

# *INTERNATIONAL CENTER FOR CHEMICAL AND BIOLOGICAL SCIENCES (ICCBS)*

*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**

ICCBS



# *ICCBS VISION*

**We intend to be a preeminent academic research and teaching institution, which is recognized as a world leader in training of scholars and for research in frontier fields of science and technology.**

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# *ICCBS MISSION*

**We are the institution of higher learning which impart highest quality research training to its students in frontier fields of science and technology. We strive to contribute in the fulfilling the need of quality manpower in science and technology and expect that our graduates will serve the nation and humanity at large.**

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# ***ICCBS- AN INTERNATIONAL CENTER OF EXCELLENCE***

- ① **Fulfillment of the dreams of Late Prof. Abdus Salam (Nobel Laureate), proposed from the platform of COMSATS**
- ① **Established by Leading Scientist of Pakistan, Prof. Dr. Salim uz Zaman Siddiqui FRS in 1966**
- ① **Led by One of the Most Celebrated Pakistani Scientist Prof. Dr. Atta-ur-Rahman FRS**
- ① **Largest Academic Research Establishment Pakistan**
- ① **An Institutional Model for The Developing World**

- ① **An Institution with ISO 9001-2007, ISO 17025, and ISO 14000**

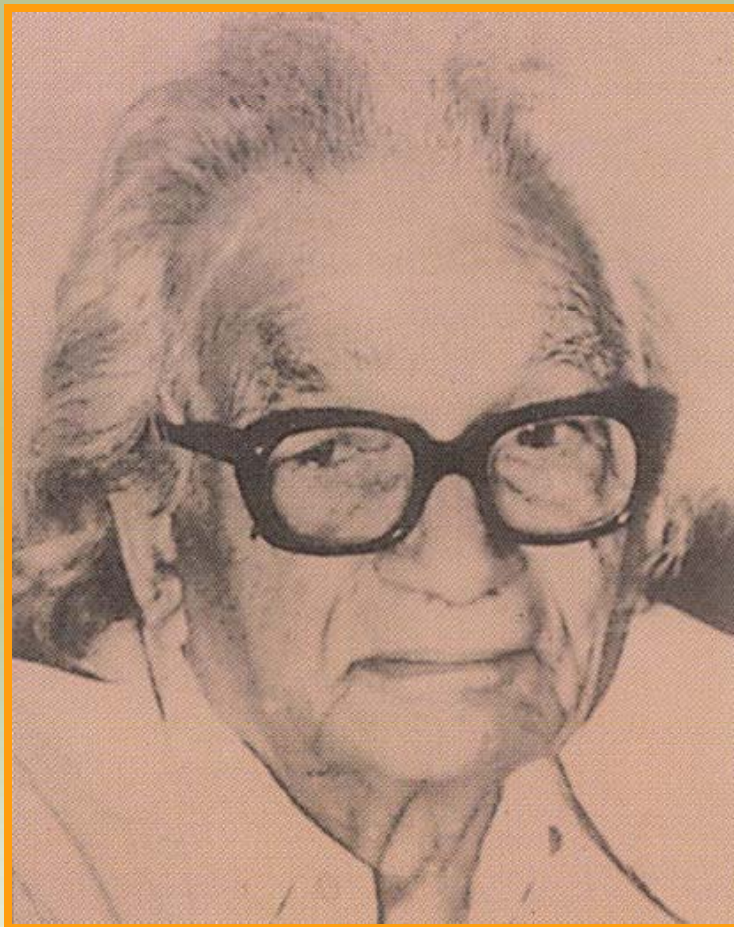
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# ICCBS GENESIS AND HISTORY

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

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**Late Mr. Latif Ebrahim Jamal, *H.I.***  
**Chairman**  
**Husein Ebrahim Jamal Foundation**

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**PROF. DR. ATTA-UR-RAHMAN, *FRS***

**Director 1989 -2008**

**Patron-in-Chief**

**ICCBS**

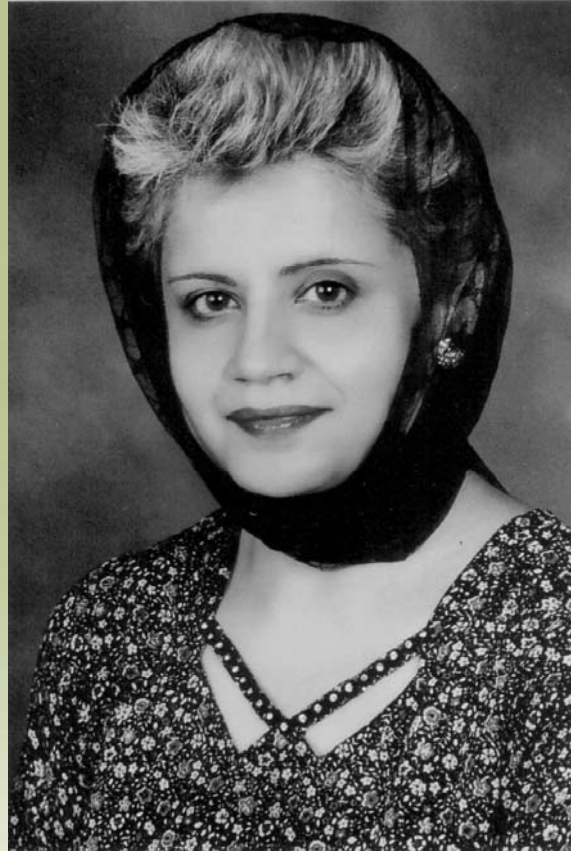




**Prof. Dr. Dr. Wolfgang Voelter, *S.P.*, *H.P.***  
**Tubingen University, Germany**

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**Ms. Nadira Panjwani, *H.I., S.I.*  
*Chairperson*  
Dr. Panjwani Memorial Trust**

