### RAC Members – External

- Prof. Raj Reddy, Mozah Bint Nasser Univ Professor, Carnegie Mellon University, USA
- Prof. R. Natarajan, Former Chairman, AICTE
- Prof. N. Balakrishnan, Associate Director, Indian Institute of Science
- Dr. D. Acharya, Director, IIT Kharagpur

### List of Externally Funded Projects

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Project Title</th>
<th>Principal Investigator</th>
<th>Funding Agency / Amount</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Investigations on the Crystal Growth and Non-Linear Optical properties of Organic and Semi-Organic crystals.</td>
<td>Dr. N.P. Rajesh Physics</td>
<td>DST Rs.5.88 Lakhs</td>
<td>2006-2008 (Three Years)</td>
</tr>
<tr>
<td>2</td>
<td>Voice enabled documentation and mailing system in Indian languages for hand-held devices.</td>
<td>Dr. C. Aravindan CSE</td>
<td>AICTE Rs.2.30 Lakhs</td>
<td>2006-2008 (Three years)</td>
</tr>
<tr>
<td>3</td>
<td>Friction stir welding of scandium added Al-Mg alloys</td>
<td>Dr. S.Vijayan Mechanical</td>
<td>NRB, DRDO Rs.23.94 Lakhs</td>
<td>2007-2009 (Three years)</td>
</tr>
<tr>
<td>4</td>
<td>Investigation of materials in sonic band structures for possible use in stealth Applications</td>
<td>Dr. Prita Nair Physics</td>
<td>Naval Research Board, DRDO Rs.13.61 lakh</td>
<td>2007-2008 (Two years)</td>
</tr>
<tr>
<td>5</td>
<td>Growth of large size KDP and ADP crystals by Sankaranarayanan-Ramasamy Method</td>
<td>Dr.P.Ramasamy Dean – Research</td>
<td>DST Rs.19.97 Lakhs</td>
<td>2007-2009 (Three years)</td>
</tr>
<tr>
<td>6</td>
<td>Modernization of Power Electronics and Drives Lab</td>
<td>Dr. B.L. Mathur EEE</td>
<td>AICTE Rs.10.00 Lakhs</td>
<td>2007-2008 (Two Years)</td>
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<tr>
<td>7</td>
<td>Hybrid capacitor with nano-materials for zero emission vehicles</td>
<td>Dr. M.S.Michael Chemistry</td>
<td>DST Rs.14.09 Lakhs</td>
<td>2007-2009 (Three years)</td>
</tr>
<tr>
<td>8</td>
<td>Reconfigurable wavelength selective filter based on one dimensional photonic bandgap structures in silicon for ROADM applications</td>
<td>Dr. Prita Nair Physics</td>
<td>AICTE Rs.15.00 lakh</td>
<td>2007-2008 (Two years)</td>
</tr>
<tr>
<td>9</td>
<td>Design of silicon carbide based hard-switched DC-AC power converter</td>
<td>Dr. B.L. Mathur EEE</td>
<td>AICTE Rs.5.00 Lakhs</td>
<td>2007-2008 (Two years)</td>
</tr>
<tr>
<td>10</td>
<td>Investigations on the bulk growth of unidirectional single crystals of benzophenone derivatives</td>
<td>Dr. P. Ramasamy Dean - Research</td>
<td>AICTE Rs.10.00 Lakhs</td>
<td>2007-2008 (Two years)</td>
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<tr>
<td>11</td>
<td>Design and development of wireless sensor node</td>
<td>Dr. S. Radha ECE</td>
<td>IGCAR Rs.28.58 Lakhs</td>
<td>2008-2010 (Three years)</td>
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<tr>
<td>12</td>
<td>Gas Tungsten arc assisted Friction Stir Welding of Steels</td>
<td>Dr. S.R. Koteswara Rao Mechanical</td>
<td>DST Rs.24.45 Lakhs</td>
<td>2008-2010 (Three years)</td>
</tr>
<tr>
<td>No.</td>
<td>Project Title</td>
<td>Investigator(s)</td>
<td>Funding Agency</td>
<td>Fund Amount</td>
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<tr>
<td>13</td>
<td>FPGA Design for Pulsed Signal Processing</td>
<td>Ms. V.S. Kanchana Bhaskaran</td>
<td>IGCAR</td>
<td>Rs.5.00 Lakhs</td>
</tr>
<tr>
<td>14</td>
<td>Growth of I-III-VI2 single crystals for IR applications and radiation detectors</td>
<td>Dr. P. Ramasamy</td>
<td>BRNS</td>
<td>22.06 Lakhs</td>
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<tr>
<td>15</td>
