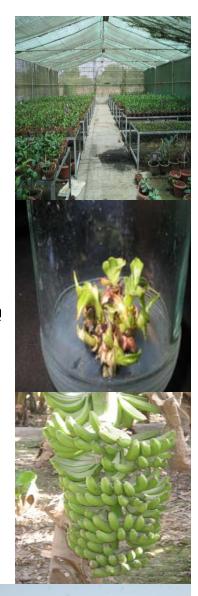


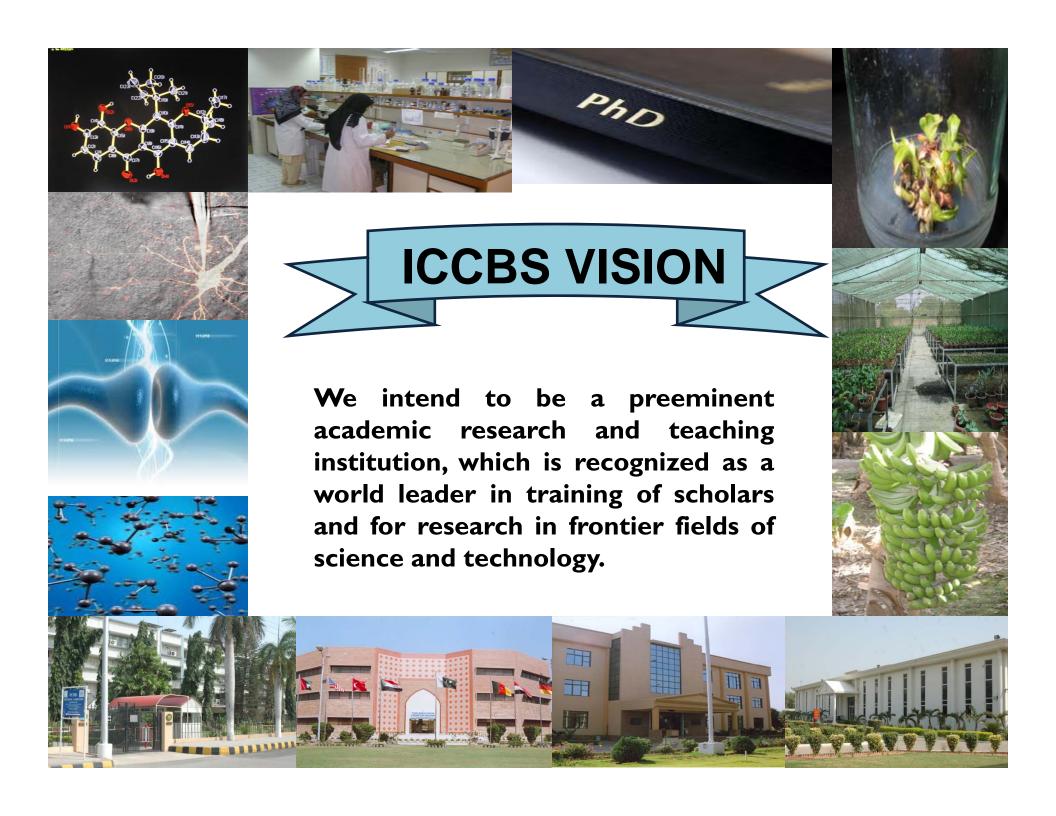


#### INTERNATIONAL CENTER FOR CHEMICAL AND BIOLOGICAL SCEINCES (ICCBS)

COMSTAS Center of Excellence
Past, Present, and Future

(H. E. J. Research Institute of Chemistry, Dr. Panjwani Center for Molecular Medicine and Drug Research) University of Karachi, Karachi-75270



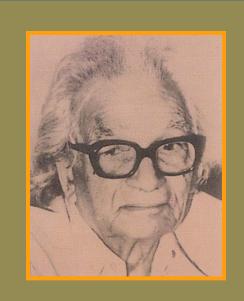






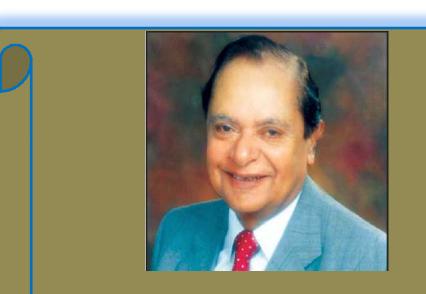






Late Prof. Dr. Salim-uz-zaman Siddiqui, H.I., F.R.S. Founding Director (1966-87)





Late Mr. Latif Ebrahim Jamal, H.I.

Chairman

Husein Ebrahim Jamal Foundation









Ms. Nadira Panjwani, H.I., S.I.

Chairperson

Dr. Panjwani Memorial Trust





PROF. DR. ATTA-UR-RAHMAN, FRS

Patron-in-Chief





Prof. Dr. M. Iqbal Choudhary H. I., S. I., T.I.

Current Director ICCBS

2002- today



#### AN INSTITUTIONAL MODEL

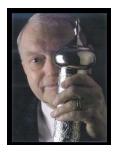
Nucleus was established in 1966 by Late Prof. Dr. Salim-uz-Zaman Siddiqui in a small laboratory of Department of Chemistry, University of Karachi.





Prof. Atta-ur-Rahman FRS, N.I., H.I., S.I., T.I. joined in 1969 on his return from Cambridge, UK.

First international grant in 1972 (2.3 million DM) through the efforts of Prof. Wolfgang Voelter (Hilal-e-Pakistan, Sitara-e-Pakistan).





Received a donation from Late Mr. Latif Ebrahim Jamal (Husein Ebrahim Foundation) in 1976.

Selected as the *International Center for Chemical and Biological Sciences* in 1986 after a stiff international competition.



