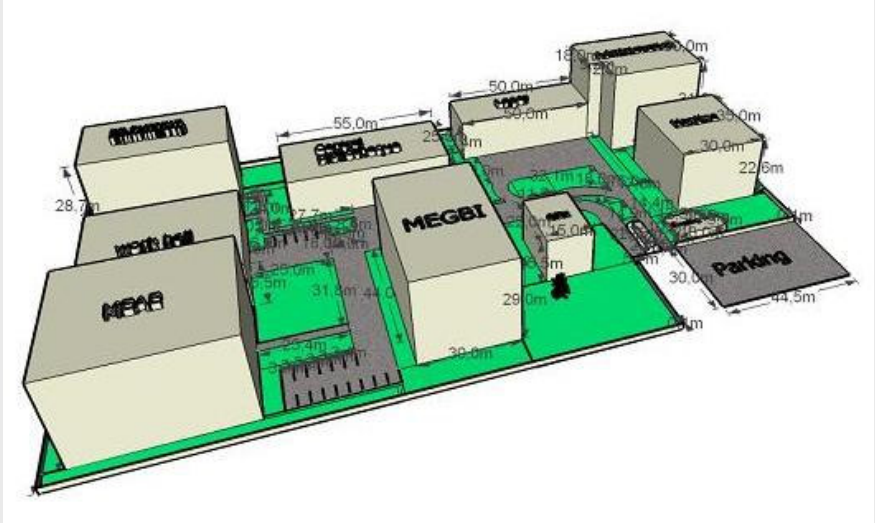


Technological Development Foundation  
AECENAR Applied Research Center  
August 2008 – May 2012

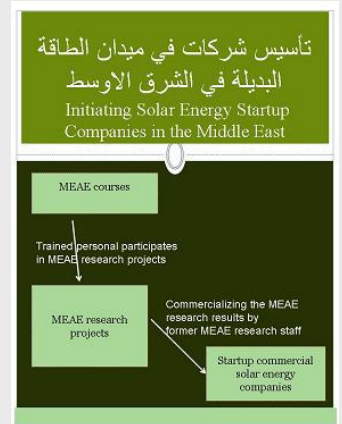
www.aecenar.com



ابحاث تطبيقية ذو مصلحة عامة  
Applied Research of Public Interest



مساعدة انشاء بنية تحتية  
للصناعة في المنطقة  
Helping of Industrial  
Growth in the Region



## Institutes مراكز الابحاث



مركز ابحاث الشرق الاوسط  
للجينات والتقنية البيولوجية  
<http://aecenar.com/institutes/megbi>  
ابحاث عن ألقحة

MEGBI - Middle East Genetics and  
Biotechnology Institute  
<http://aecenar.com/institutes/megbi>

Vaccine research



مركز الشرق الاوسط للطاقة البديلة  
<http://aecenar.com/institutes/meae>  
بحوث حول اجزاء لخطات طاقة عن طريق الحرارة  
الشمسية و عن طريق حرق النفايات

MEAE - Middle East Alternative  
Energy Institute  
<http://aecenar.com/institutes/meae>

Elements for Solar- and  
Incineration Power Plants



مركز ابحاث لعلم الفلك و فيزياء النجوم  
<http://aecenar.com/institutes/iap>  
نمذجة لاحداث في مناطق بين  
النجوم و لانشاء النجوم

IAP - Institute for Astronomy and  
Astrophysics  
<http://aecenar.com/institutes/iap>

Modeling Interstellar Processes  
and Star Building

## Central Library المكتبة المركزية



## المنشورات Publications 2011 – 2010

Houda A., Bakoben S., Introduction to Molecular Modeling  
(مدخل الى النمذجة الجزيئية), Ras Nhache, June 2011

Abdulwahab N., Mourad S., Borghol S., Laboratory verifying of the peptid  
candidate FLKDVME SM by ELISA analysis, Ras Nhache, June 2011

Mourad S., Al-Haj R., Abdulwahab N., El-Eter G., Al-Chbib L., Khidr M., Zaki  
O., *Training Courses in Genetic Engineering I-III*,  
(جميع التفاصيل بالعربيه والانجليزية)  
Ras Nhache, August 2010



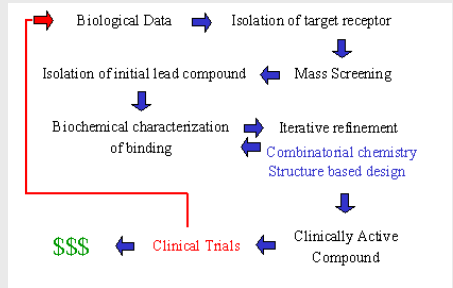
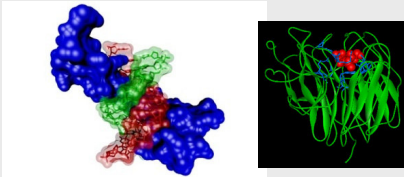
MEGBI - Middle East Genetics and Biotechnology Institute  
[www.aecenar.com/institutes/megbi](http://www.aecenar.com/institutes/megbi)

