

UNIVERSITE CHEIKH ANTA DIOP

Center of Excellence COMSATS



Prof. Ibrahima THIOUB
Vice Chancellor

20th Meeting of COMSATS Coordinating Council

14-15 May 2017. Cairo, EGYPT

PLAN

I. PRESENTATION OF UCAD

- 1. History**
- 2. Educational and research structures**

II. PRESENTATION OF CENTERS OF EXCELLENCE

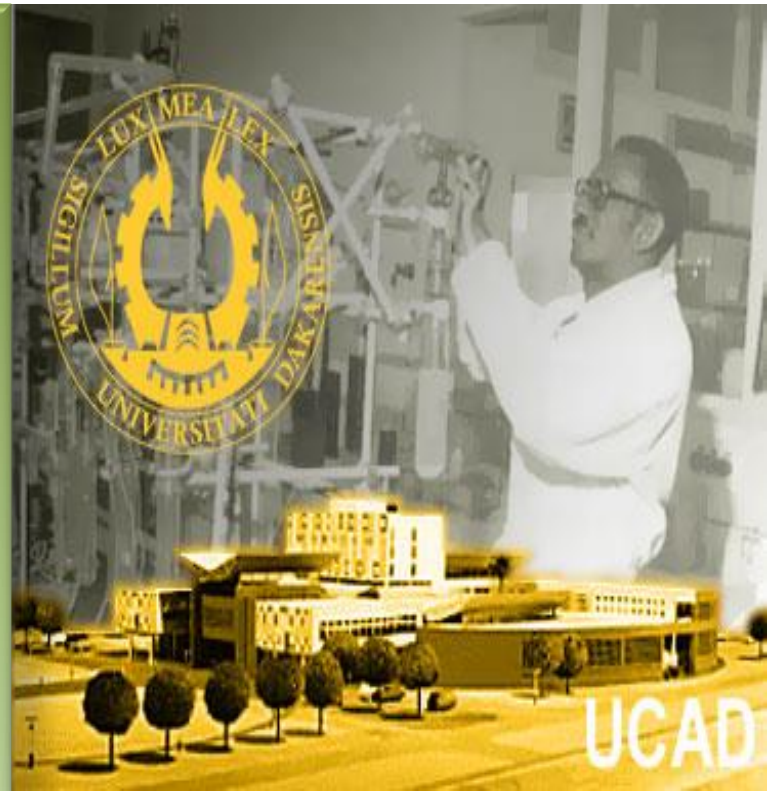
- 1. Governance**
- 2. Components**
- 3. Research activities**