## AN INSTITUTIONAL MODEL

- ① Constituent institution of the University of Karachi, the second best university in Pakistan, and 223 (natural sciences) in world ranking (Oxford, 2009).
- 1 Nucleus was established in 1966 by Late Prof. Dr. Salim-uz-Zaman Siddiqui in a small laboratory of Department of Chemistry, University of Karachi.
- ① Prof. Atta-ur-Rahman FRS, N.I., H.I., S.I., T.I. joined in 1969 on his return from Cambridge, UK.
- 1 First international grant in 1972 (2.3 million DM) through the efforts of Prof. Wolfgang Voelter (Hilal-e-Pakistan, Sitara-e-Pakistan).
- 1 Received a donation from Late Mr. Latif Ebrahim Jamal (Husein Ebrahim Foundation) in 1976.
- ① Selected as the International Center for Chemical Sciences in 1986 after a stiff international competition.





Prof. Atta-ur-Rahman (UNESCO Laureate) with Prof. Dr. Abdus Salam (Nobel Laureate from Pakistan)

# ICCBS INSTITUTIONAL EXCELLENCE







#### HIGHEST RESEARCH OUTPUT

\* Research publications in top international journals:

Over 4,800

Patents (national and international)

155

Books published internationally (over 90 by Prof. Atta-ur-Rahman):

185

**\*** Total scientific impact factor:

**Over 47500** 

**\*** Total Ph.D.'s produced:

**Over** 580

**\*** Total Citations

Over 35,000



#### **DISTINGUISHED FACULTY**

- Out of ten (10) most productive scientists of Pakistan, five (5) are from the H. E. J. Research Institute of Chemistry, International Center for Chemical Sciences.
  (BCST Decrease Scientists of Pakistan 2000)
  - (PCST Document, Scientists of Pakistan, 2008)
- Internationally Recognized Faculty. All Senior Professors with the D.Sc. degrees from various universities.
- Only Pakistani Institution with Two FRS.
- Majority of the academic staff are the authors of internationally published science books or editors of science journals.



## MOST DECORATED ACADEMIC SCEINCE INSTITUTION

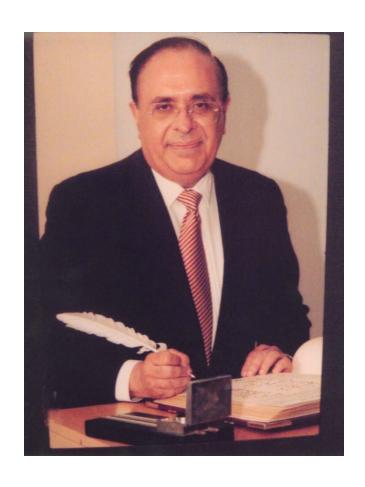
*	Fellow of Royal Society (FRS)	2
<b>*</b>	UNESCO Science Prize	I
<b>*</b>	Nishan-e-Imtiaz	1
<b>*</b>	Hilal-e-Imtiaz	4
<b>*</b>	Sitara-e-Imtiaz	13
<b>*</b>	Pride of Performance	I
<b>*</b>	Tamgha-e-Imtiaz	8
<b>*</b>	D. Sc.	10
<b>*</b>	Khawarizmi International Award	5

**ECO Award and Prize** 



Prof. Dr. Atta-ur-Rahman receiving the UNESCO Science Prize (2004)





Prof. Dr. Atta-ur-Rahman signing the famous book of Royal Society as a Fellow



#### INTERNATIONAL STATUS

- **\*** One of the best in the field of chemical sciences
- **\*** Designated as the:
  - a. OIC Center of Excellence
  - b. World Health Organization Center for Pesticide Analysis for Eastern Mediterranean Region.
  - c. **COMSATS** Center of Excellence.
  - d. **COMSTECH Library Center.**
  - e. Islamic Development Bank Prize for Best Science Institution in the Islamic World.
  - f. TWAS Center of Excellence.
  - g. UNCSTD Center of Excellence.



#### INTERNATIONAL STATUS

- Over 200 visiting scientists annually from different countries.
- \* Only institution in the developing world in which advanced countries are sending students for training- 20 German students annually, over 130 German students have already been trained.
- Over 70 International Conferences, Symposia and workshops organized including the 19th IUPAC Symposium (1994), EURASIA Conference (2002), IBRO School (2006) and ASOMPS (planned for 2012)



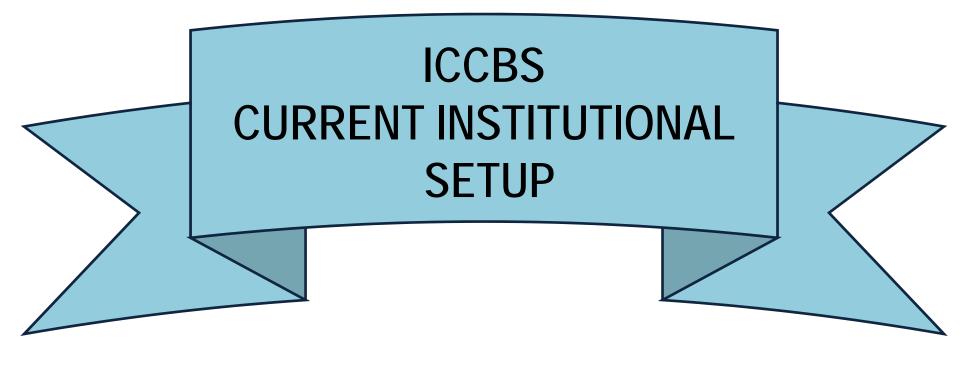
#### **INTERNATIONAL GRANTS**

I. International grants worth over \$ 15 million were won:

(a)	Germany	DM 5.7 million
<b>(b)</b>	USA	\$ 2.0 million
(c)	UK	£ 1.0 million
(d)	Japan	\$ 8.0 million
(e)	Others	\$ 2.0 million

