

# Student Exchange Agreement

between

Faculty of Engineering, Graduate School of Science and Technology, and Faculty of Advanced Science and Technology, Kumamoto University

and

Alva's Institute of Engineering & Technology

Following the signing of a Basic Agreement on Academic Exchange Program between Faculty of Engineering, Graduate School of Science and Technology, and Faculty of Advanced Science and Technology, Kumamoto University, Japan, and Alva's Institute of Engineering & Technology, India, both parties conclude an Agreement on Student Exchange.

## 1. Duration of Stay

Duration of stay for students of both parties shall not exceed one academic year, and will normally start in February or August for the University of Alva's Institute of Engineering & Technology and in April or October for Kumamoto University.

## 2. Number of Exchange Students

Each party will normally accept up to a maximum of 2 students under this Agreement yearly. This number can be modified, if necessary, based on the discussion between both the parties.

## 3. Selection of Exchange Students

The home university will normally recommend most suitable students to the host university based on language ability and academic excellence.

## 4. Enrollment of Exchange Students

- (a) Students of Kumamoto University will register as Alva's Institute of Engineering & Technology exchange students and can attend lectures, seminars, and tutorials. Graduate students can also attend research projects.
- (b) Students of Alva's Institute of Engineering & Technology will register as Kumamoto University exchange students and can attend lectures, seminars, and tutorials. Graduate students can also attend research projects.
- (c) Participating students will be subjected to the regulations of the host university.

## 5. Study Program and Evaluation


Each student will determine their study program at the host university in consultation

Agreement on Academic Exchange  
between  
Faculty of Engineering, Graduate School of Science and  
Technology, and Faculty of Advanced Science and Technology,  
Kumamoto University  
and  
Alva's Institute of Engineering & Technology

Faculty of Engineering, Graduate School of Science and Technology, and Faculty of Advanced Science and Technology, Kumamoto University, Japan, and Alva's Institute of Engineering & Technology, India, are signing this Agreement in order to promote friendship and academic exchanges.

- 1) Both parties agree to an academic exchange in various areas of education and research.
- 2) Both parties will make an effort to exchange professors, researchers, administrative and professional personnel and students, and also exchange research materials and publications.
- 3) Both parties will make an effort to promote the exchange but will respect the independence of opinion to their mutual benefits. Specific details on the implementation of particular exchanges noted above and results from the agreement shall be negotiated between the two institutions subject to approval by each institution.
- 4) . This Agreement will remain effective for five years from the date of signing. It may be renewed by mutual consent, if proposed by either party.
- 5) This Agreement may be amended or terminated by mutual consent, if proposed by either party, by giving at least six months notice in writing to the other party.
- 6) This Agreement is written in English and signed in duplicate by both parties. It may be translated into other languages for reference purposes.

Faculty of Engineering, Graduate  
School of Science and Technology,  
and Faculty of Advanced Science  
and Technology, Kumamoto University  
Japan

  
Dean Tsuyoshi Usagawa

Date: 20 June, 2017

Alva's Institute of Engineering  
& Technology  
India

  
Principal Peter Fernandes

Date: 20/06/2017



PRINCIPAL

Alva's Institute of Engg. & Technology,  
MOODBIDRI - 574 225, D.K

with academic advisers of both host and home universities. Academic performance shall be evaluated according to the rules of the host university.

6. Academic Record and Accreditation

Each student will submit to the home university the academic record obtained at the host university and it will be accredited according to the rules of the home university.

7. Tuition

Each student shall be exempted from the payment of any entrance examination fees, admission fees and tuition fees of the host university.

8. Accommodation

The host university will assist students in finding accommodation at a reasonable cost.

9. Financial Responsibility

Exchange students will be responsible for their own expenses, including travel expenses, accommodation costs and health care fees.

10. Duration

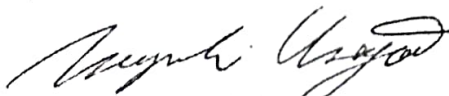
This Agreement is effective from the date of signing, and remains effective until the expiration of the Agreement on Academic Exchange.

11. Amendment/Termination

This Agreement may be amended or terminated by mutual consent, if proposed by either party, by giving at least six months notice in writing to the other party.


12. This Agreement is written in English and signed in duplicate by both parties. It may be translated into other languages for reference purposes.

