

[०५] पदार्थविज्ञान संकुल, सोलापूर विद्यापीठ, सोलापूर व उत्तर महाराष्ट्र विद्यापीठ, जळगाव या विद्यापीठासोबत विद्यार्थ्यांमधील संशोधन वृद्धी होवून दर्जेदार उच्च शिक्षण मिळण्यासाठी कराराचा (MoU) मसूदा व्यवस्थापन परिषदेच्या विचारार्थ.

(टिपणी: मा. संचालक, पदार्थविज्ञान संकुल यांनी क्र.SUS/PHY/२२, दि.१३/०४/२०१७ अन्वये पदार्थविज्ञान संकुल, सोलापूर विद्यापीठ व उत्तर महाराष्ट्र विद्यापीठ, जळगाव यांच्यामध्ये विद्यार्थ्यांमधील संशोधन वृद्धी होवून दर्जेदार उच्च शिक्षण मिळण्यासाठी कराराचा मसूदा (MoU) पाठविला आहे.

दि.१५/०४/२०१७ रोजीच्या टिपणीवरील मान्यतेनुसार सदर मसूद्यामधील कायदेशीर बाबी तपासण्याकरिता सदरचा मसूदा कायदा अधिकारी यांना पाठविण्यात आला होता.

दि.२८/०४/२०१७ रोजी कायदा अधिकारी यांनी मा. संचालक, पदार्थविज्ञान संकुल सोलापूर विद्यापीठ व उत्तर महाराष्ट्र विद्यापीठ, जळगाव यांच्यामधील कराराचा (MoU) चा मसूदा अवलोकनी घेवून त्यातील कायदेशीर बाबींची तपासणी केलेली असून सदर बाबी बरोबर आहेत, असे कळविले आहे.

सबब, मा. संचालक, पदार्थविज्ञान संकुल यांनी दि.१३/०४/२०१७ च्या पत्रान्वये विनंती केल्यानुसार सोबत जोडलेला कराराचा मसूदा व्यवस्थापन परिषदेच्या विचारार्थ).

ठराव: सोलापूर विद्यापीठ, सोलापूर आणि उत्तर महाराष्ट्र विद्यापीठ, जळगाव या विद्यापीठातील शिक्षक व विद्यार्थ्यांमध्ये संशोधन कार्यात वृद्धी होवून दर्जेदार उच्च शिक्षणाच्या अधिक सुविधा उपलब्ध होण्याकरिता तयार केलेल्या कराराच्या (MoU) मसूद्यास सर्वानुमते मान्यता देण्यात आली.





MEMORANDUM of UNDERSTANDING

(MoU)

Between

NORTH MAHARASHTRA UNIVERSITY

JALGAON, MAHARASHTRA, INDIA

AND

SOLAPUR UNIVERSITY, SOLAPUR,

MAHARASHTRA, INDIA



MEMORANDUM OF UNDERSTANDING

Between

**NORTH MAHARASHTRA UNIVERSITY JALGAON, MAHARASHTRA, INDIA
AND
SOLAPUR UNIVERSITY, SOLAPUR, MAHARASHTRA, INDIA**

This Memorandum of Understanding (herein after referred to as MoU) is made on this 31st day of the month of July in the year 2017 by and between North Maharashtra University (NMU) Jalgaon, Maharashtra, India having its head Office at Jalgaon, Maharashtra [here in after called "NMU", Jalgaon/First party], on the ONE PART and the SOLAPUR UNIVERISTY, SOLAPUR on the OTHER PART (who for the purpose of this MoU are hereinafter collectively referred to as the parties). Both the parties, having discussed fields of common research interests and allied activities between the two institutions, have decided to enter into long-term collaboration for promotion of student's training and quality research in cutting edge areas.

WHEREAS the "First Party" is involved in the studies on Conducting polymers, Conducting polymer Nano-composites, Nanostructured metal oxides, Corrosion protection, Self healing coatings, Gas/Humidity/Bio sensors, Optoelectronics, VLSI technology, Optical communication technology, CAD tools for integrated circuits, Computer simulations of semiconductor lasers, Microprocessors and applications, Optoelectronics device design, High and low-k dielectric films, Optoelectronics device design, Organic photovoltaic, Photovoltaic thin films, High temperature superconductivity, Giant magneto resistance (GMR) materials, Organic photovoltaic, Nano-structured conducting polymers for Nano-Sensors and Bio-Sensors, Semiconductor materials, Polymer waveguides, Materials Science / Electrochemistry, thin film growth and characterization, MIS structures, Novel High-K / Metal gate stacks, MOS capacitors for advanced CMOS technology, Modeling and simulation of CMOS nano devices and processes for future ULSI technology, Reliability issues of the novel materials and nano devices, Synthesis and characterization of nano materials, Organic semiconductor devices, Nanoelectronics devices, Nano-Simulation, Semiconductor and optoelectronics device simulation, Device development, Fabrication and characterization, Green Chemistry (Environmentally benign approach), Polymer