III. Areas of Cooperation and Collaboration

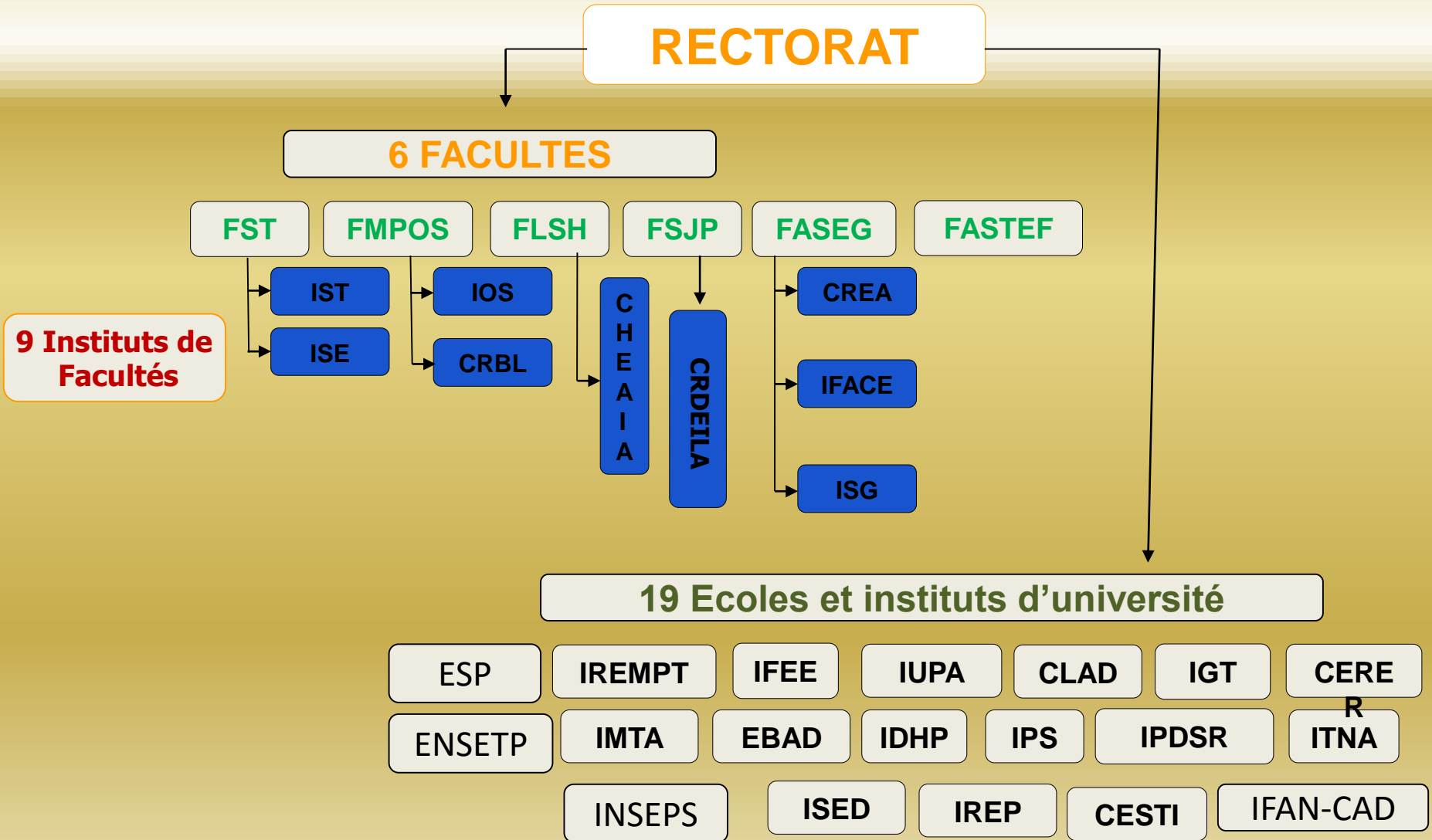
Brief History

Created by February 24, **1957**, the University of Dakar was officially inaugurated in December 9, 1959

The change of name of the University of Dakar, which becomes **University Cheikh Anta Diop in Dakar** was in March 30, 1987



Educational and research structures



UCAD Research organization

Around a Direction of Research

- Scientific Council,
- Direction of International Cooperation,
 - Intellectual Property Service **and exploitation** of research **results**,
 - Bureau of Research and Innovation Support
- Research Ethics Committee.

College of Doctorate Schools : 7 Units

- **Doctorate School of Water Quality and Water Uses (EDEQUE)**
- **Doctorate School of Life Sciences, Health and Environment (ED-SEV)**
- **Doctorate School Physics, Chemistry, Earth Sciences and Engineering (ED-PCSTUI)**
- **Doctorate School of Human and Society Studies (ED-ETHOS)**
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- **Doctorate School of Mathematics and Computing (ED-mathinfo)**
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- **Doctorate School of Arts, Cultures and Civilizations (ED-ARCIV)**
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- **Doctorate School of Law, Political Science, Economics and Management (ED-JPEG)**

ICT Facilities

- Free internet on Social campus
- Free internet on Educational campus
- One Student – One Computer

Financial resources for research

- Funds Programs from The Ministry of Higher Education and Research (with a special fund for women researchers)
- University budget (support of travels and participation to international conferences, workshops and seminars)