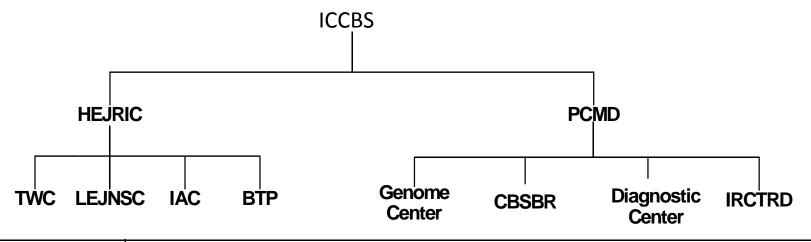
2. Research projects worth another \$ 12.5 million from WHO, USAID, ONR, NSF (USA) and British Council have been completed.







### ICCBS ORGANOGRAM



HEJRIC	Husein Ebrahim Jamal Research Institute of Chemistry
PCMD	Dr. Panjwani Center for Molecular Medicine and Drug Research
TWC	Third World Center Laboratory Complex
LEJNSC	Latif Ebrahim Jamal National Science Information Center
IAC	Industrial Analytical Center
ВТР	Biotechnology Park
Diagnostic Center	Diagnostic and Clinical Research Facility
CBSBR	Center for Bioequivalence Studies and Bioassay Research
Genome Center	Jamil-ur-Rahman Center for Genome Research
IRCTRD	International Research Center for Tropical and Regional Diseases

## HUSEIN EBRAHIM JAMAL RESEARCH INSTITUTE OF CHEMISTRY

- ① Established 1967.
- ① Funded by the Husein Ebrahim Jamal Foundation
- ① Specialized in the fields of organic and bio-chemistry
- ① WAITRO Center
- ① **COMSATS** Center
- **1** House the National Library of Chemical Sciences



H. E. J. RESEARCH INSTITUTE OF CHEMISTRY (CONSTRUCTED IN 1978 WITH A GRANT FROM HUSEIN EBRAHIM FOUNDATION)

## Dr. Muhammad Husein Panjwani



# DR. PANJWANI CENTER FOR MOLECULAR MEDICINE

- ① Only institution of molecular health sciences in the Muslim world
- ① Established in 2004 by Dr. Muhammad Husein Panjwani Memorial Trust
- ① An endowment of US \$ 1 million was created
- 15 Faculty members, two research officers, Over 50 Students, 4 Post. Doc.
- ① Focused areas include molecular immunology, stem cell research, diabetes, neurophmacology, enzymology, computational medicinal chemistry, structural biology, molecular oncology, tissue culture, etc
- ① Diagnostic and Clinical Research facility was established as service wing



DR. PANJWANI CENTER FOR MOLECULAR MEDICINE AND DRUG RESEARCH

# LATIF EBRAHIM JAMAL NATIONAL SCIENCE INFORMATION CENTER

- ① One of the largest science information centers in the developing world.
- ① Building donated by the Husein Ebrahim Foundation.
- ① Digital Library, Digitization of Books, Video-conferencing Facilities, On-line and Born Digital Books and journals.
- ① PABIC (Pakistan Biotechnology Information Center), DNA Dolmen Center, APTMNET (Asia Pacific Traditional Medicine Network)



LATIF EBRAHIM JAMAL NATIONAL SCIENCE CENTER
One of the largest Paperless Libraries in the Region/Digital Library
(Building donated by Husein Ebrahim Foundation)

#### INDUSTRIAL ANALYTICAL CENTER

- Serving over 350 industries annually
- New products development
- \* Raw material testing
- Quality improvement/control/assurance
- **\*** International certification
- Industrial informatics
- \* Pesticide residue and toxic metal analysis
- Toxicity testing

#### **BIOTECHNOLOGY PARK**

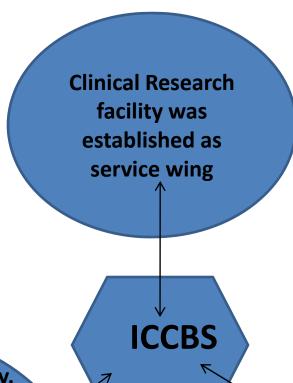
- **★** Service wing of the Third World Center for Chemical Sciences.
- **\*** Tissue culture
- **★** Viral diagnosis
- New varieties of banana and pineapples
- **★** Exotic orchids and other flowering plants
- **★** Cell-culture for secondary metabolites





The largest doctoral program in the country producing over 80 world class Ph.D.s every year





Molecular immunology, stem cell research, enzymology, structural biology, molecular oncology, tissue culture, Vaccine development, Computational medicinal Chemistry, Clinical Biochemistry, Neuropharmacology,

Herbal medicines,, Plant biotechnology,
Pharmacology, Organic Chemistry, Drug designing, Bio-organic,
Synthetic and Natural Product Chemistry,
Electrochemical Studies,
Petroleum and Polymers, analytical chemistry

# ICCBS PLANNED FUTURE INSTITUTIONS



## ICCBS EMERGING INSTITUTIONS (2006-2020)

- Center for Bioequivalence Studies and Bioassay Research (CBSBR) PCMD
   (Established and functioning)
- 1 Technology Incubator and Research Park ICCBS (under construction)
- ① Center for Nanochemistry Research HEJRIC (under construction)
- 1 Jamil-ur-Rahman Research Center for Genomics (under construction)
- 1) Nuroscience Research Center PCMD
- International Research Center of Tropical and Regional Diseases (IRCTRD)PCMD
- **1** Industrial Biotechnology Center
- **National Imaging Facility**