synthesis from renewable feedstock. Eco-friendly synthetic pesticides, Pesticides formulations, Biologically active metal complexes, Natural products and derivatives/ botanicals as pesticides, greener synthetic methodology for development of high energy materials, synthesis of biologically active/heterocyclic compounds, Industrial waste management / analysis and utilization, Supramolecular chemistry, Nanocatalyst in advanced oxidation processes and advanced radiation process for remediation of environmental pollutants, Protein folding dynamics using CD spectroscopy and TCSPC, Fast kinetics using radiation and photochemistry techniques (Biomolecules azo/LASER dyes), Molecular spectroscopy and instrumentation, Quantum chemical calculations, Synthesis and applications of noble metal clusters and evaluation of their biological and catalytic properties, Molecular recognition and transport and thermodynamics and spectroscopy of Aqueous solutions, etc.

AND WHEREAS the "Second Party", established by the state of Maharashtra in the year 2004 for promoting Higher Education and Research in this part of the state to global standards has been considered expedient to agree in writing to participate jointly in the projects requiring expertise and logistics from both the parties, and is involved in the studies on Nano technology of materials, Conducting polymers, Synthesis & characterization of high performance polymers, Utilization of renewable raw materials to value added product, Metal oxides, Gas sensors, Supercapacitor, Dye synthesized solar cells, Photoelectrochemical solar cells, DMS materials and their applications in spintronics, Semiconductor thin film fabrication and characterization, Wireless sensing network systems for gas leakage detection; monitoring and protection, air pollution monitoring, WSN for agriculture applications, electronic nose for monitoring the status of fruits and vegetables, WSN for medical applications, Synthesis and characterization of ferrite materials, antenna designing, virtual instrumentation, image processing, VLSI designs, Microwave communication and other thrust areas of research.

Article 1. Scope

1.1 Both the parties will sign on the contract of MoU for mutual exchange between the research students and teaching staff/supervisors, use of research facilities, discussions and exchange of ideas, training programs and R & D proposals of common / mutual interest. The second party will recognize the first party as an Institute for conducting research work leading to the thesis requirements of the research students for capacity building on controlled experiments in nanomaterials, sensors, photovoltaics, wireless sensing networks and related electronics and instrumentation. Following are few of the goals under this MoU.

i.	Preparation of HPP/conducting polymer-metal oxide nanocomposite for gas sensor application.
ii.	Preparation of nanocrystalline ferrites for gas sensor application.
iii.	Synthesis of organic (polymers)/ inorganic (metal oxides) for supercapacitor applications.
iv.	Synthesis of II-VI, IV-VI and III-V group elements for photovoltaic solar cell applications.
v.	Synthesis of DMS materials for spintronic applications.
vi.	Synthesis of novel metal oxide of chemical routes for photocatalysis application.
vii.	Development of dynamic WSN – based gas leakage detection system for home/industry safety applications (Android and Lab VIEW and Raspberry pi based IOT controlled systems.)
viii.	Development of E-Nose systems for fruit/vegetables and medical applications.
ix.	Development/synthesis of Zr-based Aero Gels for catalytic/fuel cell applications.
x.	Purification of MEMS technology based on discrete micro and nano sensors for a variety of applications.
xi.	Organization of Hands-on training programmes at Solapur University (Second party).
xii.	Development of infrastructure facilities for clean room culture.
xiii.	Organization of conferences and mutual visits.
xiv.	Joint Ph.D. supervision.
xv.	Optimal usage of facilities.
xvi.	Exchange of teaching faculty professors for special lectures.

1.2 Operational details of research efforts and collaboration in common research programs and/or projects restricted to specific mandated domain within the approved disciplines/divisions will be made. [The objective(s) for research work of a student coming from the Second party, outside NMU, Jalgaon should be exclusively different as far as possible.]

1.3 Research instrumentation facility and library facilities (Knowledge Resource Centre) available with the First party and the Second party will be made available to the faculty and research scholars of both parties. However, the costs of specific consumables will be borne by the respective organizations.

1.4 During exchange visits accommodation in the Hostels/ Guest houses shall be arranged, wherever possible, as per existing rates of the institutes. The duration of exchange visits will be determined by mutual consent between both the parties.

Article 2. Management

2.1 Head of the Institution of the first party and the Head of the Institution of the second party will be responsible to work out operational details of co-operation between the two organizations and to ensure proper and effective implementation of this MoU.

2.2 The Advisory Committee will meet every six months or as and when required in the institutions of the first party and the second party to review the activities. This meeting shall include presentation on the academic and research activities, which should be open to the students, faculty and researchers.

Article 3. Exchange of Information

3.1. The term "Information" includes scientific or technical data, results and/or methods of investigation, and other information intended to be provided, exchanged, or arising under project, the description entered into pursuant to this MoU.

3.2. The parties shall support the widest possible dissemination of information. Each party, in a joint project, shall be given the right to use, disclose, publish or disseminate such information for any and all purposes.

