

**Memorandum of Understanding on Faculty and Student  
exchange between Tohoku University Japan & Dyal Singh  
College, Karnal, India**

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|---|---|-----------------|---------------|
| <b>1. Name of contact:</b>  | <b>Dyal Singh College Karnal India</b>                            |                 |               |
| <b>2. School / Centre:</b>  |   | <b>Faculty:</b> | Science       |
| <b>3. Contact email:</b>  | dsckarnal@gmail.com   | <b>Phone:</b>   | +919416221193 |
|   | rakeshdsc@gmail.com   |                 |               |
| <b>DETAILS OF PARTNER INSTITUTION</b>   |   |                 |               |
| <b>1. Name of institution:</b>  | Dyal Singh College Karnal   |                 |               |
| <b>2. Country of institution:</b>   | India   |                 |               |
| <b>3. Institution website:</b>  | <a href="http://www.dsckarnal.com/">http://www.dsckarnal.com/</a> |                 |               |
| <b>4. Name of signatory for MOU:</b>  | Dr. Rakesh Kumar Bhardwaj   |                 |               |
| <b>5. Position / title of signatory for MOU:</b>  | Principal   |                 |               |
| <b>STATUS OF INSTITUTION</b>  |   |                 |               |
| <b>1. Most recent rankings according to UGC</b>   | Grade "A" by NAAC   |                 |               |
| <b>2. Any prior links, previous or current research collaborations, history of staff or student exchange, previous MOU:</b>   |   |                 |               |
| <ul style="list-style-type: none"> <li>➤ Visiting Fellowship to Department of Chemistry, University of Debrecene , Hungary by INSA International Scientist Exchange Programme of INSA Delhi</li> <li>➤ Commonwealth Fellowship</li> <li>➤ UGC Fellowship</li> <li>➤ Indian Academy of Science Bangalore Summer Fellowship</li> <li>➤ Zoological Society of London</li> <li>➤ Edith Wharton Society USA</li> </ul> |   |                 |               |
| <b>3. Brief description of proposed partner institution:</b>  |   |                 |               |
| <p>Dyal Singh College, Karnal India as it stands today is a premier co-educational centre of learning of Northern India, accredited with Grade "A" by NAAC. With a strength of 4000 students, the college has all the three streams of learning – Humanities, Science and Commerce, with six Post Graduates courses including chemistry. Dyal Singh College has</p>   |   |                 |               |

completed Hundred Years of its existence , On May 3, 2010 turning it into a century- old Fortress of Learning and Education... maintaining the tradition of Spirituality and Scientific temper in a world of diminishing human values...inculcating in young minds, a harmonious blend of the "Wisdom of the East and West". True to the Will of our illustrious Founder, late Sardar Dyal Singh Majithia, the path of Wisdom, Morality and Ethics has been the kindling force all along.

#### **ADVANCED INSTRUMENTATION RESEARCH FACILITY (AIRF)**

The Advanced Instrumentation Research Facility (AIRF) has been set up by the college with analytical equipments for research in the department of Chemistry, Bio Technology, biological and environmental sciences. The equipments /apparatus are in use by the students and faculty members . FTIR ( Bruker), Atomic Absorption Spectrophotometer, UV spectrophotometer, PCR, Laminar Flow BOD incubator for the culture of anamox bacteria . Tissue culture chamber Electrophoresis kit are some of the analytical equipments to mention and in regular operation.

#### **PURPOSE OF MOU AND BENEFITS**

Memorandum of Understanding (MOU) for collaborative academic programs, initiatives and exchanges between Dyal Singh College Karnal –India and Tohoku University was signed at Dyal Singh College Karnal India on 9<sup>th</sup> December , 2012

Starting with this MOU, we aim to enhance exchanges between the students of both institutions, and to pursue new types of alliances between overseas universities. Intensive study programs will lead to the enhancement of practical skills, being one of the elements of institute's commitment to the practical application of education.

Dyal Singh College Karnal is run by Dyal Singh College Trust Society Delhi India . The environment in our institute not only helps students to master a broad range of intellectual skills, but also to develop an approach to solving social problems based on a liberal perspective. In 2009, new courses on M.Sc Chemistry, M.Com, MA Economics , and environmental science were introduced with an aim to meet the future need of a society. The collaboration with Tohoku University, Japan in the field of research will give an opportunity to faculty members as well as the students to exchange their ideas and to learn new innovative technologies. This project will also help to develop to inculcate a more scientific aptitude to the students and young researchers/faculty members.

1. Analytical Chemistry: Identification of pollutants, trichlosin, phthalates, germicides.

fungicides, melamine etc.

2. Water treatment technologies: Removal of toxic chemicals from waste water using 'Anamox' process.

#### **SIGNING OF OFFICIAL MOU DOCUMENT:**

Within the field of study to be mutually designed both institute agree to the following general form of co-operation

- (1) Joint Research Activities in the fields of basic chemical, biological and Environment Sciences
- (2) Exchange of invitation to scholars for lectures , talk and participation in conferences , workshop, and seminars
- (3) Exchange of information's and pertinent publications in field of interest to both institutes
- (4) Exchange of faculty members and students in postgraduate and graduate for study and research
- (5) To organise the joint activities and conditions for utilizing the results achieved and arrangements for specific visits, exchanges and other forms of cooperation

The agreement will become effective upon the date of signature by the representatives of the institute Dyal Singh College Karnal and Prof. Hidekai Harada Japan . The agreement can be modified by mutual agreement during the term of agreement. Unless review of this agreement is required, it will automatically be extended every five years.

The academic exchange between Tohoku University Japan and Dyal Singh College Karnal India , as it relates to the exchange of students will be implemented as follows:

1. The students participating in the exchange programme during the term of agreement will be selected initially by the home institute. And the host institute will make the final admission decision in each case .
2. Each institute will enrol no more than 10 students from each side each year. The actual number of students exchanged will be determined each year by mutual in advance consultation.
3. The period of enrolment of the students at host institute will not exceed one year
4. The student will continue as candidates for degree at their home institute and will not be candidate for degree at the host institute.

5. Travel expenses, cost of living , medical/health insurance or other necessary expenses incurred by the students will be the responsibility of the individual students or their sponsors. This does not preclude applications for scholarships from independent institutions.
6. In order for the exchange to take place, each student will possess the level of language ability requested by the host institute to complete the appropriate course of study . The student should have successfully completed one academic year of study at the home university before admission to the host university . The student should also be of good standing at the home university.
7. Each institute agrees to provide to to the other side , with the documentation of course work completed by the students and the appropriate academic information on their performance . Based upon these reports the home institute will decide the appropriate number of credits to be given to students according to its rules and regulations.
8. The host institute will assist the student in finding adequate and safe housing in the campus or near to campus.

In accordance with a mutual desire to promote further international cooperation between India and Japan, (Dyal Singh College Karnal India and Tohoku University Japan) may further plane to join hands by signing an agreement for Cultural, Educational and Scientific Cooperation.

### **Effective Date and Signature**

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*[Authorized signature from*

*(Dyal Singh College Karnal India)*

\_\_\_\_\_  
*[Authorized signature from*

*(Tohoku University Japan )*