# STRENGTHENING OF EXISTING INSTITUTIONS (2006-2020)

- Strengthening of the Industrial Analytical Center (IAC)
- ① Strengthening of the Dr. Panjwani Center for Molecular Medicine and Drug Research (PCMD) (Phase II)
- ① Strengthening of the H. E. J. Research Institute of Chemistry (Phase-III)

### INFRASTRUCTURE DEVELOPMENT (2006-2020)

- ① Development of 200 Acre of land, provided by the University of Karachi (roads, water and sewerage lines, gas and electricity) (core work completed)
- ① Construction of Scholars Hostels
- ① Construction of Conference Facilities (completed)
- ① Sports Center, Recreational Facilities and Clinic (under construction)

### **INCREASED ACCESS BY 2020**

- ① Over 1,200 Ph. D. Students (Current Ph. D. enrolment 500)
- 1 I 50 Post-doctoral Scholars
- 1 80 Research Officers

### PHASING OF EMERGING PROJECTS (2006 – 2020)

Institution	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	-	-	-	-	-	-	-	-	-	•	-	•	-	-	-
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021





- 2. Development of 50 Acre of additional
- 3. Food and Nutritional Science Institute



- 4. Bioequivalence and Biology Study Center
- 5. Strengthening of PCMD



6. National Imaging Facility



7. Center for Nanochemistry Research



8. Strengthening of IAC

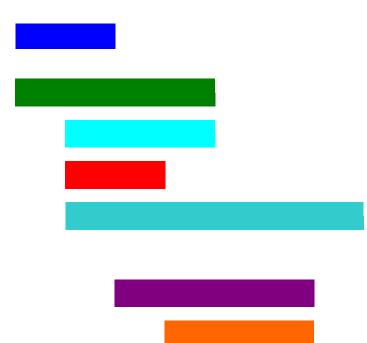


Institution	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
1. Nanochemistry and Material Science Center															

2. Jamil-ur-Rahman Center for Genome Research

3. Industrial Biotechnology Hostels

- 5. Construction of Scholars Hostels
- 6. Construction of Conference Facilities
- 7. International Research Center for Tropical and Regional Diseases
- 6 Neuroscience Center
- 8. Sports Center, Recreational Facilities, and Clinic
- 9. Strengthening of H. E. J. Research Institute of Chemistry



### ICCBS- UNIQUE FEATURES

- \* Role of leadership (Internationally renowned leader, Prof. Atta-ur-Rahman).
- **\*** Role of private sector.
- \* Contractual appointment of faculty members.

  International evaluation of research productivity.
- \* Good salaries and grades to engineering staff.
- \* Strong international linkages.
- \* Well subscribed library system and other information sources.
- \* More funds for R&D (70% of the annual budget).
- \* Institution which invite and facilitate external review.

REMARKS OF Prof. Herbert C. Brown
Nobel Laureate
R. B. Wetherill Professor of Chemistry
USA



" Under Prof. Atta-ur-Rahman's able guidance, this Institute has become one of the finest in the world, in terms of the facilities, the quality of work and the scientists that it produces".

REMARKS OF Prof. Dr. R.R. Ernst Nobel Laureate Switzerland



"Professor Atta-ur-Rahman is one of the world-wide leading scientists in natural product chemistry and in the important field of nuclear magnetic resonance. The number as well as quality of his research publications and in particular his books are highly astonishing".

REMARKS OF Prof. Sir D.H.R. Barton
Nobel Laureate
Texas A&M University
USA



"Prof. Atta-ur-Rahman is the motor which has propelled the H.E.J. Research Institute of Chemistry from a little Institution into the best Research Laboratory in Natural Product Chemistry in the Developing World".

# IN BRIEF

- ① An institution which demonstrates that it is possible to build world-class science institutions in Pakistan.
- ① An institution which has served the nation in many ways.
- ① An institutional model for others to follow.

### ECONOMIC IMPACT

- 1. The Center has produced over 400 Ph.D. scholars and 150 M.Phil. scholars with world-class training in the relevant fields of chemical, pharmaceutical, Industrial and biochemical sciences.
- 2. These trainings within the country on nationally relevant topics have led to a saving of over Rs. 5 billion, along with the strengthening of indigenous S&T institutions and research capacity.
- 3. The graduates of the Center have been serving in top chemical and pharmaceutical industries of Pakistan at leading positions. These graduates have played a key role in making the pharmaceutical industry of Pakistan export-based, earning millions of dollars for the country annually.

### ECONOMIC IMPACT

- 4. The Center is serving over 350 Industries of Pakistan, by providing them world-class analytical and consultancy services, this is also leading to a saving of millions of dollars.
- 5. The Center is also earning over Rs. 40 million annually from various services to industries, despite the fact that most of these services are offered on cost-plus basis in order to support industrial development.
- 6. The Center has a world class Industrial Analytical Centers, recognized for its quality and credibility.
- 7. The Center has an expanding network of diagnostic centers, which are providing pathological and diagnostic facilities to common people, as well as helping the scientists in their clinical research.

### ECONOMIC IMPACT

- 8. The Center has been helping the Pakistan Customs since last 20 years. Many of the long-standing analytical problems were solved by using the most sophisticated instrumental facilities. This has led to the collection of duties and taxes of billions of rupees, which were otherwise not possible due to misreporting and malpractices.
- 9. The Biotechnology Division of the Center has developed several new varieties of bananas, orchids and other important crops. Many of these varieties have already been commercialized and progressive farmers are benefiting from these innovations.
- 10. The Center has trained thousands of young graduates in various skills, such as horticulture, tissue culture, pharmaceutical services, diagnostic services, and food and pharmaceutical analysis, thus helping in generating employable skills in the country.

