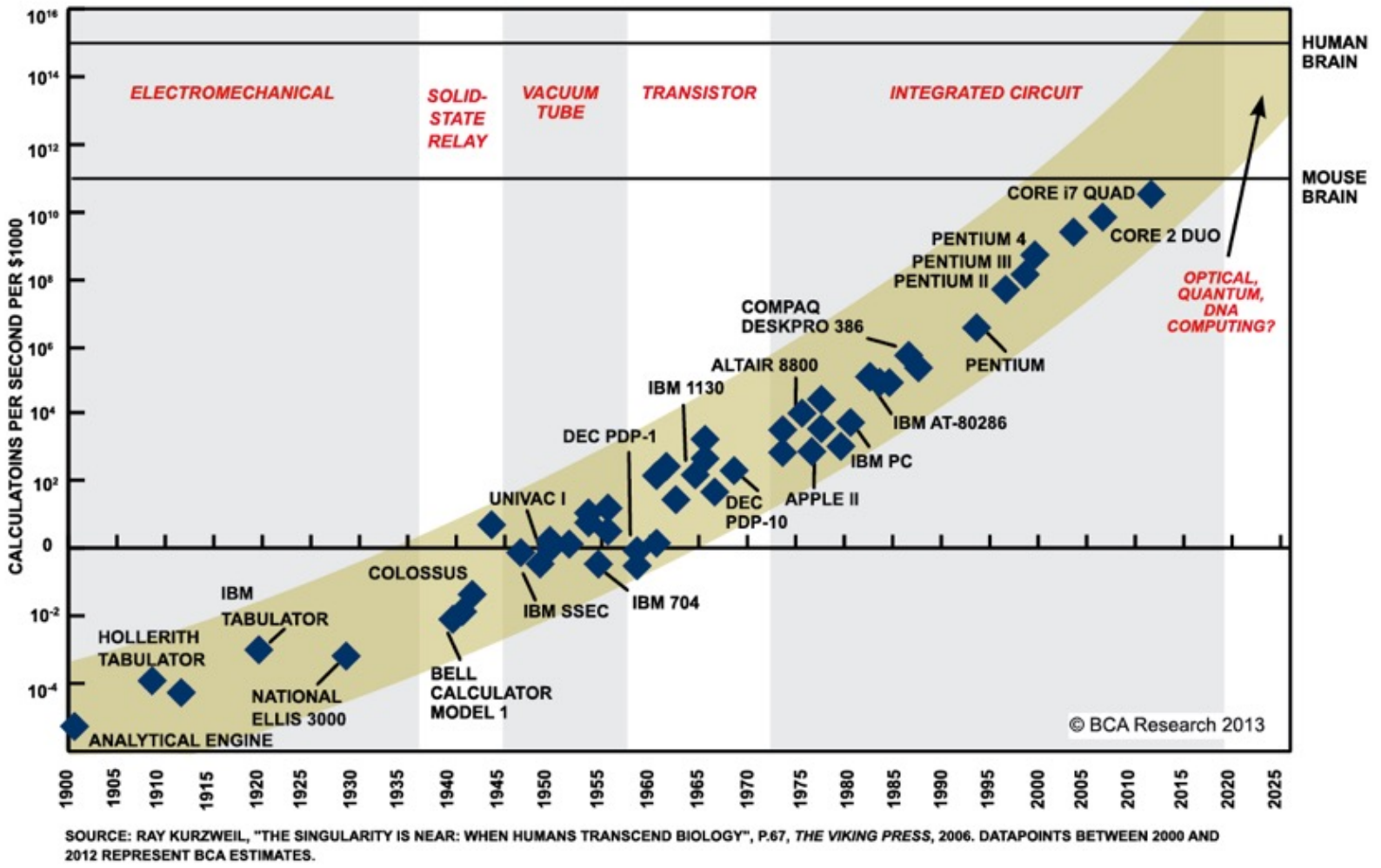
Technology Disruption



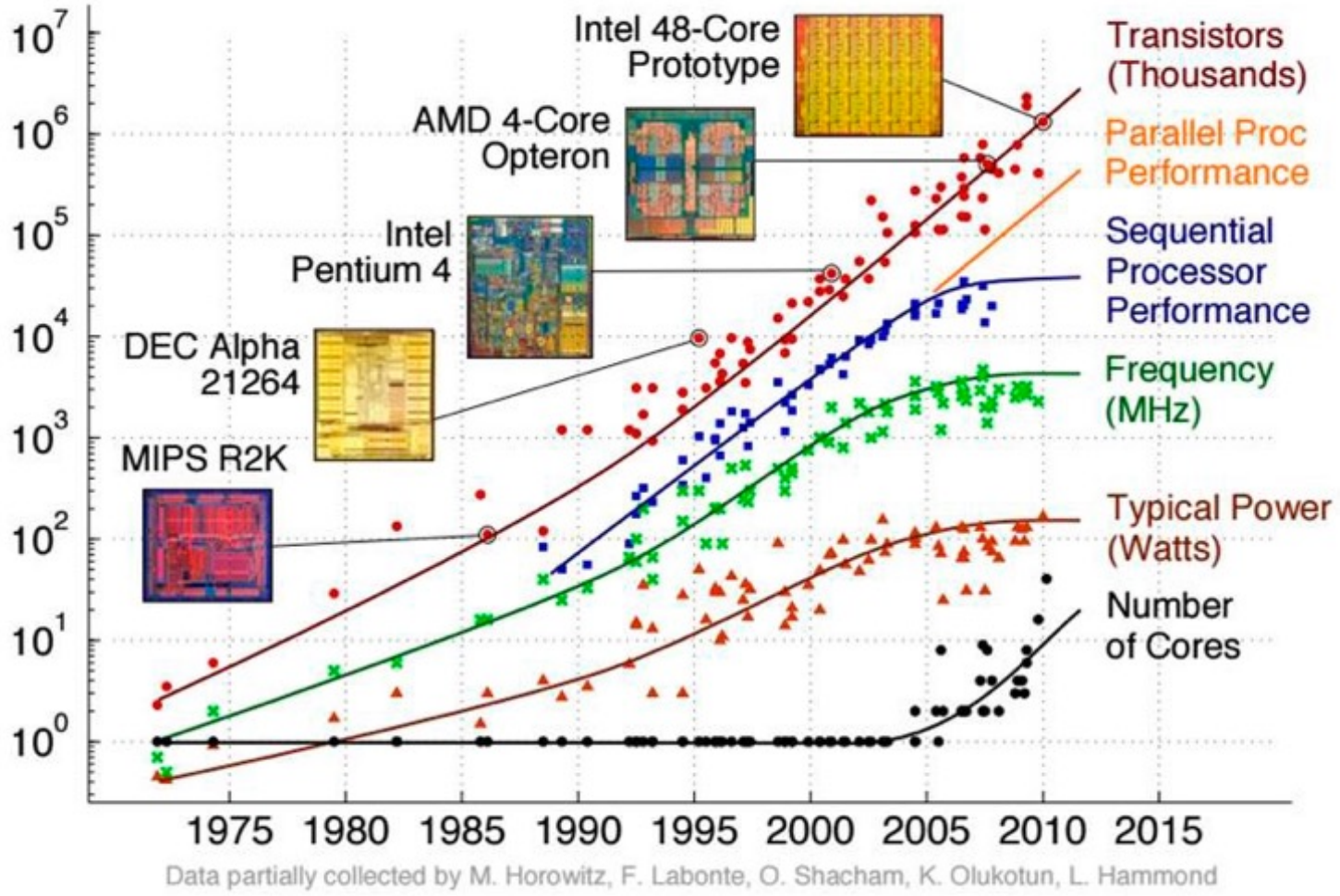
From: http://asiandatascience.com/horizons-of-technology-disruption/