II. PRESENTATION CENTRE D'EXCELLENCE

1. Gouvernance

Approved by COMSATS in July 2012

Administered by :

- **Director : Prof. Ibrahima THIOUB**
- **Focal point : Prof. Tahir DIOP**
- **Steering Committee : 10 Members**

II. UNITS of the COMSATS – UCAD Center

➤ **Renewable Energy**

➤ **Plant and microbial biotechnologies**

➤ **Public Health (Bacteriology / Virology)**

Renewable Energy

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graph TD; RE[Renewable Energy] --> FST[Faculty of Sciences and Technology (FST)]; RE --> ESP[Polytechnic Higher School (ESP)]; RE --> CERER[Centre for Studies and Research on Renewable Energy (CERER)]; FST --> LASER[Laboratory of Semiconductors and Solar Energy (LASES)]; FST --> LSM[Laboratory of Materials Science (LSM)]; ESP --> LEA[Laboratory of Applied Energétics (LEA)]; ESP --> LER[Laboratory of Renewable Energy (LER)]; ESP --> CIFRES[International Centre for Training and Research on Solar Energy (CIFRES)]; ESP --> Siméon[Laboratory of Physics of Atmosphere and Ocean (Siméon Fongang)]; CERER --> LPE[Laboratory Photovoltaic Energy]; CERER --> LTT[Laboratory of Thermal Energy and Thermodynamics]; CERER --> LBD[Laboratory of Biomass and Domestic Fuels]; CERER --> LWE[Laboratory of Wind Energy];
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Faculty of Sciences and Technology (FST)

Laboratory of Semiconductors and Solar Energy (LASES)

Laboratory of Materials Science (LSM)

Polytechnic Higher School (ESP)

Laboratory of Applied Energétics (LEA)

Laboratory of Renewable Energy (LER)

International Centre for Training and Research on Solar Energy (CIFRES)

Laboratory of Physics of Atmosphere and Ocean (Siméon Fongang)

Centre for Studies and Research on Renewable Energy (CERER)

Laboratory Photovoltaic Energy

Laboratory of Thermal Energy and Thermodynamics

Laboratory of Biomass and Domestic Fuels:

Laboratory of Wind Energy

Research activities

- **Conversion and Energy Storage , Thermal , Wind , Solar**
- Thermal comfort in housing and energy efficiency
- **Modeling Systems Renewables and design of static converters**

- Monitoring and control of power systems
- Electrochemical Deposit n- Type CdTe
- Study of cells produced by electrochemical doping
- Electrical properties of SnTe

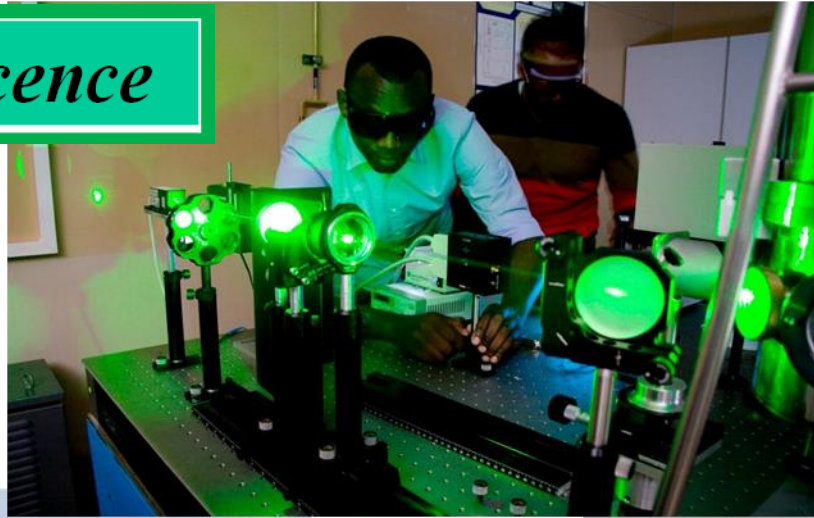
- Tabled CdTeSe and electrochemical characterization
- **Models for the spectral response of photo- electrochemical cells**
- Properties of Condensed Matter
- Behavior of functional materials

