



കേരളം കേരल KERALA

BN 999033

Memorandum of Understanding

This Memorandum of Understanding is made on this^{17th} day of the 2017. *July*

BETWEEN

The ICAR-Central Institute of Fisheries Technology, Cochin-29, Kerala, a constituent of the Indian Council of Agricultural Research, Krishi Bhawan-1, Dr. Rajendra Prasad Road, New Delhi – 110 001, hereinafter referred to as ICAR-CIFT represented by its authorized representative as the first party

AND

Pushpagiri Medical Society (PMS) represented in this MoU by Rev. Dr. Shaji Mathews Vazhayil, Chief Executive Officer, Pushpagiri Groups of Institutions as the authorized signatory hereinafter referred as the PMS as the second party.

2. GENERAL

WHEREAS, Pushpagiri Medical Society is owned by Thiruvalla Archieparchy of the Syro-Malankara Catholic Church.

*NO 2/1360
14/7/2017*

*Rev. Dr. Shaji Mathews
Vazhayil
CEO, Pushpagiri group of
Institutions*





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Pushpagiri Medical Society runs following institutions :

1. Pushpagiri Institute of Medical Sciences & Research Centre
2. Pushpagiri College of Dental Sciences,
3. Pushpagiri College of Pharmacy
4. Pushpagiri College of Nursing
5. Pushpagiri College of Allied Health Sciences
6. Pushpagiri School of Nursing
7. Pushpagiri Centre for CGFNS & IELTS Training
8. Pushpagiri Research Centre
9. Pushpagiri Centre for Virology

Pushpagiri Institute of Medical Sciences has a multi disciplinary, ISO 9001:2000 certified, super specialty hospital, is working with the following Departments: General Medicine, Cardiology, Psychiatry, Dermatology, TB & Chest, Gastroenterology, Neuro Medicine, Pediatric Surgery, General Surgery, Orthopedics, Physical Medicine, ENT, Ophthalmology, Pediatric Medicine, Urology, Nephrology, Neuro Surgery, Plastic Surgery, Multi specialty Dental Clinic, Obstetrics & Gynecology, Radio diagnosis, Anesthesiology, Emergency & Trauma care, Diabetology & Endocrinology.

No 21361
14/7/12

Dr. C.N. Ravi Samkev
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ICAR - CA
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P. KRISHNAN KUTTY NAID



Pushpagiri College of Dental Sciences started in the year 2006 with an annual intake of 50 students in BDS course and also offers PG courses for the Department of Oral and Maxillofacial Surgery, Periodontics, Prosthodontics, Orthodontics and Endodontics. The Department of Health & Family Welfare, Government of India, through the Dental Council of India, recognized this institution. The College is affiliated to Kerala university of health sciences KUHS. 16th Meeting of the Standing Committee of National Assessment and Accreditation Council (NAAC) has awarded Pushpagiri College of Dental Sciences with B Grade. Pushpagiri College of Dental Sciences has excellent faculties in all specialties of dentistry. The vast experience of the faculty nurtures the students in achieving excellence in academics.

Pushpagiri Research Centre (PRC), was established in the year 2009 and it is a recognized centre for Ph. D. under the Kerala University of Health Sciences (KUHS). The centre is a DSIR (Department of Scientific and Industrial Research) recognized Scientific and Industrial Research Organization (SIRO). Situated in the campus of Pushpagiri Institute of Medical Science and Research Centre, PRC features open-plan, multifunctional research laboratories. Focusing on advanced quantitative approaches to specific biotechnology challenges at the interface of medicine and biology, the PRC offers a unique pluralistic and open research culture that is supported by world-class infrastructure.

The trait of PRC is its commitment to a social responsibility aimed at enhancing the life of all people, from local communities to international populations, through knowledge transfer and education. The PRC is committed to internationally recognized research programs in medical science with a strong emphasis on translational research, knowledge transfer and discovery through innovation. Using advanced qualitative methods to explore the relationship between the macro behaviour of biological systems and the properties of their nanoscale components, PRC is strongly placed to translate this knowledge towards medical application in a wide range of sectors including drug delivery, drug discovery, diagnosis, treatment and services.

WHEREAS, **ICAR- Central Institute of Fisheries Technology (ICAR-CIFT)** is the only technology Institute in India which caters to the entire spectrum of fisheries from harvest to post-harvest operations. The Institute provides technologies and services to the fishing and fish processing industries in the areas of craft and gear, processing including products development, packaging and waste utilization, nutrition, microbiology and biotechnology, engineering, quality assurance and, socio-economics and extension. The Institute is desirous of establishing close linkage with the fishing and fish processing industries that are willing to take-up technology protect the



intellectual property rights and willing to incorporate technological changes as may be required from time to time in consultation with the Institute.