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

**Director ICCBS**

**2008- Today**

**2002 Acting Director**

**ICCBS**



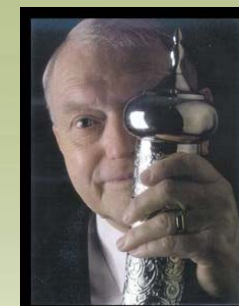
# AN INSTITUTIONAL MODEL

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.

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Slides curtsey: Prof. Dr. M. Iqbal Choudhary

# *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.**

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

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# *ICCBS INSTITUTIONAL EXCELLENCE*

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# *HIGHEST RESEARCH OUTPUT*

- ★ **Research publications in top international journals:** **Over 4,200**
- International Patents:** **115**
- ★ **Books published internationally:** **155**
- ★ **Total scientific impact factor:** **Over 4,500**
- ★ **Total Ph.D.'s produced:** **Over 500**
- ★ **Total Citations** **Over 30,000**

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# ***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. (PCST Document , Scientists of Pakistan, 2011)**
- ❖ **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.**

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# ***MOST DECORATED ACADEMIC SCIENCE INSTITUTION***

❖	<b>Fellow of Royal Society (FRS)</b>	<b>2</b>
❖	<b>UNESCO Science Prize</b>	<b>1</b>
❖	<b>Nishan-e-Imtiaz</b>	<b>1</b>
❖	<b>Hilal-e-Imtiaz</b>	<b>4</b>
❖	<b>Sitara-e-Imtiaz</b>	<b>11</b>
❖	<b>Pride of Performance</b>	<b>1</b>
❖	<b>Tamgha-e-Imtiaz</b>	<b>8</b>
❖	<b>D. Sc.</b>	<b>8</b>
❖	<b>Khawarizmi International Award</b>	<b>5</b>
❖	<b>ECO Award and Prize</b>	<b>2</b>

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

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

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# *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.**

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- ★ **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)**

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# *INTERNATIONAL GRANTS*

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

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

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

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# *ICCBS CURRENT INSTITUTIONAL SETUP*

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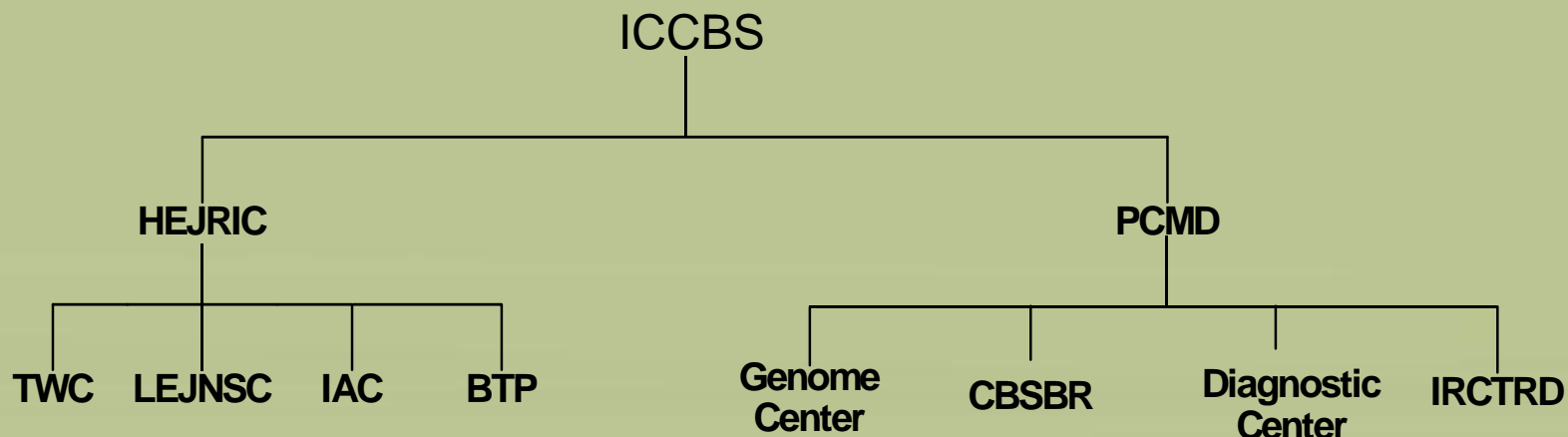
# MASTER PLAN OF INTERNATIONAL CENTER FOR CHEMICAL AND BIOLOGICAL SCIENCES