- Finest academic research Institution in the field of Natural Product Chemistry.
- 2. Only Institution in the Islamic world where 20 German students are coming for research trainings every year. Over 120 German students have already been trained.
- 3. Only institution in the Islamic world where six Nobel Laureates have visited, reviewed the research programs, and praised the quality.
- 4. Only institution in the Islamic world, which produces 50-60 top-class Ph.D.'s every year in the field of chemical and biochemical sciences.

- 5. Only institution in the Islamic world, which has been designated as the focal center for trainings of young scholars from Afro Asian Countries by Non-aligned Movement (NAM) Science Center.
- 6. Only institution in the Islamic world, which has been designated as the "World Health Organization Collaborating Center in Pesticide Analysis and Research".
- 7. Only institution in the Islamic world with overall investment of US \$ 45 million in scientific instrumentation and infrastructure.
- 8. Only institution in the Islamic world, with over 4,000-research publications in top international journals and over 130 internationally published books.

- 9. Only institution in the Islamic world, which has organized one of the largest chemical science events, the IUPAC conference in 1994.
- 10. Only institution in the Islamic world where scholars from 25 Muslim countries are visiting for research training and Ph. Ds.
- 11. Only institution in the Islamic world which was largely established through donations from private sector/philanthropic organizations.
- 12. An institution with ISO 9001-2000 certificate.
- 13. Only academic institution with ISO 17,025 certified analytical laboratories.

- 13. Ministry of Health accredited Bioequivalence center.
- 14. An institution which invite external review every year to identify its strengths and weaknesses.
- 14 institution with state of the art Industrial Analytical Center (IAC) to help industries in Pakistan and in the region.
- 15. An institution which has been regarded as most a successful example of private-public partnership for science capacity building in developing world.

# SOME OF THE MAJOR CONTRIBUTIONS OF H. E. J. RESEARCH INSTITUTE OF CHEMISTRY IN RESEARCH AND DEVELOPMENT

- 1. First Total Synthesis of the Anti-Cancer drug Vinblastine (British Patent).
- 2. Production and Commercialization of Environmental Friendly Neem-Based Pesticides.
- 3. Discovery and Development of Bating Enzyme for Lather Softening.
- 4. Development of Cholesterol-Lowering Additives.

# SOME OF THE MAJOR CONTRIBUTIONS OF H. E. J. RESEARCH INSTITUTE OF CHEMISTRY IN RESEARCH AND DEVELOPMENT

- Development of most Potent Anti-epiletic Drug (isoloxylitone) which is in initial stages of development and patented internationally.
- 6. New varieties of virus free Bananas and Pineapple.
- 7. Development and Commercialization of New Orchid Plants.
- 8. Analytical Services to over 400 Industries annually throughout the Country.
- 9. The genome of first Muslim and Pakistani (9<sup>th</sup> nation in the world) was completely mapped in collaboration of Beijing Genomic Institute.

# SOME OF THE MAJOR ACHIEVEMENTS OF ICCBS IN 2011

- PCMD-BGI Jointly Map Genome of First Pakistani.
- H.E.J. Institute Selected as the OIC Center of Excellence
- Procurement of Major New Instruments for the ICCBS Institutions:
  - Ultra Performance Liquid Chromatographs (4) (HEJ)
  - Triple Quradrapole GC-MS (HEJ)
  - Fast Protein Liquid Chromatography's (FPLC) (PCMD)
  - Avance III New Console for the 400 MHz NMR (HEJ)
  - Equipment for Textile Chemical Laboratory (HEJ)
  - Diesel Generator 350 KVA (ICCBS)
  - Cryoprobe 3 mm for 600 MHz NMR (HEJ)
  - LC-MS/MS (CBSBR, PCMD)
  - Digital Melting Point Apparatus (HEJ)

# SOME OF THE MAJOR ACHIEVEMENTS OF ICCBS IN 2012

- Establishment L. E. J. Nanochemistry Center
- Establishment of Jamil-ur-Rahman Center for Genome Research
- 373 scientific papers in leading international journals during 2012. (The cumulative impact factor 578 (Scopus, Web of Knowledge, 2012).
- 12 US patents. One of these patents has been leased out to an international company for the first phase clinical trials.
- 68 M.Phil. / Ph.D. and over 20 scholars under joint supervision .

#### Induction of New Faculty Members IN 2012

.

Prof. Dr. Muhammad Iqbal Bhangar (HEJ)

Prof. Dr. Darakhshan J. Haleem (PCMD)

(Biochemistry)

Dr. Rizwana S. Waraich (PCMD)

Dr. Saima Jalil (PCMD)

Dr. Ayaz Ahmad (PCMD)

Dr. Reaz Uddin (PCMD)

Dr. Meera Malik (PCMD)

Dr. Ishtiaq Ahmad Khan (PCMD)

#### National and International Conferences (2012)

- 13<sup>th</sup> International Symposium on Natural Product Chemistry September 22-25, 2012, Karachi, Pakistan.
- 4<sup>th</sup> International Symposium-cum-Training Course on Molecular Medicine and Drug Research January 7 – 10, 2012.
- Regional Workshop on Chemical Laboratory Safety and Security June 5-6th, 2012.
- PAK-US Workshop on Applications of Nanotechnology (WANT-2012)
   May 29-30, 2012.

### National and International Conferences (2012)

- Two-day's Workshop on "Developing Skills for the Interpretation of 1D and 2D NMR Spectral Data for the Structure Determination of Organic Molecules, PAK-US Workshop on Applications of Nanotechnology (Want-2012).
- Patent Protection for R&D (Jointly organized by PASTIC, PSF and ICCBS).