WHEREAS, PMS and ICAR-CIFT have mutual interest in fostering further collaboration among Indian research institutes and agree that there is a need to have MoU under which detailed work plans can be developed and implemented.

NOW THEREFORE, PMS and ICAR-CIFT, Cochin inspired by their common objectives to further promote and accelerate research in the area of fisheries science and fisheries related technologies have entered into this MoU under the terms and condition set forth in the following articles:

Article-I

AREAS OF COLLABORATION

In order to further develop the partnership between PMS and ICAR-CIFT, by the two parties have agreed in principle to (a) collaborate in research on disciplines related to extraction, characterization and clinical evaluation of biomolecules of aquatic origin (b) undertake collaborative research activities in other areas of mutual interest to both PMS and ICAR-CIFT and (c) cooperate in other means for exchanging scientific knowledge and information, such as co-publication of research;

The scale of collaboration between PMS and ICAR-CIFT will be determined from time to time by a joint evaluation of both parties.

It is understood that specific collaborative activities of PMS and ICAR-CIFT, for implementation under this MoU, will be defined in the work plan developed and approved in accordance with Article II hereof.

Article-II

RESPONSIBILITIES OF EACH PARTY

Within the work plan agreed upon by both parties and subject to available resources and as mutually agreed upon, ICAR-CIFT and PMS will undertake following activities

a) ICAR- Central Institute of Fisheries Technology

First Year

- Development and molecular characterization of different grades of Hydroxyapatite(Hap) for medical, dental and cosmetic applications.



- Development of HAp drug delivery systems/ composite scaffolds/ putty/ sponge/ injectable cement for dental tissue regeneration and cosmetic applications.
- Extraction and characterization of marine melanin from cephalopods
- Surveillance of food borne virus transmitted through seafood

Second Year

- Development of marine melanin based formulations for medical, cosmetic and food applications.
- Development and molecular characterization of collagen and chitosan devices/ formulations for dental and cosmetic applications

b) Pushpagiri Research Center

First Year

- Cell line and animal studies of Hydroxyapatite (HAp) for dental, orthopaedic and cosmetic applications.
- Cell line and animal studies of collagen and chitosan based formulations/devices for dental and cosmetic applications.
- Cytotoxic evaluation and animal studies of marine bio-toxin (Ciguatoxin)

Second Year

- Clinical evaluation of collagen and chitosan based formulations/devices for dental and cosmetic applications.
- Clinical evaluation of developed HAp based formulations/ devices for dental, orthopaedic and cosmetic applications.
- Cell line and animal studies of marine melanin for UV protective effects
- In-vivo toxicological screening of marine melanin for dietary supplementation

Ensure that all joint research and/or training activities related to this MoU are properly recorded with the ICAR-CIFT; it is also expected that ICAR which has been the focal contact point of ICAR-CIFT is properly notified of the collaborative activities.

Article-III

RESEARCH OWNERSHIP AND RESULTS OF COOPERATIVE RESEARCH

Results of collaborative research will be jointly published in the public interest as mutually agreed upon as per ICAR rules & guidelines

Article-IV

RIGHTS AND OBLIGATIONS OF PARTNERS IN PROTECTION OF JOINT IP

The partners shall ensure adequate and effective protection of IP resulting from the project as and where applicable and elaborate the same in the **Joint Intellectual Property Management Plan (JIPMP)**; it may also include the following details:

If mid-course review and modification of JIPMP is considered necessary, a timeline shall be indicated.

1. Both initial and modified JIPMP documents will be treated as part of the Final Project Document.
2. It will be obligatory on the part of each partner to notify other partner(s) and their parental organizations (ICAR-CIFT and PMS) immediately of any result which can be protected as IP and take appropriate action for such protection.
3. Sharing of IP:
 - a. *Between partners*: The rights of joint encumbered IP arising from the project will be shared equally, or in any other proportion, or otherwise, which will be expressly mentioned in the JIPMP.
 - b. *Within each partner entity*: The respective partner shall be free to determine the sharing of the rights, interests and royalties as well as the liabilities between itself and its employees as per its internal guidelines.

Article-V

AMENDMENTS

The parties may, by mutual consent in writing, modify any provisions of this MoU.

Article-VI

EFFECTIVITY

This MoU shall take effect on the date the last authorized representative affixes his/her signature, and shall remain valid for two (2) years unless sooner terminated when one of the parties notifies the other in writing of its intention to terminate the MoU, in which case, the MoU will terminate six months from the date of such notification. This MoU may be further renewed or extended upon mutual agreement between the parties, which shall be made not later than six months prior to the termination date.