A member of AECENAR Applied Research Center

## Research fields

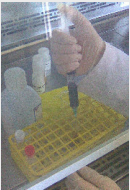
## ميادين الابحاث

Rapid Prototyping for DNA vaccines

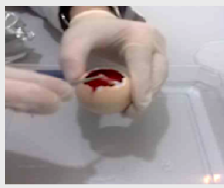
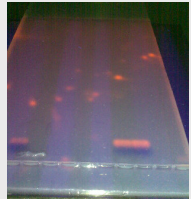
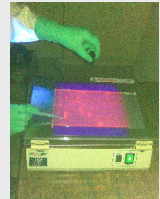


## MEGBI Laboratory

## مختبر المركز



Genetic Engineering Lab with Biosafety Level 2



# MEGBI Milestones

August 2009: Beginning of MEGBI Genetic Engineering Lab work

October 2010: Publication of MEGBI Training Courses I-III in Genetic Engineering Techniques

January 2011: Starting of work in MEGBI bioinformatics lab

April 2011: First diagnostic services available at MEGBI partner company LG Biotech

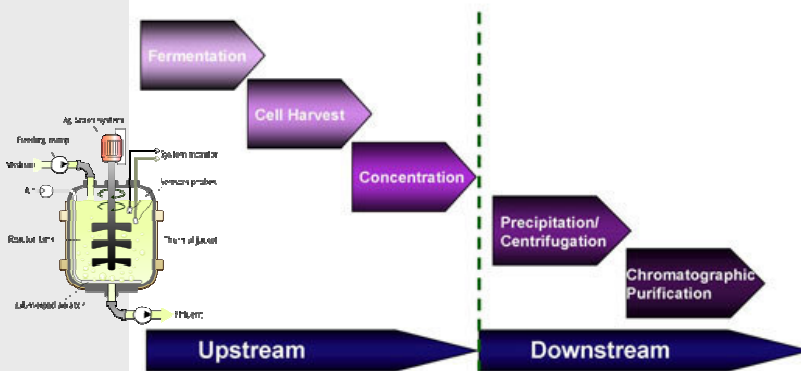
March 2011: Starting H5N1 Peptid Vaccine Research Project by former trained staff

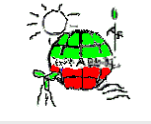
March 2012: Starting of development of Bioreactor production site for research pharmaceuticals

## Actual Projects at MEGBI

Large scale production of influenza A vaccines:  
Establishment of upstream (bioreactor) and downstream (purification)  
processing of DNA vaccines in *S.cerevisiae* and *E.coli*

### Production of Recombinant Proteins



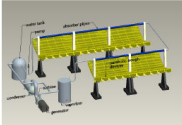


MEAE - Middle East Alternative Energy Institute  
www.aecenar.com/institutes/meae

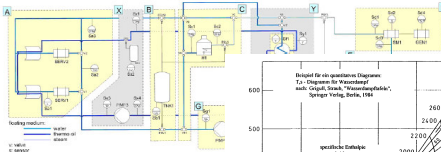
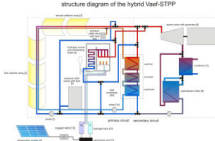
A member of AECENAR Applied Research Center

## Research fields

## ميادين الابحاث

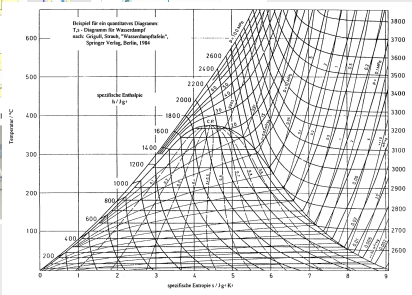
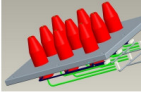


ProE Model of the Direct Heating Teststand



Architecture of process control

Hydrogen burner



Elements for alternative power plants suited for solar / wind / inceneration combustion hybrid plants

Numerical Combustion: Simulation Models for safe small combustion devices

## MEAE Laboratory

## مختبر المركز



Process control system Development with Siemens S7 technology



Construction of mechanical pieces with CAD program ProEngineer



Solar vacuum pipe



Manufacturing of solar parabol panels





# Actual Projects at MEAE

Development of a pilot test rig for steam generation with waste incineration in combination with solar power

