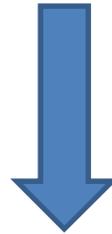


IEEE – Pune Section

Industry and Academia Collaboration

IEEE Mission Statement:

IEEE's core purpose is to foster technological innovation
and
excellence for the benefit of humanity



IEEE – Pune Section

One of the objectives of IEEE-Pune Section is to develop and implement
advanced technologies jointly by industries and academics in rural areas
for the benefit of humanity

Suggested topics but not limited to:

Areas to address:

- **Non-conventional energy in rural areas**
 - Solar Panels
 - Wind Energy
 - Biogas
- **E-health solutions**
 - Telemedicine/ e- medicine
 - Mobile e-dispensary
 - Remote Surgery
- **Eco-friendliness**
 - Cost-effective safe housing
 - Energy conservative housing
 - Rain water harvesting
 - Water treatment and recycling of water
 - e-waste management

Areas to address:

- **Improve education in rural areas**
 - e-learning
 - Mobile laboratories

Non-Conventional Energy:

Solar Panel : Develop solutions to build low cost solar panels from solar cells and increase efficiency of same

Wind Energy: Develop cost effective and energy efficient small wind turbines

Biogas: Develop biogas energy generation solutions

E-health solutions:

Telemedicines: In rural areas specialist doctors are in scarcity. If patients are required to consult the doctors they may be required to come to nearest townships and still not get access to the best doctors. Telemedicine solutions will help to consult doctors remotely share test reports including X-ray or other radiology films remotely instantaneously for specialists to see and prescribe medicines remotely which comes out in form of original prescription in the hands of the patient.

Mobile e-dispensary: Features of telemedicine included in a mobile van with mobile communication technologies. In addition features available for portable equipment for various medical tests and pathologists/ radiologists are able to access details remotely and prepare diagnostics reports. The vans can move from one village to another or to a location in cases of emergencies to help people out.

Remote Surgery: Good surgeons are not available in rural areas as a result the villagers are deprived of such benefits. Small hospitals with equipment and reliable and fast communication links can help surgeons to perform surgeries remotely.

Eco-friendly Housing:

Cost-effective safe housing: Research and develop low cost, reliable materials for housing.
This may include low cost housing development solutions.

Energy Conservative housing: Develop new technologies in houses which require less energy to be consumed. May be in terms of transparent materials allowing maximum light to pass through but not visible from outside, etc

Rain water harvesting: Develop efficient rain water harvesting solutions to meet the water requirements for domestic use

Water treatment and recycling of water: Used water being recycled and treated with a cost effective technological solution so that it is repeatedly re-usable for domestic use.

e-waste management: Encourage people and help them understand e-waste guidelines so that they can take up e-waste management business, if required

Improve education in rural areas:

e-learning: Setup e-learning facilities in rural areas so that rural people have access to e-learning facility for further development

Mobile laboratories: Rural area students do not have access to laboratories to conduct and understand concepts with experiments. Setting up mobile laboratories will help to do so.

Support from IEEE :

1. Though industries and academia can initiate such projects on their own, through IEEE forum we are bringing all the academic institutes and industries together and having single view across all i.e. which project combination is working fine and which is not. Accordingly from this forum we can bring in some institute or industry together if the project is facing hindrances otherwise and help bringing them together so that the project succeeds.
2. IEEE for some projects may provide funding for the project, if approved
3. Whenever IEEE fellows or experts from different fields are visiting Pune we can invite the respective project groups to attend sessions with him/her so that they get to know about the latest researches in that field or discuss with them some of the long -pending issues, in case they are able to help. So access to learned resources worldwide can be triggered through IEEE forum.
4. Through IEEE people can get connected to IEEE Humanitarian Technology Challenge to get ideas for solutions to their problems as well as share their ideas and experience of implementation which others can use.
5. Participants can submit their projects to IEEE to compete in Humanitarian Technology Challenges (HTC), which support the work of United Nations and other humanitarian assistance groups worldwide

Joint Collaboration between Industries and Academics

Expectations from Industries:

- To bring in the practical aspects of implementation
- To bring in latest technological solutions and expertise
- Help in tying up with appropriate vendors and suppliers with required expertise
- Sponsoring the projects in some of the rural areas for pilot implementations

Expectations from Academics:

- To bring the latest researches in the relevant field
- Bringing in the implementation perspectives with changes as required
- Involve new generation with new thoughts in the projects
- Bring in research funds for research in the relevant topics

Joint Collaboration between Industries and Academics

Benefits to Industries:

(these are expected benefits and IEEE or any member does not in any form guarantee any of these benefits)

- Industries can take up sponsorship of the projects as part of social responsibility (CSR activity)
- Own joint IPR with academics for new technologies developed through research
- Subsequently use the new technology for commercial purpose
- Through successful pilot implementations in rural areas same can be projected to government and commercial projects can be taken up by industries for roll out in all areas
- Some of the projects successful in rural areas will give lot of confidence to take forward same for implementations in urban areas with changes as required

Joint Collaboration between Industries and Academics

Benefits to Academics:

(these are expected benefits and IEEE or any member does not in any form guarantee any of these benefits)

- To bring in practical aspect in their research
- Publication of research in highly rated journal with actual implementation details
- Own joint IPR with industries
- These implementations giving confidence to take up industrial projects as it provides better understanding of industrial expectation through this joint collaboration
- Will lead to several Ph.D thesis and Masters projects
- Students will get exposure to industrial environments

For taking up projects, please contact:

Dr Pradeep Chatterjee, IEEE Industry Relations Chair - Pune Section at pchats@ieee.org

Thank You