Computer Disruption



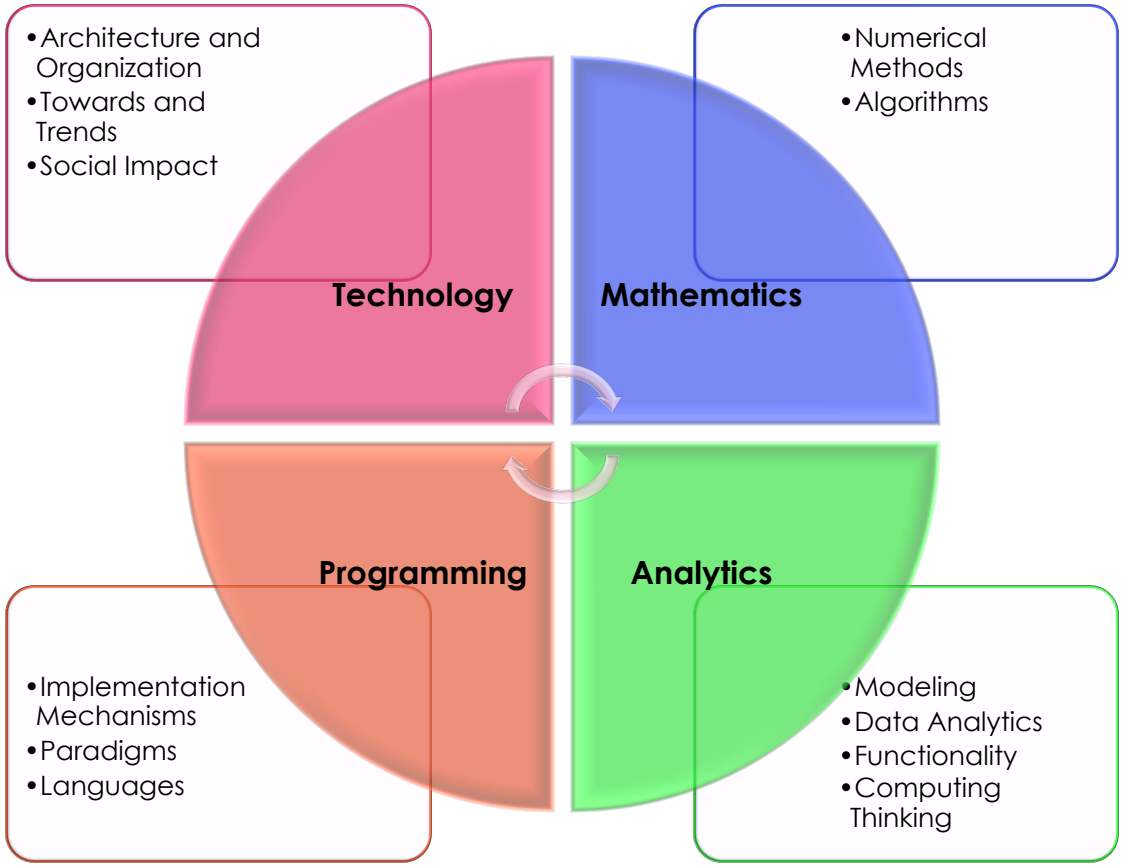
SOURCE: RAY KURZWEIL, "THE SINGULARITY IS NEAR: WHEN HUMANS TRANSCEND BIOLOGY", P.67, *THE VIKING PRESS*, 2006. DATAPOINTS BETWEEN 2000 AND 2012 REPRESENT BCA ESTIMATES.