### Visit of Eminent Foreign Scholars (2012)

Dr. Daniel Hoessli, Switzerland

Dr. Hartmut Wellerdte, Germany

Dr. Mujeeb Uddin Shad, USA

**Prof. Dr. Sumaira Amir, USA** 

Dr. Munir Ozturk, Turkey

Dr. Ursula Ann Karra, Germany

Prof. Dr. Ayhan Ulubelen, Turkey

Prof. Dr. Bohari M. Yamin, Malaysia

Prof. Dr. David L. Smith, USA

### Visit of Eminent Foreign Scholars (2012)

- Prof. Dr. Elias Baydoun, Lebanon
- Prof. Dr. Heiko Iven, Germany
- Prof. Dr. Iqbal Ahmed, Malaysia
- Prof. Dr. Khalilur Rahman, Bangladesh
- Prof. Dr. Laura D. Shirtellif, USA
- Prof. Dr. Massimo Bertino, USA
- **Prof. Dr. Nicholas Levents, USA**
- Prof. Dr. Suchi Gua, Columbia
- Prof. Dr. Thomas Nugent, Germany
- Dr. Aftab Ahmed, USA
- Dr. Aliya Malik, UK
- Dr. Azwani, Malaysia

### Procurement of Major New Instruments (2012)

High Speed Genome Sequencer (JRCGR, PCMD)

Atomic Force Microscope (HEJ)

LC/MS/MS 6460 Agilent (CBSBR, PCMD)

Genome Analyzer 5500XL System (HEJ)

Vibration Free Cooling Incubator (PCMD)

Airstream® Class II Biological Safety Cabinets(PCMD)

Dry Shipper (PCMD)

# WHAT ICCBS CAN OFFER TO COMSATS COLLEAGUES?



### **Research Trainings**

- Training visits of young scholars
- No bench fee
- On-campus accommodation
- State-of-the-art instrumental facilities
- Over 100 bioassays and access to animal house facility
- Excellent libraries
- International, friendly and conducive working environment
- In some cases, financial support for living expenditures
- Cost of living is very affordable (Less than \$ 200 per month)

### **Academic Collaboration**

- On-lines courses through VEPP (Video conferencing Program Pakistan)
- Split Ph. D. program
- Technician training
- Senior scientists visits
- Binational and multi-national workshops

### Global Virtual Education Program

- Global Initiative for quality teaching of science and technology at all levels
- Over 18,000 courses, downloaded and licensed for educational purposes
- Available for free sharing
- Managed and operated by the LEJ Center (ICCBS) under the patronage of Higher Education Commission, COMSTECH and Commonwealth of Learning

### **Joint Research Programs**

- Collaborative Research Projects
- Field Surveys
- Joint Disease Genomics Projects

### Scholarships/ Schemes

Joint NAM S&T Centre-ICCBS Karachi (Pakistan) Fellowship <a href="https://www.namstct.org">www.namstct.org</a>

**TWAS Fellowship Program** 

http://www.iccs.edu/twas.php

**COMSTECH Visiting Scientists Program** 

http://www.comstech.org/Programs

# Access to Spectroscopic and Bioassay Facilities

- Access to excellent spectroscopic facilities
- Bioassay screenings
- Clinical trial facilities
- In vivo assays
- Library document delivery system
- Molecular Bank (Over 12,000 compounds now)
- Extract Bank (Over 5,000 plant extract)
- Bio Bank (hundreds of Cell lines and fungal cultures)

## ICCBS IN PHOTOGRAPHS



H. E. J. RESEARCH INSTITUTE OF CHEMISTRY (Constructed In 1978 With A Grant From Husein Ebrahim Foundation)



DR. PANJWANI CENTER FOR MOLECULAR MEDICINE AND DRUG RESEARCH



PROF. DR. ATTA-UR-RAHMAN LABORATORIES
THIRD WORLD CENTER FOR CHEMICAL SCIENCES



LATIF EBRAHIM JAMAL NATIONAL SCIENCE INFORMATION CENTER One of the Largest Paperless Libraries with 31,000 On-line Journals



HEJRIC NEW RESEARCH LABORATORY



INDUSTRIAL ANALYTICAL CENTER (IAC)



INTERNATIONAL GUEST HOUSE



TISSUE CULTURE TECHNOLOGY PARK

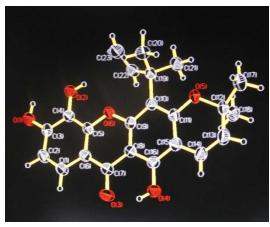


CENTER FOR BIOEQUIVALENCE STUDIES AND BIOASSAY RESEARCH



**MALDI-TOF (Ultra-flex-III)** 





**SINGLE-CRYSTAL X-RAY DIFFRACTION LABORATORY** 





NUCLEAR MAGNETIC RESONANCE SPECTROMETERS

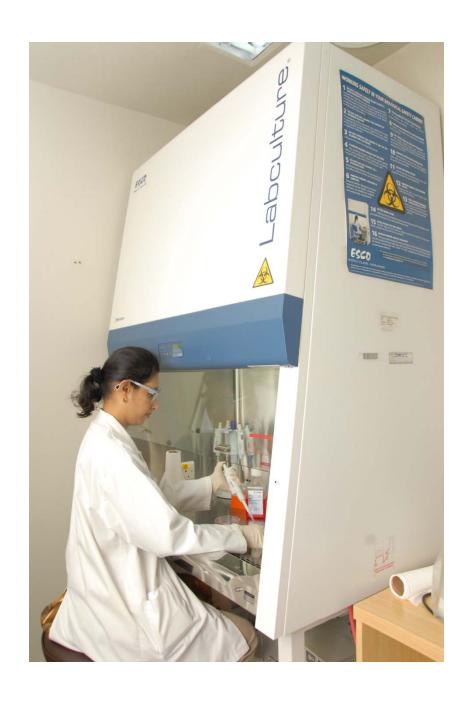


MASS SPECTROMETER (ELECTRON BOMBARDMENT SYSTEM)