HEJ. Main Building  
 Panjwani Centre  
 Animal House  
 Pilot Plant Room  
 Third World Center  
 Auditorium  
 International Guest House  
 Dining Club  
 Two Rooms Foreign Faculty Flats  
 Single Rooms Foreign Faculty Flats  
 Industrial Analytical Center  
 Staff Flats, 11 - 16  
 Staff Flats, 1 - 4  
 Stock Room  
 Tissue Culture Center  
 Cut Flower Building  
 New Research Laboratory Building  
 Visiting Scholar Accommodation  
 Girls Hostel  
 Panjwani Centre Phase 2



MASTER PLAN OF  
 HEJ. RESEARCH INSTITUTE OF CHEMISTRY  
 INTERNATIONAL CENTER FOR CHEMICAL AND BIOLOGICAL SCIENCES  
 UNIVERSITY OF MUMBAI

# 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
BTP	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

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

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# *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**

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# *HUSEIN EBRAHIM JAMAL RESEARCH INSTITUTE OF CHEMISTRY- Areas of Research*

- ① **Natural Product Chemistry**
- ① **Protein Chemistry**
- ① **Pharmacology**
- ① **Supramolecular Chemistry**
- ① **Synthetic Organic Chemistry**
- ① **Medicinal Chemistry**
- ① **Herbal Medicine**
- ① **Plant Biotechnology**

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**DR. PANJWANI CENTER FOR MOLECULAR MEDICINE AND DRUG RESEARCH**

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# *Dr. Muhammad Husein Panjwani*



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# *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
- ① 15 Faculty members, two research officers, Over 50 Students, 4 Post. Doc.
- ① Focused areas include molecular immunology, stem cell research, diabetes, neuropharmacology, enzymology, computational medicinal chemistry, structural biology, molecular oncology, tissue culture, etc
- ① Diagnostic and Clinical Research facility was established as service wing

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# *DR. PANJWANI CENTER FOR MOLECULAR MEDICINE AND DRUG RESEARCH- Areas of Research*

- ① **Neuroscience**
- ① **Stem Cell research**
- ① **Molecular Oncology**
- ① **Molecular Immunology**
- ① **Molecular Pathology**
- ① **Proteomics**
- ① **Rational Drug Designing**
- ① **Bioequivalence and Bioavailability Studies**

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# *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)**

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

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# *INDUSTRIAL ANALYTICAL CENTER*

- ★ **Serving over 400 industries annually**
- ★ **New products development**
- ★ **Raw material testing**
- ★ **Quality improvement/control/assurance**
- ★ **International certification**
- ★ **Industrial informatics**
- ★ **Pesticide residue and toxic metal analysis**
- ★ **Toxicity testing**

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# *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**

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# The largest doctoral program in the country producing about 50-60 world class Ph.D.s every year in the following fields:

Herbal medicines, Vaccine development, Plant biotechnology, Pharmacology, Organic Chemistry, Drug designing, Computational medicinal Chemistry, Bio-organic, Synthetic and Natural Product Chemistry, Electrochemical Studies, Petroleum and Polymers, Clinical Biochemistry, Neuropharmacology, analytical chemistry



ICCBS group photo 2010

Research publications in top international journals: Over 4,000  
Patents (national and international): 85  
Books published internationally (over 90 by Prof. Atta-ur-Rahman): 135  
Total scientific impact factor: Over 4,500  
Total Ph.D.'s produced: Over 400  
Total Citations: Over 30,000

# *ICCBS PLANNED FUTURE INSTITUTIONS*

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# *PLANNED NEW INSTITUTIONS (2006-2020)*

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

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# ***STRENGTHENING OF EXISTING INSTITUTIONS (2006-2020)***

- ① **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)**

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# *INFRASTRUCTURE DEVELOPMENT (2006-2020)*

- ① **Development of 150 Acre of land, provided by the University of Karachi (roads, water and sewerage lines, gas and electricity)**
- ① **Construction of Scholars Hostels**
- ① **Construction of Conference Facilities**
- ① **Sports Center, Recreational Facilities and Clinic**

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# *INCREASED ACCESS BY 2016*

- ① **Over 1,200 Ph. D. Students (Current Ph. D. enrolment 480)**
- ① **150 Post-doctoral Scholars**
- ① **Faculty 150**
- ① **60 Research Officers**

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# PHASING OF DIFFERENT FUTURE 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

1. Industrial Linkages-  
Technology and  
Technology Incubator



2. Development of 50 Acre  
of additional



3. Food and Nutritional  
Science Institute



4. Bioequivalence and  
Biology Study Center



5. Strengthening of PCMD



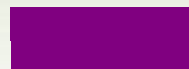
6. National Imaging  
Facility



7. Center for  
Nanochemistry Research



8. Strengthening of IAC



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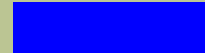


Institution	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021

1. Nanochemistry and Material Science Center



2. Jamil-ur-Rahman Center for Genome Research



3. Industrial Biotechnology Hostels



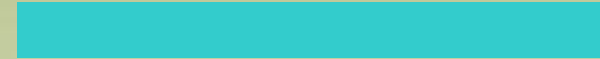
5. Construction of Scholars Hostels



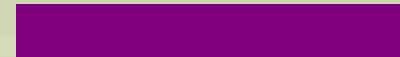
6. Construction of Conference Facilities



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



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# *ICCBS- UNIQUE FEATURES*

- ★ **Role of leadership (Internationally renowned leader, Prof. Atta-ur-Rahman).**
- ★ **Strong 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.**

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**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”.***

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**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”.***

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**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”.***

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# *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.**

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# *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.