Article 4. General Provisions

- 4.1** It is understood that the first party and the second party shall subscribe to the principle of equal opportunity and shall not discriminate any such action on the basis of race, sex, age, caste or religion. Both the institutions shall abide by these principles in the administration of this agreement and neither party shall impose criteria for exchange of scholars or students that will violate principles of non-discrimination.
- 4.2** Both parties understand that all financial agreements shall be negotiated separately depending on the availability of funds.
- 4.3** Both parties acknowledge that the exchange of students from one party to the other shall be subject to the availability of funds and shall comply with the regulations and policies of the first party and the second party.
- 4.4** Any research outcome (publication, patent, book) arising shall be jointly published/awarded in accordance with the provisions laid down in the guidelines for their degree program as trainees at NMU, Jalgaon.
- 4.5** A copy of the thesis/dissertation shall be submitted to the First Party after the award of the degree by the second party, when the student gets the degree under joint programme.
- 4.6** All questions related to this MoU arising during its execution period shall be settled by the parties with mutual agreement. Disagreements at the operating level shall be forwarded to the respective higher officials for appropriate resolution, failing which an arbitrator of mutual acceptance may be identified for the settlement of dispute, if any.
- 4.7** All questions not foreseen related to this MoU shall be handled by the parties with mutual agreement.
- 4.8** Nothing in this MoU is intended to affect the other cooperation or collaborations between the parties.

Article 5. Intellectual Property Rights

- 5.1** The Second party shall ensure protection of the Intellectual Property Rights generated or likely to be generated during or from the research work of a student belonging to first party. The NMU, Jalgaon shall be the first applicant (for its institute) and the second party shall be the joint applicant for IPR registrations. However, the second party may also become the first applicant depending on the process/product developed by them. The status of being the first

applicant may be decided with mutual consent. The students / scientist staff involved shall be included as the inventor/breeder/author in the registration application. The NMU, Jalgaon guidelines for Intellectual Property Management and Technology Transfer/ Commercialization as amended from time to time shall be the reference for exploitation of the generated intellectual property, whose management and benefits sharing shall be mutually decided in each case.

Article 6. Admission and Fees

- 6.1 All those who wish to register as trainees at the respective institutions under this MoU must apply for admission to research degree at the Second party as per rules and procedures. The allocation of Major Guide/Supervisor/Advisor would be finalized before the registration and shall be governed by the provisions laid down in items of the guidelines for the students to conduct research for their degree programs as trainees at NMU, Jalgaon.
- 6.2 Admission of students and award of degrees for different programs shall be the responsibility of the Second party as per the rules and regulations.
- 6.3 Allotment of the students at the First party will be done by the approval of Head of the Institution of the First party and Head of the Institution of the Second party.
- 6.4 Both the parties shall have the right to screen the students for eligibility for admission on their academic record.
- 6.5 The project management and evaluation Cell of the First party in consultation with the representative of the second party shall decide the location and sharing quantum of research work.
- 6.6 The number of students at any particular time shall be subject to the availability of research facilities and time of teaching staff or researcher to guide about research work at the institution of First party and Second party.
- 6.7 Any student admitted to the first party for training/research, if found violating the rules and regulations laid down by the first party or indulge in such activities that amount to tarnishing the image of the Institute, or cause damage to the property, the registration of such student would be summarily terminated. The Second party will not complete the formalities of issuing the certificates to such student until student compensates the losses to the First party.

6.8 Fees shall be charged to the students by the first party / second party as per their guide lines from time to time. However, a student registered with first / second party will deposit the fess as decided by training programme.

Article 7. Entry into effect, modification and termination

7.1. This MoU shall become effective on the date it is signed by the both parties and shall be valid for three years and then extendable for additional two more years. Both parties shall review the status of the MoU at the end of every year to determine any modification, if necessary. The period of validity of this MoU may be extended by mutual consent up to more than five years. This MoU may be amended by mutual written agreement and may be terminated at any time by either party upon written notification signed by the competent authority of the party initiating termination. Such notification must be given to the other party at least six months in advance from the effective date of termination.

7.2. All joint activities not completed at the time of expiry or termination of the MoU may be continued until their completion under the terms of this MoU.

7.3 No amendment or modification of the MoU shall be valid unless the same is made in writing by both the parties or their authorized representatives and specifically stating the same in the amendment of the MoU. The modifications / changes shall become part of the MoU and shall be effective from the date on which they are made/executed, unless otherwise agreed to.

This MoU has been executed in two originals, one of which has been retained by the First party and the other by the Second party IN WITNESS WHERE OF, the parties have executed this MoU and represent that they approve, accept and agree to terms contained herein.

(Name and Address of the First Party)

**North Maharashtra University,
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(Name and Address of the Second Party)

**Solapur University, Solapur
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**Name of the Head of the institution of the
First Party**

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Date

Date

Signature with Seal

Signature with Seal

**Witness 1.....
Signature and name**

**Witness 1
Signature and name**

**Witness 2
Signature and name**

**Witness 2
Signature and name**