Computer (Moore?) Disruption

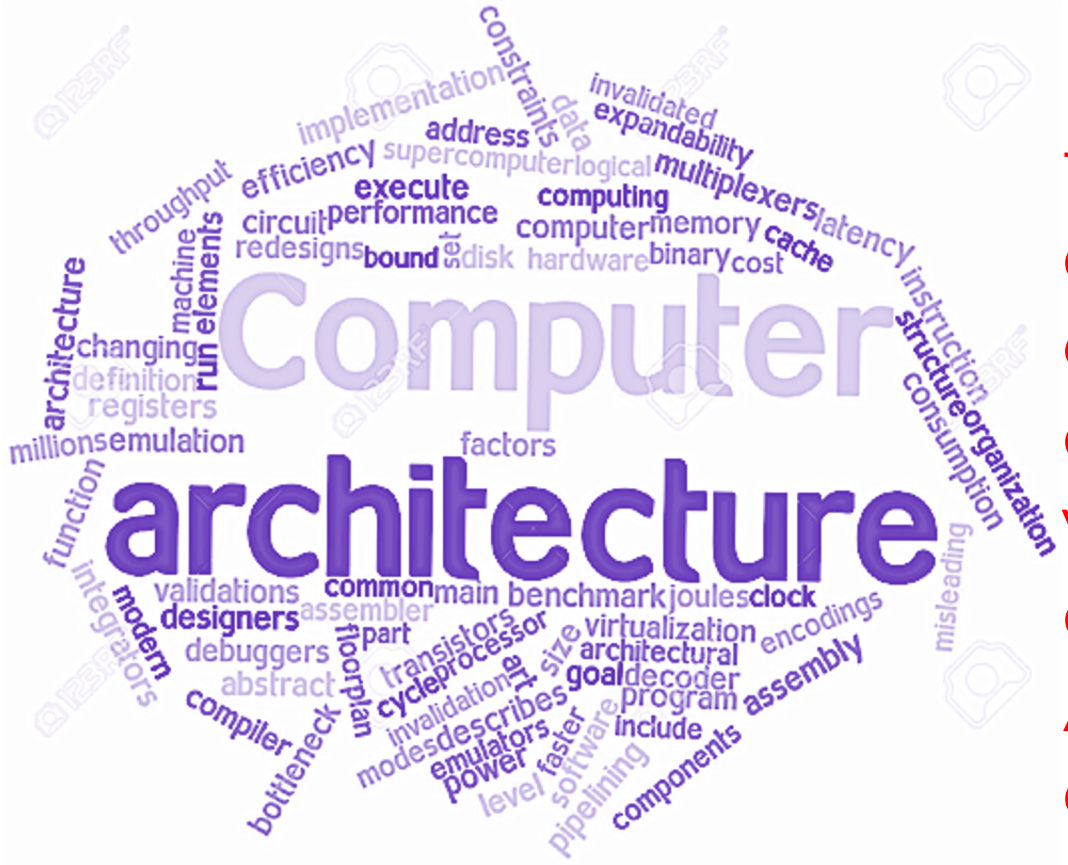


Since 2005 we are in a Post Moore Era

Computer Knowledge



Computer Architecture



Rules and Methods that describe the functionality, organization and implementation of computer systems (Observing capabilities, performance, linking with programming models, trends and environmental aspects). Abstraction, Design, Organization and Implementation.

About the Course

- Theoretical Magisterial Sessions
  - Conducted by C. J. Barrios Hernández, PhD.
- Theoretical - Practical Sessions
  - Conduced by SC3UIS and CAGE Team
    - Special Guest: Postgraduate Students
    - Special Seminars
  - Invited People of Research Centers or Industries
- Webminars and Video Talks
  - TED or others…

Goals

This is a course of Computer Architecture addressed to Systems Engineering, Informatics and Computer Science Students.

- Being able to locate oneself in the State of Art of Computer Architecture (from our point of view)
  - Handle terminology and technical specs.
  - Promote Self-Learning.
  - Understand the link between knowledge, technology and performance.
- Understand (without fear) computer technology.

About Teaching and Instruction

- **Carlos Jaime Barrios Hernández, PhD.** cbarrios@uis.edu.co @carlosjaimebh
  - Director of High Performance and Scientific Computing Centre SC3UIS (www.sc3.uis.edu.co) and CAGE Research Group Director
  - Associate Professor EISI/UIS (http://cormoran.uis.edu.co)
    - Systems Engineering UIS, Bucaramanga, Colombia (2002), Master in Mat. Applied, Systems and Informatics UJF-Grenoble I, Grenoble, France (2005), Computer Science and Informatics Doctor, UNSA, Nice-Sophia Antipolis, France (2009), PostDoctoral Research, I3S/CNRS, Sophia Antipolis,Francia (2010).
    - Researcher in Advanced, High Performance and Scientific Computing (LIG, I3S/CNRS, INRIA (France), GPPD/UFRGS (Brazil), SC3UIS (Colombia)) and International Instructor in HPC and SC (ICTP/UNESCO (Italy), SCCAMP).
    - Chair of the Advanced Computing System for Latin America and Caribbean (SCALAC)
    - NVIDIA Deep Learning Institute Instructor

- **SC3 and CAGE Team (More Information in www.sc3.uis.edu.co)**

Contact: EISI Block : LP 226 and SC3 Space 4to Floor CENTIC

Please, Send an email before for rendez-vous

Course Highlights

- **58 Hours Program**
- **Theoretical – Practical Course**
- Theoretical Sessions (Starts at 07:10)
- Theoretical – Practical Sessions (Starts at XX:00)
  - **Please Punctuality!**
- All course information is in:
  http://wiki.sc3.uis.edu.co/index.php/Arquitectura_de_computadores
- AutoLearning !!

Content

1. Historic Development and Perspectives
2. Arithmetic of Computers
3. Computer Abstractions and Technology
4. Machine Programming and Linking
5. Processors and Memory
6. Storage and I/O
7. Multicores and Multiprocessing
8. Graphics and Visualization
9. Hot Topics and Trends