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- 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.**

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- 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.**

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# ***EXECUTIVE SUMMARY***

- 1. 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.**

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- 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 .**

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- 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.**

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**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.**

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## *SOME OF THE MAJOR CONTRIBUTIONS OF ICCBS*

- 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.**

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- 5. Development of most Potent Anti-epileptic 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. Standardizations of a large number of herbal medicines**
- 10. The genome of first Pakistani (9<sup>th</sup> nation in the world) was completely mapped in collaboration of Beijing Genomic Institute.**

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## *SOME OF THE MAJOR ACHIEVEMENTS OF ICCBS IN 2011*

- **PCMD-BGI Jointly Map Genome of First Pakistani/Muslim**
- **H.E.J. Institute Selected as the OIC Center of Excellence**
- **Procurement of Major New Instruments for the ICCBS Institutions:**
  - **Ultra Performance Liquid Chromatographs (6) (HEJ)**
  - **Triple Quadrupole 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)**
  - **Atomic Force Microscope**
  - **High Speed Sequencers**

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## *SOME OF THE MAJOR ACHIEVEMENTS OF ICCBS IN 2011*

- **Establishment L. E. J. Nanochemistry Center**
- **Establishment of Jamil-ur-Rahman Center for Genome Research**
- **50 Ph.D. and 22 M. Phil.**

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## *UPCOMING EVENTS (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, 2013.**
- **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.**

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# *Scholarships/ Schemes ICCBS Offers*

**Joint NAM S&T Centre-ICCBS Karachi (Pakistan)  
Fellowship**

**[www.namstct.org](http://www.namstct.org)**

**TWAS Fellowship Program**

**<http://www.iccs.edu/twas.php>**

**COMSTECH Visiting Scientists Program**

**<http://www.comstech.org/Programs>**

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## *WHAT WE CAN OFFER*

- **Faculty Development Program**
- **Technician Trainings**
- **Joint Research Projects**
- **Graduate Student Exchange**
- **Senior Scientists Expert Service**

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# *What We Can Offer to Our Colleagues?*

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# Research Training

- 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

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# **Access to Spectroscopic and Bioassay Facilities**

- **Access to excellent spectroscopic facilities**
- **Bioassay screening**
- ***In vivo* assays**
- **Library document delivery system**
- **Compound Bank (Over 10,000 compounds now)**
- **Extract Bank (Over 5000 plant extract)**
- **Bio Bank (Cell lines and fungal cultures)**



# **Access to ICCBS Faculty- *Our Most Precious Resource***

**ICCBS Faculty Can Visit Your Centers for:**

- **Joint supervision of M. S./ Ph. D. research**
- **Skill development program**
- **Introduction to new technologies**
- **Courses**
- **Speakers in your scientific events**

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# **Academic Collaboration**

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

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# **Joint Research Programs**

- **Collaborative Research Projects**
- **Field Surveys**
- **Pre-Clinical Trials**
- **Animal Studies**

