



**Memorandum of Understanding for Research Partnership
and
Collaborative Development Activities**

Ref: NECG/MOU-NMCH

2nd November 2020

BETWEEN

Narayana Engineering College, Gudur (NECG), Dhurjati Nagar, Gudur - 524101
SPSR Nellore District, Andhra Pradesh (AP), hereafter called as NECG.

AND

Narayana Medical College & Hospital (NMCH), Chinthareddypalem, Nellore – 524 003, AP, here
after as called NMCH.

NECG, is one of the leading NAAC “A” grade private engineering institutions in AP; established in the year 2001. The All India Council for Technical Education (AICTE), Government of India, has given approval to all the courses offered at NECG. This college is affiliated to Jawaharlal Nehru Technological University, Anantapur. It offers both UG and PG courses in various fields of engineering and has more than 1500 students in the campus and well experienced academic staff with due research qualification in engineering doctoral studies. The Institution has a vision to be established as top ranking engineering institution with the best of the breeds of engineers being produced from the college.

NMCH, Nellore a NAAC Accredited institution of higher learning and leading private medical institution of AP offering Graduate and Post Graduate courses in Medicine. It is affiliated to Dr. NTR University of Health Sciences, Vijayawada, AP. The institution has more than 1000 hospital beds catering to a student strength of 1500+. The medical institution has state of art laboratories and habituated to quality scientific publishing.

India imports many medical devices at a higher import costs from various countries and hence would not be affordable to extend the medical services to its vast rural population without having the appropriate availability of such devices for doctor's diagnosis aid. In order to overcome the problem, NECG & NMCH have envisaged to develop cost effective & affordable medical device phase by phase to put in practice after proper validation of it. The academic strengths of both the institutions shall be used effectively. The developmental activity will be carried by mutual exchange of knowledge between the staff of institutions and sharing to resources from both the institutions without affecting the academic activities the collaborative research between the Medical and Engineering fraternity for the institutional and individual growth.

Scope & duration of collaboration.

The collaboration between NECG and NMCH is initially pursued for the duration of five years commencing on November 2, 2020 through November 2, 2025.

The scope of collaboration and research broadly addresses the following subset of activities.

- Devise an execution frame constituting stake holder, faculty members and other personnel involved in the collaboration with due assigning of roles and responsibilities and escalating mechanism.
- NECG-NMCH will be the knowledge partner in the field of biomedical engineering research - development and related disciplines.
- Being the medical institution NMCH will provide necessary facilities for the development of innovative ideas for the betterment of human health. NMCH-NECG collaborative efforts will be taken to translate the ideation into a prototype. NMCH will provide necessary resources including medical -faculties, -students, and other hospital staff to facilitate the validation of prototypes or products (medical devices/software(s)) developed by NECG.
- NMCH will get the approval of Institutional Animal Ethics Committee (IAEC) and Institutional Ethics Committee (IEC) of Narayana Medical College, for the validation of developed prototypes that includes medical devices and/or software(s).
- NMCH will also be responsible for obtaining approval from government regulatory bodies prior clinical testing of the prototypes.
- NECG-NMCH will also support student activities in the field of biomedical engineering. The courses will be developed with view to address the knowledge gap in both the medical and engineering student's curricula.
- This collaboration will also encourage medical students in partnership with engineering students to attend the national level competition such as Smart India Hackathon conducted every year by Ministry of Human Resource and Development's – Innovation Cell and by other foreign bodies.
- NMCH – NECG will also conduct regulator internal ideathon's to churn-out meaningful solution to the pressing medical problems.
- The research outcome will be presented by the students, faculties in the national and internal conferences and published in the reputed indexed journals.
- The concept developed by NECG - NMCH will be protected by filing provisional patents and later full patent will be filed for the developed prototypes.
- The ideation/concept developed into a prototype and commercializable product will be the property of NECG-NMCH and no student/faculty from both the institution can claim it.
- Extend and exchange material resources such as Library, Laboratory facility, portable equipments etc between both NECG and NMCH.
- Interact in continuous manner for the above purpose with pre-determined schedule of meetings and technical demonstrations.
- Ascertain funding for research collaborative activities from both NECG and NMCH after a careful evaluation of the needs of expenditure to be incurred.

- The collaborations from both NECG and NMCH shall explore the feasibility of funding of research by national and international funding agencies and also from partnership firms after entering a legal contract with such firms.
- This MOU is intended to express the broad understanding of the both NECG & NMCH regarding their working with each other to the extent possible for their mutual benefit. Besides the aforesaid scope of activities NECG and NMCH shall envisage new activities and improvement methods pertaining to the practices that shall support their research journey beyond the stipulated time.

For NECG, SPSR Nellore

For NMCH, Nellore

V. Raviprasad

Dean Research & development

NECG, SPSR Nellore.

NARAYANA ENGINEERING COLLEGE
— DHURJATI NAGAR,
GUDUR, S.P.S.R. Nellore Dist.

[Signature]

DEAN

NMCH

DEAN

Narayana Medical College
Chinthareddyapalem, Nellore-3.

