


الجامعة المصرية اليابانية للعلوم والتكنولوجيا
E-JUST
Egypt-Japan University of Science and Technology
エジプト日本科学技術大学



5th Tokyo International
Conference on
African Development
2013 1 to 3 June
TICAD V

Challenges and Efforts to Broaden and Deepen Our Knowledge Networking. Our Close Collaboration with Japan


Egypt-Japan University of
Science and Technology

May 31st, 2013
TICAD V

www.ejust.edu.eg

Egypt-Japan University of Science and Technology (E-JUST)


Objectives



- Explain the nature of E-JUST as a model for future research oriented higher education institutes.
- Illustrate the academic structure of E-JUST and what kind of knowledge is offered to students.
- Elaborate how E-JUST is used to expand knowledge networking intercontinentally and internationally with the support of Japan.
- Finally, discuss the necessary efforts needed to broaden and deepen our networking.

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A Beautiful Recognition of a Factual Reality



- African countries need to **promote** their sustainable and equitable growth, diversification of their economies **beyond natural resources dependency** and **developing human resources** for such transformation.
- In this regards higher **education development** has been identified as a **key** to such transformation, especially science and technology for industrialization of economy.

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Vision of the African Union on the Role of Higher Education in Africa's Development

- The African Union regards education as a key instrument in achieving its vision.
- Areas of focus for the second Decade of Education for Africa:
 - Gender and culture
 - Education management information systems
 - Teacher development
 - **Higher Education**
 - Technical-vocational education and training
 - Curriculum development, and teaching and learning materials
 - Quality management
 - Early childhood development

Ref: African Union commission, 2012

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Vision of the African Union on the Role of Higher Education in Africa's Development

- Second Decade Plan of Action
 - Higher Education Component
 - Promotion of research and **original knowledge** production.
 - Promotion of **quality** in African Higher Education and development of Continental frameworks.
 - Increased **involvement** of universities in the continent's development efforts.
 - Ensuring proper levels of **funding** for HE sector

Goal
Revitalization of higher education in Africa

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E-JUST

E-JUST Background and History

- Japan's Prime Minister visit to Egypt and Saudi Arabia in **May 2003** to strengthen the dialogue between Japan and the Arab world.
- Initial proposal on cooperation in science and technology in terms of a joint university was triggered by **middle of 2005**.
- March 2009** - Signing of the bilateral agreement to establish E-JUST by Egypt and Japan.
 - Egypt government will sponsor land, infrastructure and buildings, and cost of Egyptian academic and administrative staff.
 - Japan government will cover equipment through a Grant Aid project and Japanese academic staff through JICA.
- February 2010** - Start of Soft Opening phase





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Partnership between Egypt and Japan



Leading University serving Egypt, Middle East and Africa



Role model for Egyptian Higher Education sector



Research oriented, graduate focused



Japanese style approach (Project Based Learning)



Unique academic programs (multidisciplinary)

Basic Concepts of E-JUST

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Academic Programs

Two Faculties

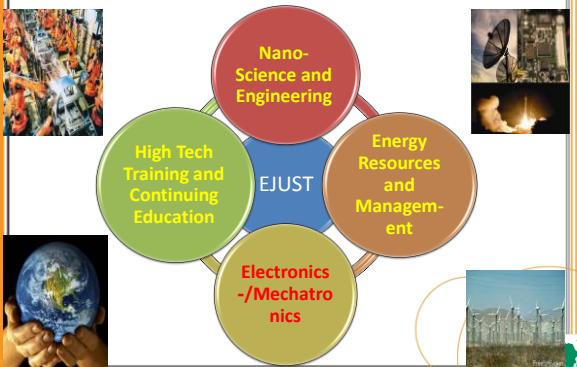
- Engineering : 8 active Programs**
 - Electronics and Communication Engineering
 - Computer Science and Engineering.
 - Mechatronics and Robotics Engineering.
 - Industrial Engineering and Systems Management
 - Materials Science and Engineering.
 - Energy Resources Engineering
 - Environmental Engineering
 - Chemical and Petrochemical Engineering.
- Business and Humanities : 2 Planned Programs**
 - International Business and Management
 - Cross-Cultural Management and Japanese Studies