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School of Science and Technology,  
and Faculty of Advanced Science and  
Technology, Kumamoto University  
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Date: 20/06/2017





**ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY**  
**MOODBIDRI -574225**  
**DEPARTMENT OF MECHANICAL ENGINEERING**



Kumamoto University

**ONE DAY NATIONAL WORKSHOP  
ON  
"NANOFLUIDS: APPLICATIONS FOR HEAT TRANSFER AND ENERGY SYSTEMS"**  
**REPORT IN BRIEF**

One Day National Workshop on "Nano-Fluids: Applications for Heat Transfer and Energy Systems" was organized by Department of Mechanical Engineering, Alva's institute of engineering and technology, Moodbidri on 28<sup>th</sup> September 2017 for the benefit of the students, research scholars, faculty from technical institutes and industrialists to upgrade and share their knowledge.



**Inauguration of Workshop**



**Dr. Shuichi Torii**, Assistant Director (College of Cross-Cultural and Multidisciplinary Studies) and Professor in the Department of Mechanical System Engineering, Kumamoto University – Japan was Chief Guest as well as resource person of the workshop. **Mr. Vivek Alva**, Managing trustee, Alva's Education Foundation and **Dr. P. Selvakumar**, Vice Principal, PSN College of Engg and Technology, Tirunelveli were guest of honours of the function. President of the function **Dr. Peter Fernandes**, Principal, AIET, **Prof. K V Suresh**, convener of the workshop and workshop coordinator **Dr. Satyanarayan** were presided over the podium.

In an inaugural address, **Prof. Shuichi Torii** said, Nanofluid helps in improving the performance of the thermal systems by enhancing heat transfer rate. Nanofluids are widely used in various applications like as fuel, as coolant in automobiles, in medical and electronic equipment to reduce the thermal resistance. Prof. Torii addressed about MOU between AIET and Kumamoto University following opportunities for foreign students to pursue Master and Doctoral courses in Kumamoto University, Japan. He also gave the information on the international symposium which will be held in Japan every year in the month of March and suggested the students and staff members to apply.

**Mr. Vivek Alva**, guest of honour addressed the gathering highlighting understandings between AIET and Kumamoto University about exchange of students, faculty, joint projects handling and utilization of mutual resources in the domains of engineering.

**Dr. Peter Fernandes** Principal of AIET delivered the presidential talk to the gathering. Principal thanked Prof. Torii for hospitality given us at Japan during MoU agreement. Then, he told about the importance of nanotechnology and nanofluids in engineering applications. The reason for selecting nano size particles over micro size particles was well explained by Principal. He gave an example of his paper published in Elsevier journal within three days expressing how important and advanced field is nanofluid. He appreciated the efforts of Dept. of Mechanical Engg in organizing such a wonderful workshop. He thanked Prof. Shuichi Torii for agreeing to deliver Technical talk. He then called upon all the gathering to benefit from this national workshop.

The program was concluded by Vote of Thanks by workshop coordinator **Dr. Satyanarayan**, Associate Professor, Dept. of Mechanical Engg, AIET.

As a part of workshop, Technical talk on Turbulent heat transfer behavior of nanofluid in a circular tube heated under constant heat flux and its application was presented by Prof. Shuichi Torii. He introduced Kumamoto University, Japan indicating the location of Kumamoto, Japan in the world map and how far it is from India. **Prof. Torii** gave a brief history of Kumamoto University highlighting legends created from this university.

In the talk Prof. Shuichi Torii described basics and importance of Nano-Fluid defining that, it is a fluid with particles less than 100nm in diameter suspended in a fluid like water, engine oil or other fluid etc. Further, he explained and elaborated results of all the research works done on Nanofluids at Kumamoto University, Japan. He spoke about agglomeration of nano particles and prevention of the same. He conveyed that, turbulent flow is of higher importance than laminar flow.