MASS SPECTROMETER (ELECTROSPRAY IONIZATION)

## **BIO BANK AT PCMD**





**PILOT PLANT** 



## ONE OF THE ICCBS LIBRARIES One of the Finest in the Field of Chemical Sciences



**UPLC** 



## ONE OF THE GREEN HOUSES FOR VIRUS-FREE **BANANA VARIETIES**





**BIOTECHNOLOGY DIVISION** 



PLANT BIOTECHNOLOGY DIVISION



PLANT BIOTECHNOLOGY DIVISION



**COMPOUND BANK AT THE PCMD** 



**COMPOUND BANK AT THE PCMD** 



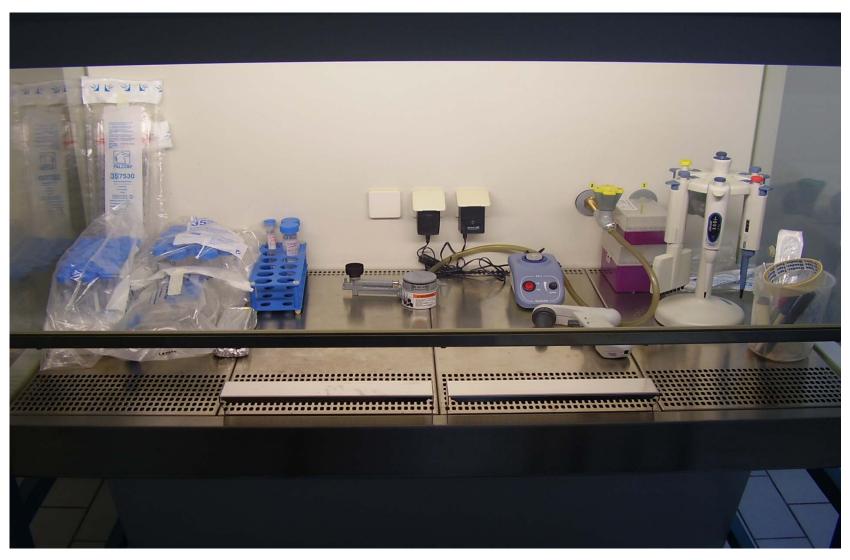
**DIAGNOSTIC LABORATORY AT THE PCMD** 



PATCH CLAMP FACILITY AT PCMD



TISSUE CULTURE FACILITY AT THE PCMD



**CANCER CELL LINES AT PCMD** 



FLORESCENCE MICROSCOPIC LABORATORY



**FATIONAL CHEMISTRY LABORATORY** 



**IMMUNOLOGY LABORATORY** 



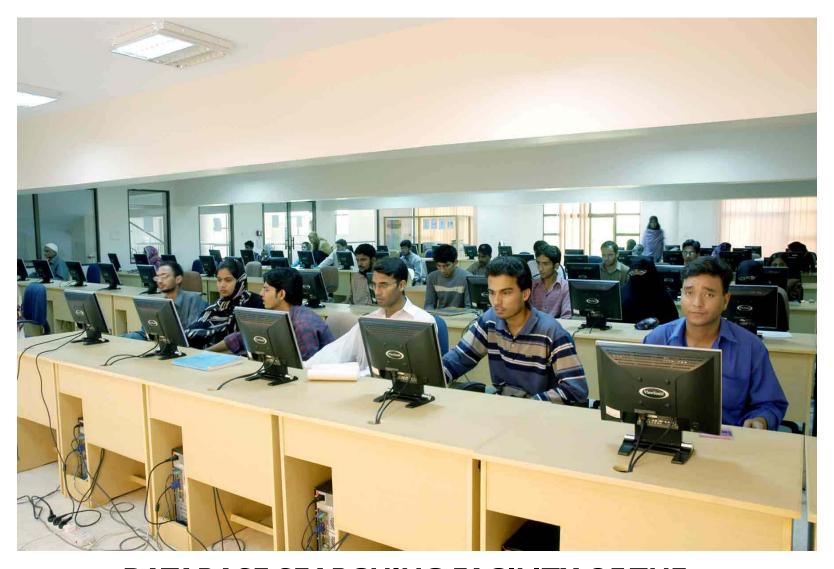
**NEUROPHARMACOLOGY LABORATORY** 



PHARMACOLOGY LABORATORY



**STEM CELL RESEARCH LABORATORY** 



DATABASE SEARCHING FACILITY OF THE LATIF EBRAHIM JAMAL NATIONAL SCIENCE CENTER



VIDEO CONFERENCING OF THE LATIF EBRAHIM JAMAL NATIONAL SCIENCE CENTER



VIDEO LECTURE FACILITY OF THE LATIF EBRAHIM JAMAL NATIONAL SCIENCE CENTER



**Director ICCBS, with French Delegates** 



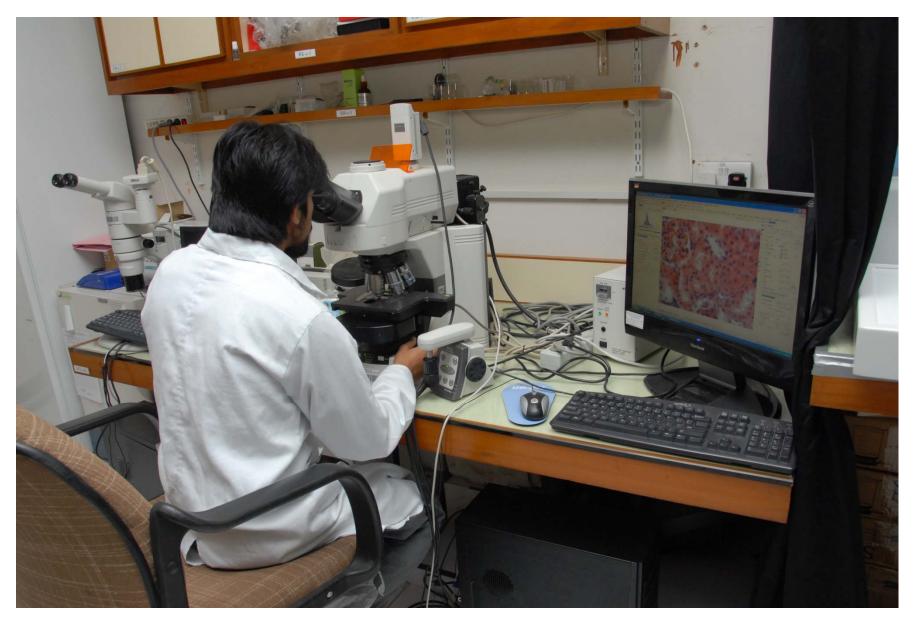