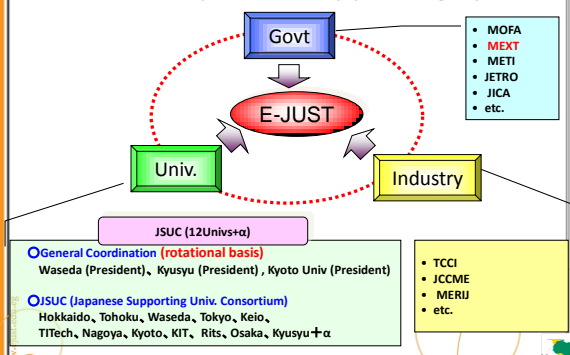
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Planned Centers of Excellence



Egypt-Japan University of Science and Technology (E-JUST)

E-JUST, The Japanese Supporting System



Egypt-Japan University of Science and Technology (E-JUST)

Japanese Supporting University Consortium (JSUC)



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JICA's Support for Educational and Research Laboratories and Equipment

Program	Opening Date	JFY 2008-2010	JFY2010-2011	JFY 2011-2012	JFY 2012-2013	Total
ECE	Feb 10	0.73	0.41	1.43	0.54	3.10
CSE	Sep 10	0.01	0.19	0.28	0.30	0.78
MTR	Feb 10	1.58	0.15	0.54	0.09	2.36
IEM	Feb 11	0.00	0.08	1.01	0.10	1.18
MSE	Feb 11	0.00	0.21	1.41	0.26	1.89
ERE	Feb 10	0.39	0.21	1.42	0.21	2.23
CPE	Feb 12	0.00	0.10	0.20	0.12	0.42
Common, etc.		0.10	0.09	4.70	0.48	5.37
Approx. Total		2.81	1.44	10.97	2.11	17.33

million US
 * Estimated, under procurement

JICA's Support for Educational and Research Laboratories and Equipment

Scanning Electron Microscope
 Laser 3D Microscope
 Common Microscope Center
 Common Analysis Center
 Scanning Probe Microscope
 Chromatographs and X-Ray Diffractometer

JICA's Support for Educational and Research Laboratories and Equipment

Digital Manufacturing Center

DMG Ultrasonic Milling Machine
 Mazak Turn-Mill Center
 Laser 3D Scanner
 Envisiontec 3D printer

JICA's Support for Educational and Research Laboratories and Equipment

Cloud Computing Center

- Entirely constructed using open-source software
- 160 processors
- 400GB RAM
- 40Gbit/s Interconnect
- Cloud Security by Parallelism

Research Project:

- Exploited parallel processing to secure code
- For a program with 10 blocks and 10 processors we generate 10¹⁰ different programs
- Research is funded by IMHOTEP, In collaboration with INRIA, Rennes, France

E-JUST Location

New Borg El Arab City – Alexandria - Egypt

RESIDENTIAL
 INDUSTRIAL
 SMOUHA SPORTING CLUB
 RESIDENTIAL
 E-JUST
 MuCSAT
 INDUSTRIAL
 ALEXANDRIA CITY
 NEW BORG EL ARAB
 NEW ALEXANDRIA

E-JUST Permanent Campus Architectural Design Competition

- 1st Place - Arata Isozaki and Associates Co. LTD
- Theme: **Invisible complexities**

E-JUST Permanent Campus The First Prize Winner – Arata Isozaki

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E-JUST Facilities – Soft opening

Educational, laboratories, Administration, Student and Faculty Housing

- A total of 14 ready to use buildings have been donated to E-JUST from the ministry of housing, with 280 apartments (70 m²).
 - Four educational and laboratory buildings
 - One research centers building.
 - Two Administrative buildings.
 - One services building.
 - Five housing buildings.
 - One Japanese Agencies buildings (Sakura Lotus Complex).