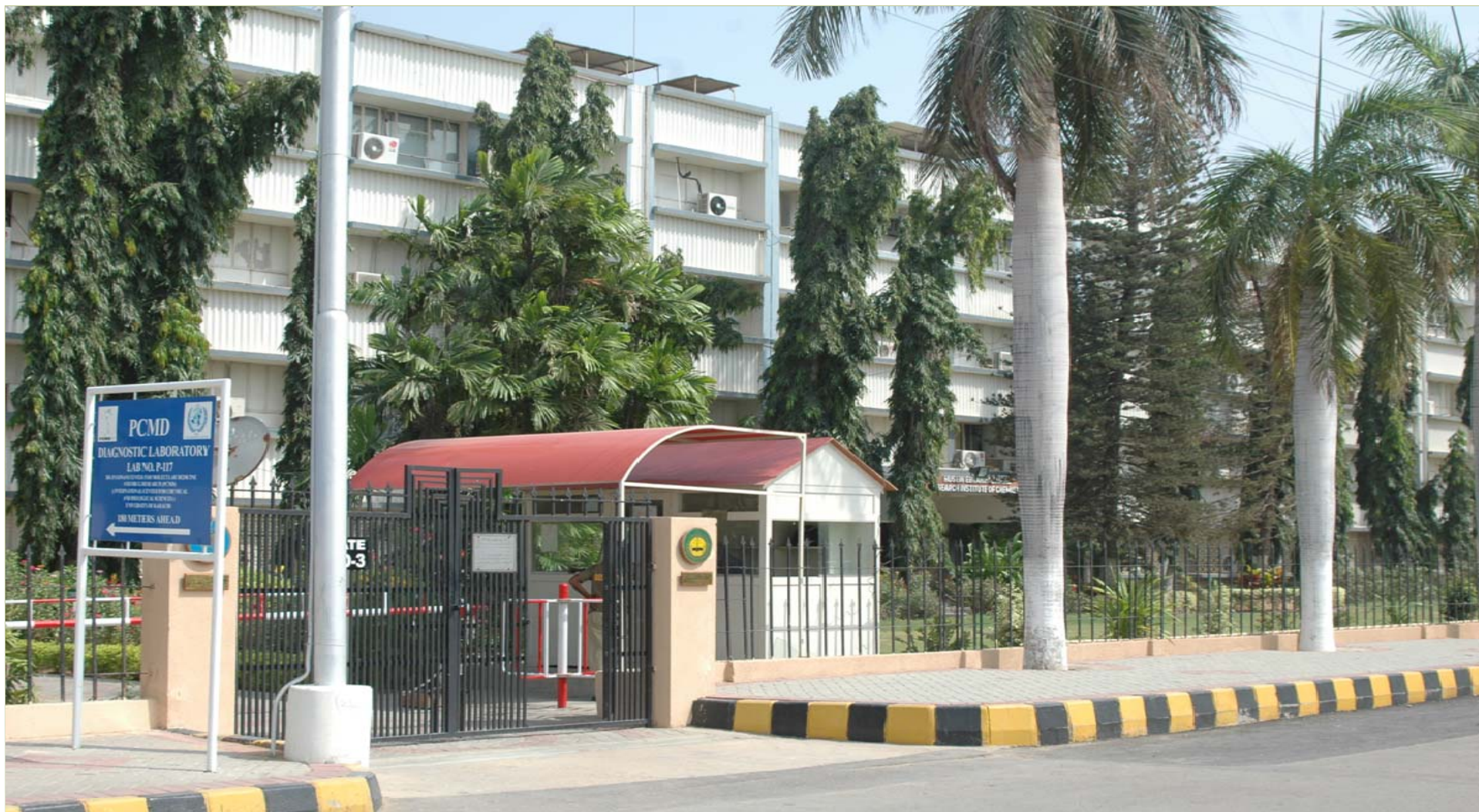
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**H. E. J. RESEARCH INSTITUTE OF CHEMISTRY  
(Constructed In 1978 With A Grant From Husein Ebrahim Foundation)**

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## **DR. PANJWANI CENTER FOR MOLECULAR MEDICINE AND DRUG RESEARCH**

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

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## INDUSTRIAL ANALYTICAL CENTER (IAC)

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***INTERNATIONAL GUEST HOUSE***

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## ***TISSUE CULTURE TECHNOLOGY PARK***

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***CENTER FOR BIOEQUIVALENCE STUDIES AND BIOASSAY RESEARCH***

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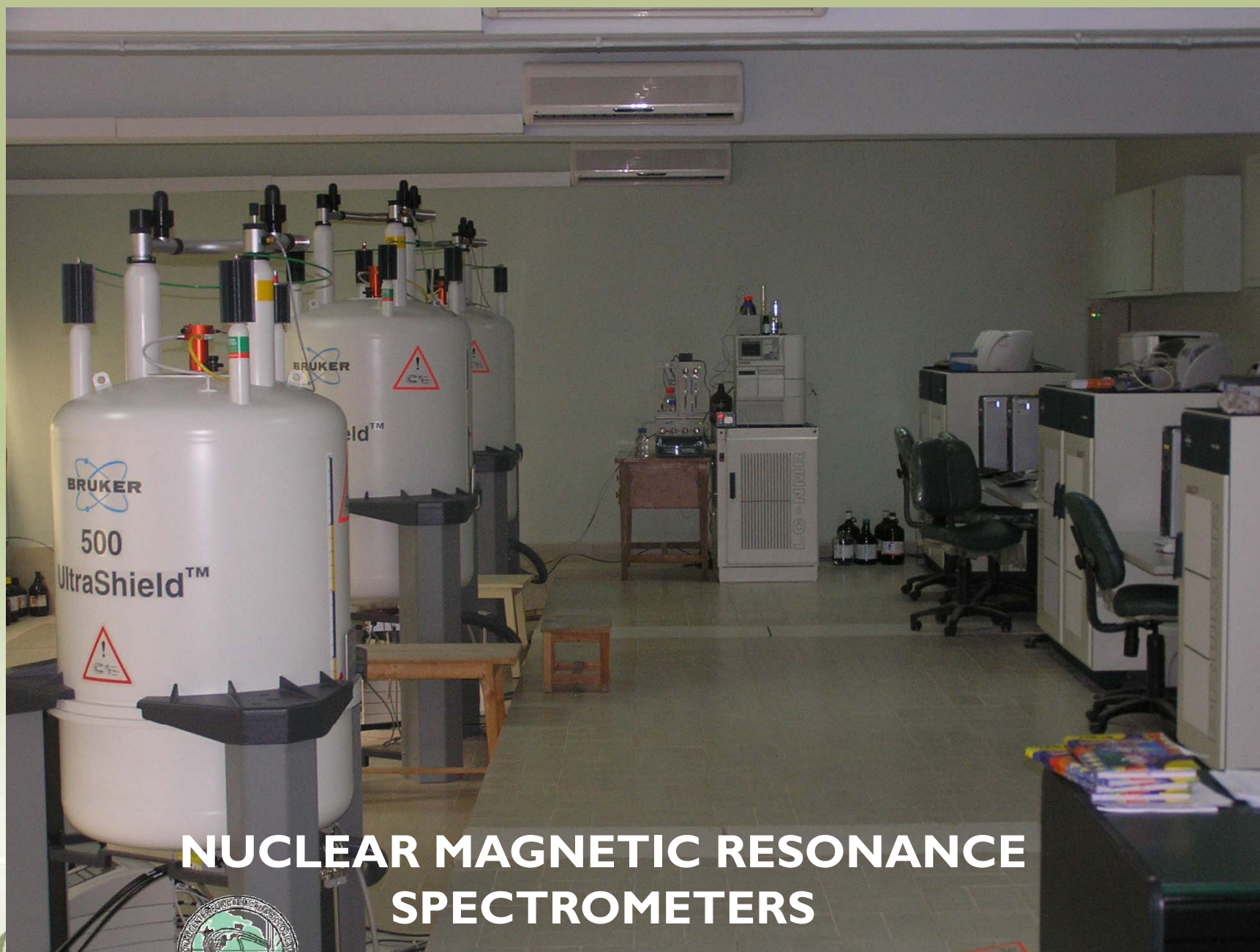