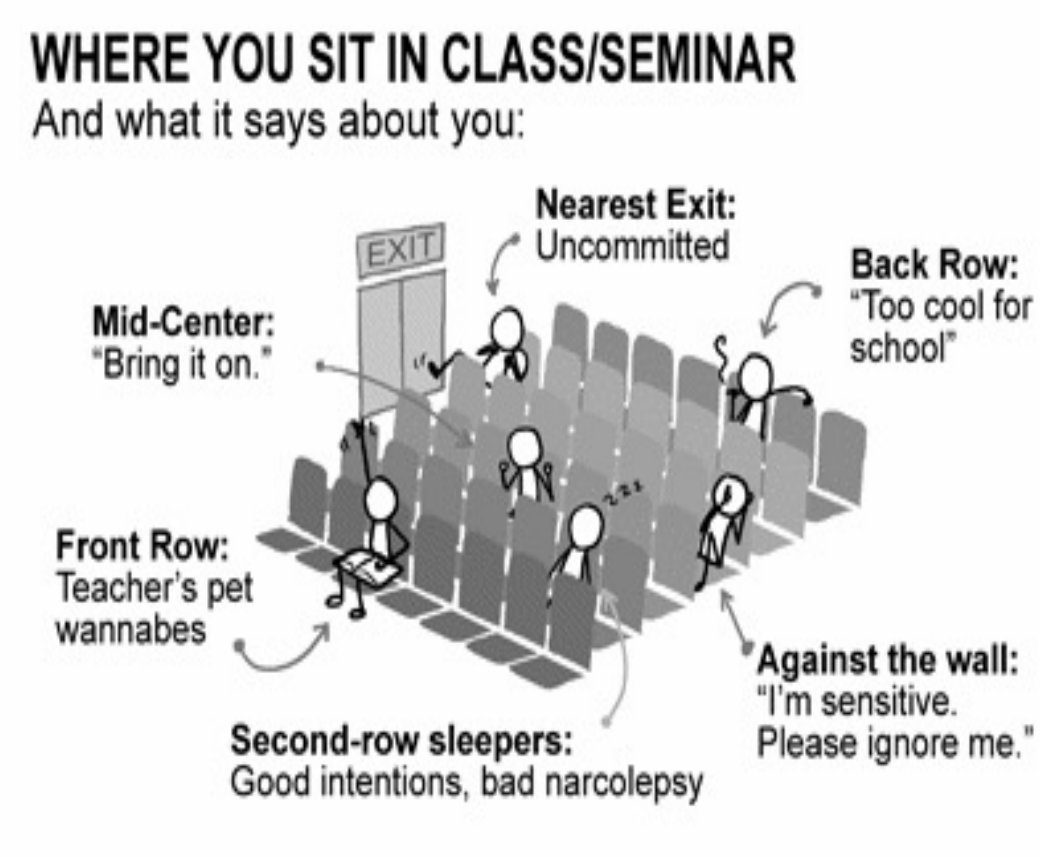
Evaluation

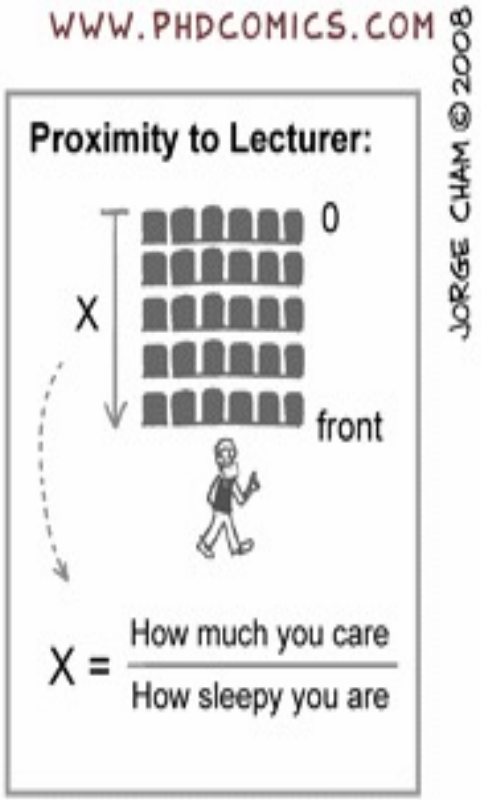
- **All Updates are in the site of the course (Available from Now).**
  http://wiki.sc3.uis.edu.co/index.php/Arquitectura_de_computadores

Important Notes

- All Available materials in English (International Technical/Scientific English)
- Bibliography and other resources are available in the site of the course. **This material is used for the exams**.
- Attention to Students : (**Please, Send an email before for rendez-vous)**
- **By default, the communication is via email from cormoran utility or email direct (cbarrios@uis.edu.co) or to the instructor guest.**

Questions?


WHERE YOU SIT IN CLASS/SEMINAR
And what it says about you:
EXIT
Nearest Exit:
Uncommitted
Back Row:
"Too cool for school"
Mid-Center:
"Bring it on."
Front Row:
Teacher's pet wannabes
Against the wall:
"I'm sensitive. Please ignore me."
Second-row sleepers:
Good intentions, bad narcolepsy


WWW.PHDCOMICS.COM
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Proximity to Lecturer:
0
X
front
X = How much you care / How sleepy you are