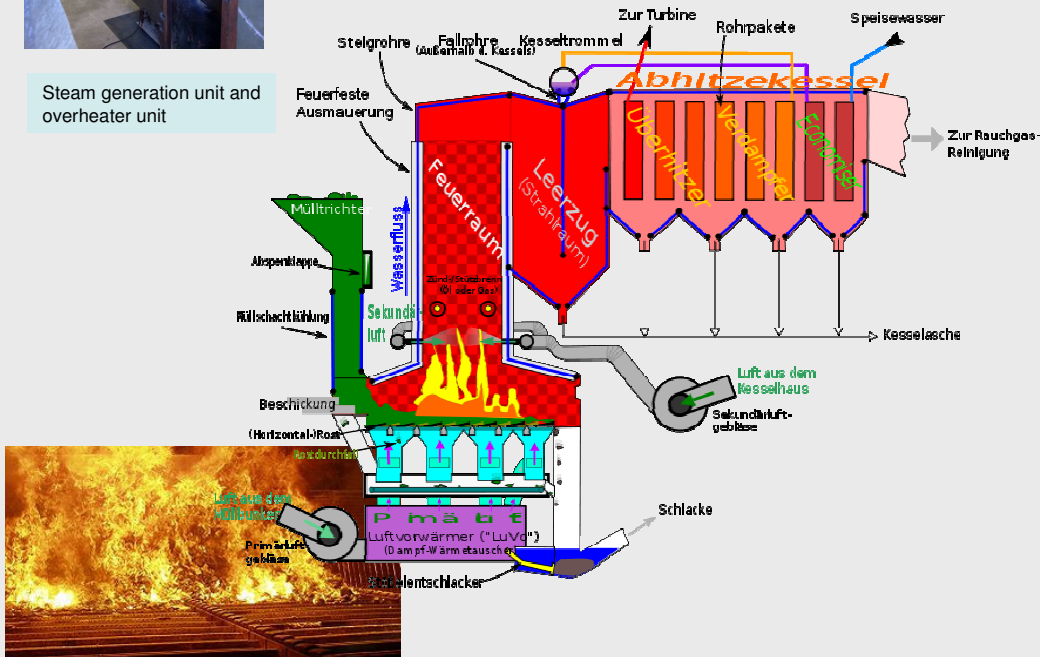
توليد كهرباء عن طريق ترميد النفايات و الطاقة الشمسية



Steam generation unit and overheater unit

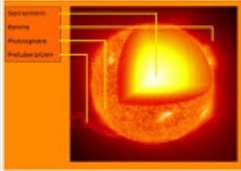
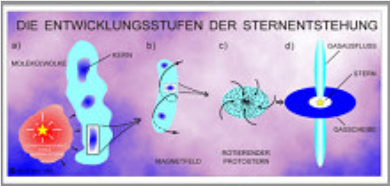


used 40 kW turbine (year of manufacture: 1994)

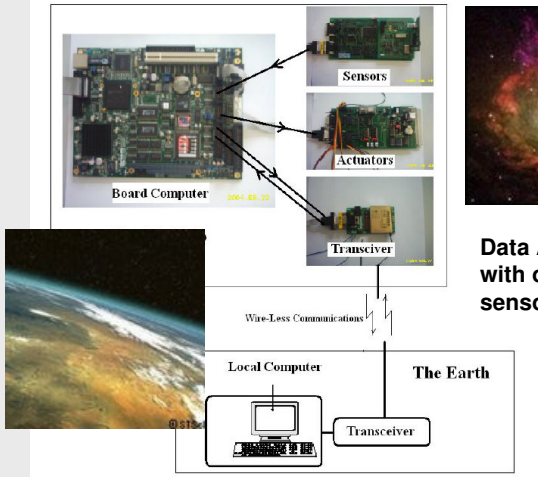


# Research fields

# ميادين الابحاث



**Modeling Interstellar Processes and Star Building**



**Data Acquisition with orbit sensors**

# IAP Laboratory مختبر المركز

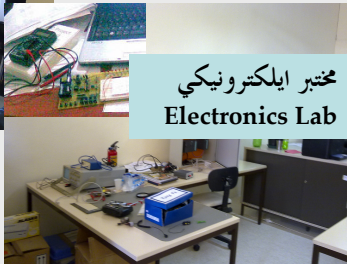
# Actual Projects

## Computer Simulation Lab



Migration of former „VaEf alternative airship Lotte“ control system to the IAP satellite based control system

## مختبر ايلكترونيكي Electronics Lab



Building of a simulation model for the first phases of star building with the CFD software package FreeCFD



# AECENAR

Association for Economical and Technological Cooperation  
in the Euro-Asian and North-African Region

AECENAR Middle East جمعية الشرق الأوسط للتنمية والتعاون في الميدان التكنولوجي

Ras Nhache Facility (about 25 km from Tripoli in North Lebanon)

مراكز راسنحاش (تقع على بعد 25 كم. من طرابلس الشرق)



AECENAR Middle East

Ras Nhache, Main Road, District: Batroun – North Lebanon, **Lebanon**

راسنحاش – قضاء البترون – لبنان الشمالية - لبنان

Email: [info@aecenar.com](mailto:info@aecenar.com)

Website: [www.aecenar.com](http://www.aecenar.com)

## Contact

Samir Mourad, *Director*

Mobile Lebanon ++961 76 341 526

Mobile Germany ++49 (0)176 4039 2038

Email: [samir.mourad@aecenar.com](mailto:samir.mourad@aecenar.com)

@AECENAR May 2012