**Talk:** Turbulent heat transfer behavior of nanofluid by **Dr. Shuichi Torii**

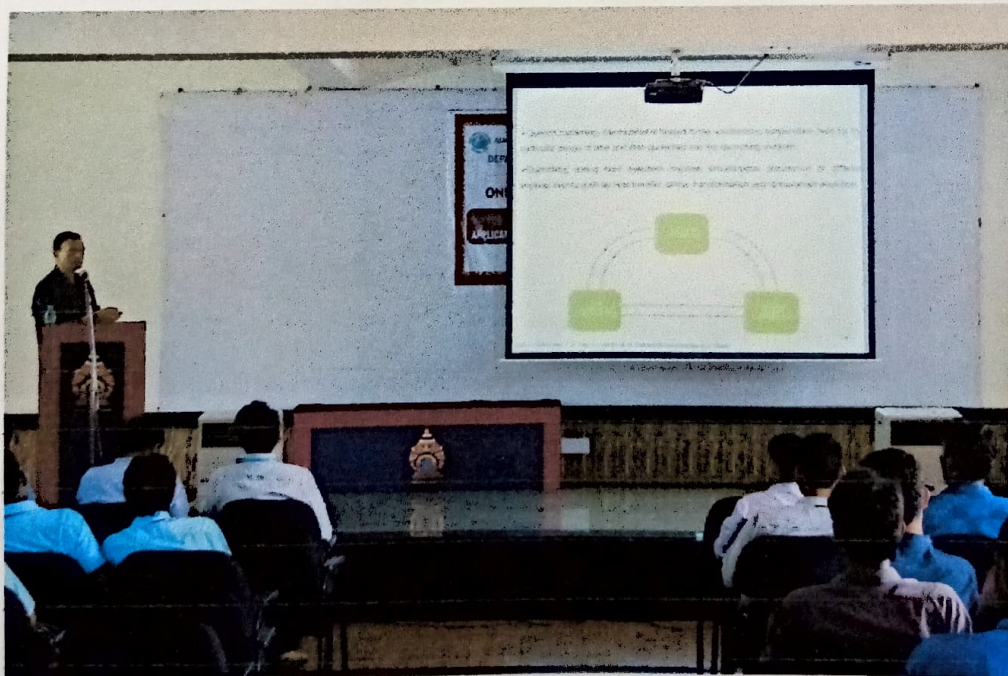
In the presentation, he exhibited compounding of Nano Particles of Cu and  $\text{Al}_2\text{O}_3$  with water and measurement of thermal conductivity against the concentration of the Nano particles. He said, diamond nano particles were synthesised at Institute of pulsed power science (Shockwave and condensed matter research centre) of Kumamoto University. He also talked about the Zeta potential of Nano- Diamonds in fluid. In which water was considered as a fluid.

In future Professor will be focussing on usage of Nanofluids as coolants so that higher performance and lower size can be achieved. He ended his presentation indicating that research in the area of improvement of heat transfer performance of Nano-Particles is important and should be focussed on systematically. The talk was followed by interaction with delegates. **Prof. Chadaga**, Dean and Head, Dept. of MBA, interacted with Professor about use of nanofluids in space applications. Later as a token of love and appreciation Memento was given to Prof. Shuichi Torii by **Dr. Peter Fernandes**.





**Presentation of Memento to Prof. Shuichi Torii by Principal Dr. Peter Fernandes**



**Talk: Science & Technology of Quenching Nanoquenchants for Industrial Heat Treatment-  
Dr. K. N. Prabhu, Professor, NITK Surathkal**









**Discussion about MoU matters, exchange of faculty and students**



**Discussion of exchange of students between AIET and Kumamoto University, Japan**

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 H. O. D.  
 Dept. Of Mechanical Engineering  
 Alva's Institute of Engg. & Technology  
 Mijar, MOODBIDRI - 574 225



**Prof. Shuichi Torii Interaction with students**

*Shuichi Torii*  
H. O. D.  
Dept. Of Mechanical Engineering  
Alva's Institute of Engg. & Technology  
Mijar, MOODBIDRI - 574 225





**ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY**  
Shobhavana Campus, Mijar, Moodbidri - 574225  
Mangalore, D.K.  
(An ISO 9001:2008 Certified Institution)  
(A Unit of Alva's Education Foundation ®, Moodbidri)



**DEPARTMENT OF MECHANICAL ENGINEERING**

in association with

**KUMAMOTO UNIVERSITY, JAPAN**



This is to certify that Mr./Dr./Mrs/Ms. ....  
of ..... attended the

ONE DAY NATIONAL WORKSHOP ON

**NANO FLUIDS: APPLICATIONS FOR HEAT TRANSFER AND ENERGY SYSTEMS**

held on 28<sup>th</sup> September - 2017

**Co-ordinator**  
(Dr. Setyanarayan)

**Convenor**  
(Prof. K. V. Suresh)

**Principal**  
(Dr. Peter Fernandes)

**Prof. S. Torii**  
Assistant Director,  
Kumamoto University, Japan