**MALDI-TOF (Ultra-flex-III)**

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## NUCLEAR MAGNETIC RESONANCE SPECTROMETERS



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## NUCLEAR MAGNETIC RESONANCE SPECTROMETERS

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**MASS SPECTROMETER (ELECTRON BOMBARDMENT SYSTEM)**

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**MASS SPECTROMETER (ELECTROSPRAY IONIZATION)**

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## ***BIO BANK AT PCMD***



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**PILOT PLANT**

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

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**Advance Re-cycling HPLCs**

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



**BIOTECHNOLOGY DIVISION**

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## **PLANT BIOTECHNOLOGY DIVISION**

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## ***PLANT BIOTECHNOLOGY DIVISION***

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**COMPOUND BANK AT THE PCMD**

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## COMPOUND BANK AT THE PCMD

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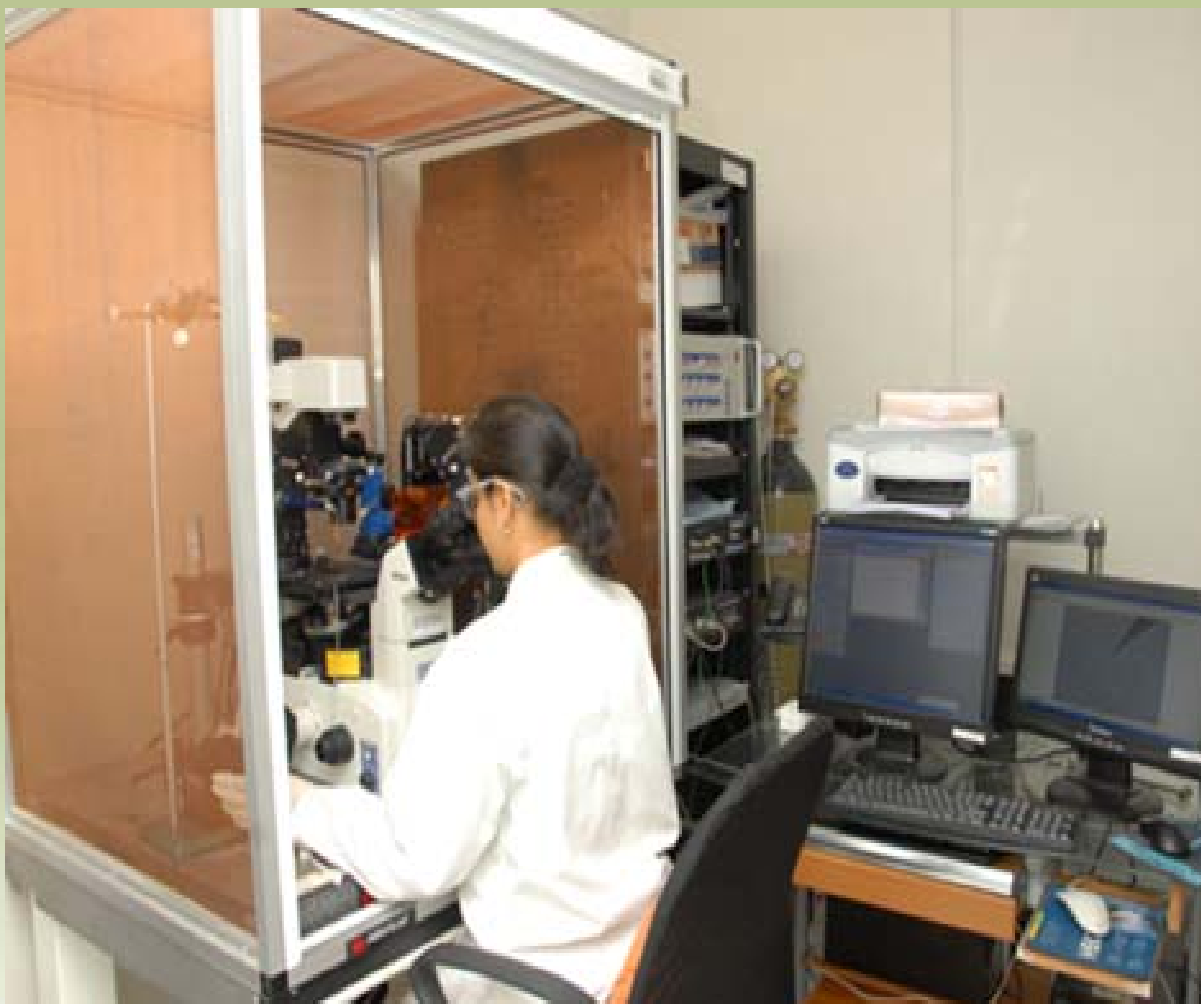