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Temporary Campus Student / Professor Apartments

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• Student Activities A glimpse of Japan in EJUST

Japanese Language courses Kimono day, Sushi day

Student Dispatch to Japan

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Visit Egypt Program

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Faculty and Students FEB 2010 to May 2013

- 30 Egyptian Faculty.
- 100 Students (Msc and PhD)
- 22 MSc graduates (2 years target)
- 7 PhD graduates (3 years target)
- Over 200 short term Japanese visiting Professors in three years
- 90% of students enjoy Egyptian government scholarship.
- 10% of students enjoy private sector scholarships from Mitsubishi, IBM, Google, NTRA, etc

Total No of Students

Egypt-Japan University of Science and Technology (E-JUST)

Research Performance Indicators

Total Faculty Papers Since Feb., 2010

- 30 Total full time Egyptian faculty
- 100 Total MSc and PhD students in eight programs
- Publication rate per faculty **3.7 papers/year**
- Total published papers (FEB 2010 – MAR 2013):
 - International Journals : **99 papers**
 - International Conferences : **200 papers** presentations

Year	Journal+Book Chapter	Conferences
2010	12	17
2011	28	63
2012	43	93
2013	12	27

Faculty-Japan University of Science and Technology (E-JUST)

Research Partners and Funding

- Funding from
 - International, regional, and local agencies
 - Government, industry, and NGO

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Opportunities for African Students

- The graduate program is open for African students registration.
- Benefit from Egyptian government and JICA scholarships to E-JUST.
- Nile basin countries graduate scholarship program to Egypt.
- Research topics include among others:
 - Water resources management.
 - Renewable energy resources.
 - Desalination, waste water treatment, environmental Engineering
 - Industrial engineering and Systems management.
 - Telecommunications, Wireless Technologies, Cloud computing.
 - Materials, Nanotechnology, and Chemical engineering

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Mega Research Projects

Mall, Club, Solar Energy Station (US\$12 Million from Japan Grant Aid)

Project	Power Generating Capacity	Annual Power Generated
PARKING	200kW	308,000kWh/year
PLAZA	180kW	276,000kWh
EJUST Mall	420kW	641,000kWh/Year
EJUST Sporting Club	40kW	57,000kWh/Year

Area = 4150 m²
Shops, Clinic, Post office, Food court Cash corner, Cinema

Area = 3200 m², Swimming Pool, Squash, Clubhouse, Gymnasium, Indoor Sports Center

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Mega Research Projects

- “Strategic Hubs for the Analysis and Acceleration of Mediterranean Solar Sector (SHAAMS)”.

- Funding Agency: FP7
- E-JUST Coordinator: **Prof. Ahmed Hamza (ERE)**
- Total Budget: 3,200,000 Euro
- EJUST share: 292,000 Euro
- Partners: Spain, Italy, Greece, Jordan, Lebanon, Turkey

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Mega Projects

- “Context of Making New Borg El-Arab An Eco-City”

- Funding Agency: Ministry of International Foreign Affairs Finland
- Total Budget: 500,000 Euro
- EJUST share: 180,000 Euro
- E-JUST Coordinator: **Prof. Yehia El Mahgray (ERE)**
- Partner: Finland

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Mega Projects JST project (2012-2017) budget 9.0 Million, L.E

- Project Title "Establishment of an International R&D Center for innovative Sewage Treatment Technologies for Agricultural Reuse in Arid Regions"
- **Professor Hideki Harada (Tohoku University)**
- E-JUST Coordinator: **Professor Ahmed Tawfik**
- Partners:
 1. Egypt-Japan University of Science and Technology (E-JUST)
 2. Tohoku University
 3. Niigata University of Pharmacy and Applied Life Science
 4. Kisarazu National College of Technology
 5. Nagaoka National College of Technology
 6. Kagawa National College of Technology

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Full scale sewage treatment plant at new Borg Alarab City for Agricultural Water Treatment



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Summary

- E-JUST is an Egyptian **government owned** university with a special law in full partnership with Japan.
- E-JUST started by **graduate** studies in FEB 2010, **undergraduate** is expected to start in SEP 2015.
- E-JUST is a **window** for Africa on top Japanese Universities and industry.
- E-JUST is your research and higher education **partner**.
- E-JUST is a novel **resource** for Africa's future.

Please use it !

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Thank you
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- <http://www.youtube.com/user/EJUSTpr5>
- https://twitter.com/EJUST_pr

Egyptian
Research Oriented University with
Japanese Partnership

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