**Director ICCBS, with French Delegates** 



**VISIT OF FACULTY FROM UNIVERSITY OF RHODE ISLAND** 



IN HOUSE LIQUID NITROGEN SETUP



 $FLORESCENCE\ MICROSCOPIC\ LABORATORY\ (PCMD)$ 





Pictures of some Germans students visited the institute

## ISO 17025, and 9001: 2000 Certified Industrial Analytical Center (IAC) is serving over 350 industries in Pakistan

The Industrial Analytical Center (IAC) is a commercial entity, under the auspices of the H.E.J Research Institute of Chemistry. The IAC is offering a range of professional analytical and consultancy services to the industries and other private and public sector organizations.





RESEARCH IN NANOPARTICLES



INAUGURATION OF JAMIL-UR-RAHMAN CENTER FOR GENOMIC RESEARCH

## The only institute which has received Islamic Development Bank (IDB) Prizes for Best Science Institution

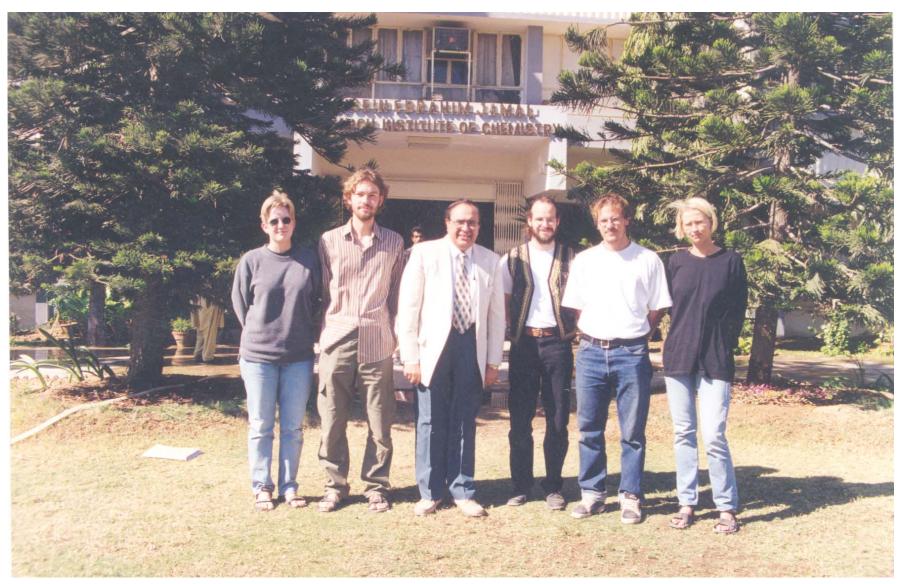
**Twice (2004 and 2010)** 







A GROUP OF GERMAN STUDENTS



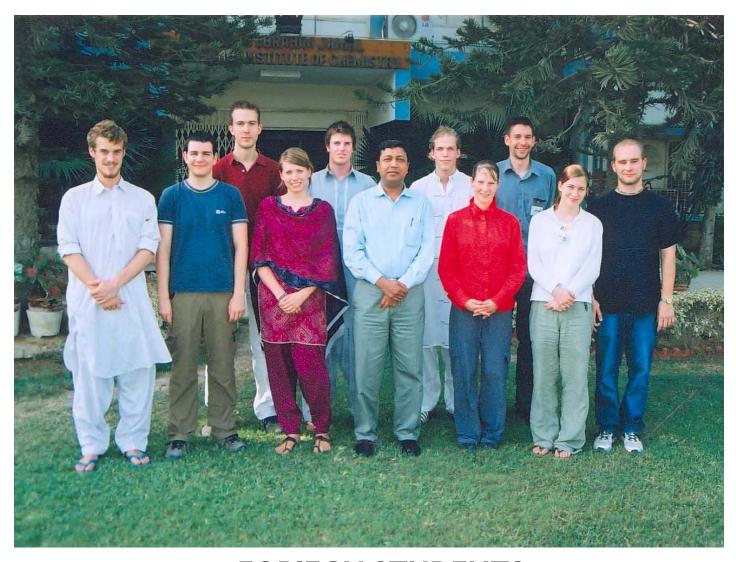
**GERMAN STUDENTS ON TRAINING** 



FORIEGN FACULTY AND STUDENTS



**FORIEGN FACULTY AND STUDENTS** 



**FORIEGN STUDENTS** 



**FORIEGN STUDENTS** 



**FORIEGN STUDENTS** 



ICCBS Group Photograph, 2011



**FEW STUDENTS OF ICCBS** 

## THE MILES