## **DIAGNOSTIC LABORATORY AT THE PCMD**

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***PATCH CLAMP FACILITY AT PCMD***

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## **TISSUE CULTURE FACILITY AT THE PCMD**

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## CANCER CELL LINES AT PCMD

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## **FLORESCENCE MICROSCOPIC LABORATORY**

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## **ATIONAL CHEMISTRY LABORATORY**

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## IMMUNOLOGY LABORATORY

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## NEUROPHARMACOLOGY LABORATORY

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## PHARMACOLOGY LABORATORY

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## STEM CELL RESEARCH LABORATORY

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**DATABASE SEARCHING FACILITY OF THE  
LATIF EBRAHIM JAMAL NATIONAL SCIENCE CENTER**

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## **VIDEO CONFERENCING OF THE LATIF EBRAHIM JAMAL NATIONAL SCIENCE CENTER**

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## **VIDEO LECTURE FACILITY OF THE LATIF EBRAHIM JAMAL NATIONAL SCIENCE CENTER**

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**Director ICCBS, with French Delegates**

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**Director ICCBS, with French Delegates**

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

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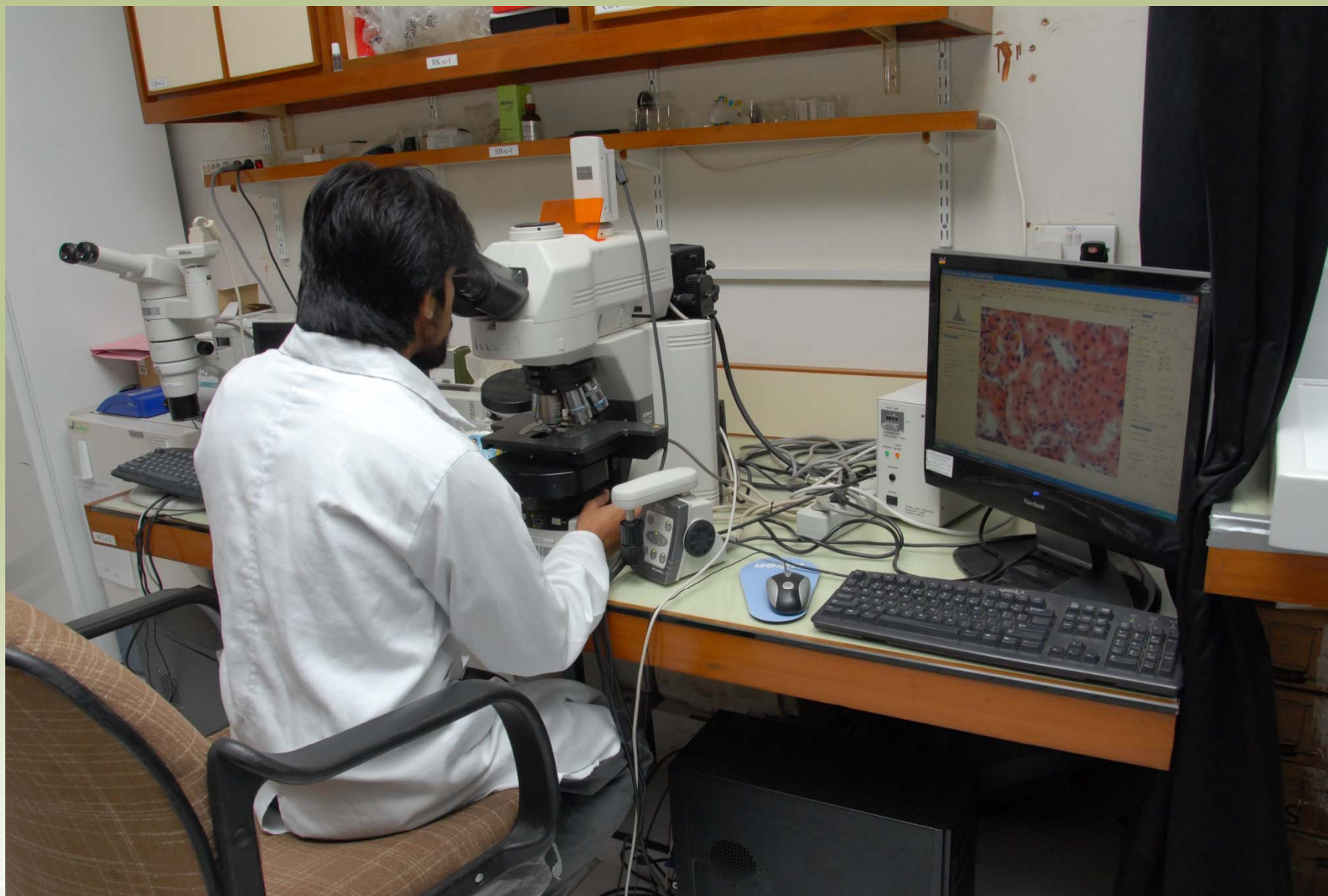




**IN HOUSE LIQUID NITROGEN SETUP**

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***FLUORESCENCE MICROSCOPIC LABORATORY (PCMD)***





Pictures of some Germans students visited the institute

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# **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.