**Article-VII
ASSIGNMENT**

This MoU is based on the professional competence and expertise of each 'PARTY' and hence neither PARTY shall transfer or assign this agreement or rights or obligations arising hereunder, either wholly or in party, to any third party.

**Article-VIII
COMMERCIAL EXPLOITATION OF IP**

1. While making the commercialization/licensing arrangement on mutual agreement between ICAR-CIFT and PMS, ICAR-CIFT shall also settle the proportion and terms of sharing the licensing fees and/or royalty and/or other commercial returns with PMS.
2. ICAR-CIFT shall share the net returns from the commercializing efforts among the scientists/innovators, institutions and ICAR headquarters as per its guidelines.

**Article-IX
SHARING OF ACCRUALS ON THE COMMERCIALIZATION OF IP**

1. In the event of commercialization of IP by one or more of the partners, the said partner(s) shall share the net revenue earned by them among themselves and also with ICAR-CIFT/PMS.
2. The share to ICAR-CIFT/PCMDSwill be negotiated before start of the project. The share to be paid to each partner shall be decided by consultation among the partners, which shall be explicitly mentioned in the MoU.
3. In cases where any one of the parties have provided the financial/other assistance for securing/maintaining the IPR, the expenditure incurred therefore by both parties shall be reimbursed before the sharing of the revenue.

**Article-X
CONFIDENTIAL INFORMATION**

1. ICAR-CIFT/PMS shall identify as soon as possible, or correct in the framework of a project, the information furnished that needs to be preserved from being disclosed. In doing so, it will be ensured that
 - (i) The information is not generally known by experts in the field or easily available to them through legal means;

- (ii) The information has an effective or potential commercial value related to its confidentiality; and
 - (iii) The partners have taken due steps to protect the confidentiality of the information.
2. The partner receiving, in the framework of a project, information not be disclosed, shall respect the confidentiality of such information.
 3. A Confidentiality Agreement may be separately entered into among the parties for the protection of such confidential information. The MoU itself will also be deemed to be the Confidential Agreement.
 4. Without prior written consent, none of the party(s) shall disclose any confidential information provided by the other party(s) except to
 - (i) The concerned employees, who shall be bound to keep it confidential and liable for any fault, and
 - (ii) Any concerned legal/regulatory authorities who shall also be similarly bound under the law/regulations.
 5. The (confidential) information, whose disclosure has been authorized for the activities and purposes of the project, shall be used solely within the limits of the project.

Article-XI
DISPUTE SETTLEMENT

1. The foremost effort by parties in case of any IPR/commercialization related dispute arising from the project shall be to resolve it through mutual discussions.
2. If the parties fail to reach any agreement through mutual discussions, the dispute shall be referred to the Director General, ICAR for settlement.
3. The Director General, ICAR may appoint an arbitrator to amicably resolve the dispute. In case the suggestions of the arbitrator will not be agreed to by the concerned parties, the Central Technology Management Committee of ICAR will consider and decide the case, which shall be agreeable to/binding upon all parties.

Article-XII
NON-EXCLUSIVITY

The relationship of the PARTIES under this understanding shall be non-exclusive and both PARTIES are free to pursue other agreements or collaborations of any kind.

This MoU has been executed in two originals, one of which has been retained by ICAR-CIFT, Cochin and the other by PMS.

IN WITNESS WHEREOF, the PARTIES have executed this MoU and represent that they approve, accept and agree to the terms contained herein.

For and on behalf of
Pushpagiri Medical Society

Rev. Dr. Shaji Mathews
Vazhayil
Chief Executive Officer,
Pushpagiri Groups of
Institutions

Date: 17-7-2017

Seal: Rev. Dr. Shaji Mathews
CEO
Pushpagiri Group of Institutions
Tiruvalla - 689 101, Kerala, India
E-mail: ceo@pushpagiri.in



Dr. C.N. Ravishankar
Director, ICAR-CIFT
(Countersigned)

For and on behalf of
ICAR-CIFT, Cochin

Dr. George Ninan
Principal Scientist, FP Division
Officer-in-Charge, ITMU

Date: 17-7-2017

Seal:



Dr. George Ninan
Principal Scientist, FP Division
Officer-in-Charge, ITMU
ICAR-CIFT, COCHIN-20

WITNESSES:

In the presence of:

1. Name: Dr. Mathew Mazhavanchel
Title: Director, Academics & Research
Date: _____
2. Name: Dr. Neha George Thomas
Title: Scientist, Pushpagiri Research Center
Date: _____

In the presence of:

1. Name: Dr. Susela Mathew
Title: Principal Scientist Head, BWD
Date: 17/7/2017
682025
2. Name: Dr. Zyrendhen A N
Title: Principal Scientist
Date: 17/7/17
ICAR-CIFT, Cochin