Unit : Renewable Energy Statistics

Category	Number
Academic Professor	61
PhD	54
Master degree	88
Publications 2015 - 2016	117

Unit : Renewable Energy : /Equipements

Photoluminescence



Module cylindro-parabolique

Wind turbine

Unit 2: Plant and Microbial Biotechnologies

- **Laboratory of Plant biotechnologies**
- **Joint Laboratory of Microbiology IRD / ISRA / UCAD (LCM)**
- **Laboratory of Fungal Biotechnologies**

- **Tissue cultures**
- **Phytopatology**
- **Molecular biology**
- **Biochemistry**
- **Experimental Station**
- **Microbiology**

Research Activities

- **Development of methods for micropropagation and in vitro cloning**
- **Ecophysiology of mycorrhizal fungi and nitrogen fixing bacteria**
- **Production and valorization of biofertilizers**
- **Biological control**
- **Integration of biotechnology in agriculture and forestry routes**
- **Determination of the genetic variability of sources for a rational management of plant genetic resources**
- **Introduction of genes of interest (resistance to pathogens) in tropical species**
- **Study of the reproductive system and mode of transmission of genes in natural populations**
- **Development of axes of research for food security and sustainability**

Unit Biotechnology Vegetal and Microbiology /Statistics

Category	Number
Academic Professor	36
PhD	22
Master degree	51
Technician	14
Publications 2015-2016	43

Equipments



Unit: Public Health

**Bacteriology-Virology laboratory
Hôpital Aristide Le Dantec -Dakar - Sénégal**

Headed by

Professor Souleymane Mboup

Organization

- **Technical Units (6)**
 - The Bacteriology unit
 - The Molecular Biology unit
 - The immunology unit
 - The Virology unit
 - Clinical trials unit
 - Quality management and Accreditation
- **Administration, finances and social**

Bacteriology Unit

Pioneer Unit of the Laboratory of Bacteriology Virology

- **Diagnosis of bacterial infections by processing the bacteriological samples of hospitalized and external patients.**
- **Sub-unit of myco bacteriology that performs tuberculosis diagnosis**
- **BL3 facility**

Virology Unit

- **Reference laboratory for HIV infection**
- **Organization of the quality control of HIV infection serological diagnosis throughout the country**

Molecular Biology Unit

The unit is accredited by WHO for the surveillance of the HIV 1 drug resistances in 2009

- **Training centre for students, trainees and other young researchers of the sub-region**

Networking of UCAD-COMSATS Center (1)

- Member of the National Committee to Fight nosocomial infections (CONALIN in French)
- African AIDS Research Network(Western and central zone) -AARN
- African Society for Laboratory Medicine (ASLM)
 - WHO-AFRO, CDC, PEPFAR, UNAIDS, World Bank the Clinton Health Access Initiative, American Society for Clinical Pathology (ASCP), the African Union Commission , Biomerieux

Networking of UCAD-COMSATS Center (2)

- National laboratory of Biosecurity
- African Laboratory of Renewable Energy
- National project on sustainable agriculture financed by IAEA
- International Master on Tropical Biotechnologies.

Areas of Cooperation and Collaboration

❖ **To Integrate Comsats Thematic Research Groups on :**

- Agriculture and Biotechnology
- Renewable energy

❖ **To be Head Leader on Thematic Research on Public Health**

❖ **To benefit of mobility through Comsats networking**

- Researchers
- Ph D students

**Follow-up of 19th Meeting of COMSATS Coordinating Council,
May 2016, Islamabad, Pakistan**

UCAD-Senegal is ready :

☐ to jointly organize trainings in the fields

**of Renewable Energy,
and Plant and Microbial Biotechnologies.**

**☐ UCAD also expresses willingness to host
COMSATS-ISESCO National Workshop on repair
and maintenance of laboratory instruments.**



**THANK YOU FOR
ATTENTION**