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***RESEARCH IN NANOPARTICLES***

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***INAUGURATION OF JAMIL-UR-RAHMAN CENTER FOR GENOMIC RESEARCH***

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# The only institute which has received Islamic Development Bank (IDB) Prizes for Best Science Institution Twice (2004 and 2010)



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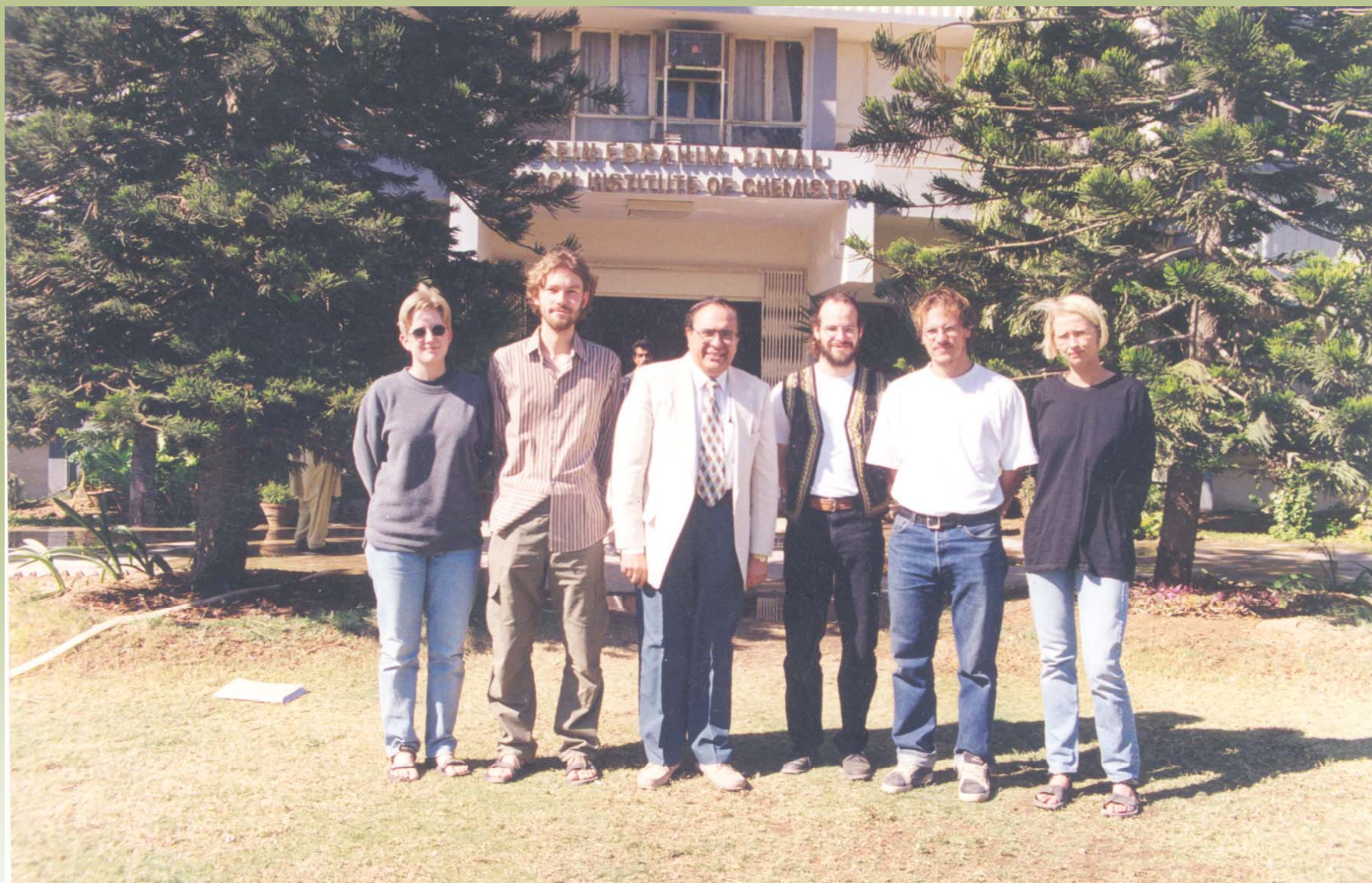




**A GROUP OF GERMAN STUDENTS**

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**GERMAN STUDENTS ON TRAINING**

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**FORIEGN FACULTY AND STUDENTS**

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**FORIEGN FACULTY AND STUDENTS**

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## FORIEGN STUDENTS

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***ICCBS Group Photograph, 2011***

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***FEW STUDENTS OF ICCBS***

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**THANK YOU VERY MUCH**

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