<td>Process variational study and performance analysis of nano-scale MOSFETS and FinFETs: TCAD simulation and process aware SPICE models</td>
<td>Dr. R. Srinivasan Dr. J. Raja</td>
<td>DST</td>
<td>Rs.21.8 Lakhs</td>
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<tr>
<td>16</td>
<td>Growth and Characterization of LiInS2 and LiInSe2 crystals for IR applications</td>
<td>Dr. P. Ramasamy Dean – Research</td>
<td>NRB</td>
<td>Rs.32.68 Lakhs</td>
</tr>
<tr>
<td>17</td>
<td>Growth of doped alkali halide crystals for Dosimetry applications</td>
<td>Dr. P. Ramasamy Dean – Research</td>
<td>IGCAR</td>
<td>Rs.11.00 Lakhs</td>
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<tr>
<td>18</td>
<td>Design and Hardware implementation of a programmable filter to improve the signal to noise ratio due to wind driven ambient noise in shallow water</td>
<td>Dr. S. Radha Mr. S. Sakhthivel Murugan</td>
<td>NIOIT</td>
<td>Rs.20.64 Lakhs</td>
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<tr>
<td>19</td>
<td>Investigations on crystal growth and characterization of pure and rare earth doped KTP single crystals for electro-optic applications</td>
<td>Dr. N.P. Rajesh Dr. P. Ramasamy Dean – Research</td>
<td>DST</td>
<td>Rs.21.00 Lakhs</td>
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<tr>
<td>20</td>
<td>An assessment and intelligibility modifications system for Dysarthric Speakers</td>
<td>Dr. P. Vijaya lakshmi, ECE Dr. T. Nagarjan, IT</td>
<td>AICTE</td>
<td>Rs.9.00 Lakhs</td>
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<tr>
<td>21</td>
<td>Improved growth of lead-free piezoelectric single crystal (Na$<em>x$Bi$</em>{1-x}$) TiO$_2$-BaTiO$_3$ and characterization towards piezoelectric device applications</td>
<td>Dr. P. Ramasamy Dean - Research Dr. G. Anandha Babu</td>
<td>DST</td>
<td>Rs.29.40 Lakhs</td>
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<tr>
<td>22</td>
<td>Crystal Growth of Ce based alkali halides scintillator crystals and their characterization</td>
<td>Dr. G. Anandha Babu</td>
<td>BRNS</td>
<td>Rs. 22.00 Lakhs</td>
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<tr>
<td>23</td>
<td>Visible light active metal and non-metal doped mesoporous TiO$_2$ nanoparticles for photocatalytic applications</td>
<td>Dr. M. Mahalakshmi</td>
<td>DST</td>
<td>Rs.25.00 Lakhs</td>
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<td>24</td>
<td>Crystal Growth of lead free piezoelectric crystal [Bi$_{0.5}$(Na$<em>1$$<em>x$K$</em>{0.5}$)$</em>{1.5}$]TiO$_3$ by flux technique and its Characterization</td>
<td>Dr. G. Anandha Babu</td>
<td>DST</td>
<td>Rs.19.00 Lakhs</td>
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<tr>
<td>25</td>
<td>Study and Control of Weak Grid Connected Matrix Converter based DFIG System</td>
<td>Dr. Rangnath Muthu, EEE Dr. M. Senthil Kumaran</td>
<td>MNRE</td>
<td>7.75 Lakhs</td>
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<tr>
<td>26</td>
<td>Development of Text to Speech System in Indian Languages Phase II (Consortium of 12 institutions)</td>
<td>Dr. T. Nagarajan, IT Dr. P. Vijaya lakshmi, ECE Dr. A. Shanina, IT</td>
<td>DIT</td>
<td>Rs.77.00 Lakhs</td>
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<tr>
<td>No.</td>
<td>Project Title</td>
<td>PI(s)</td>
<td>Funding Agency</td>
<td>Amount</td>
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<tr>
<td>27</td>
<td>Study of soft errors in 65nm gate length CMOS SRAM and 30nm gate length fin FET tunnel FET and junction less FET based SRAMS using TCAD simulations</td>
<td>Dr. R. Srinivasan</td>
<td>DRDO</td>
<td>Rs.30.47 Lakh</td>
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<tr>
<td>28</td>
<td>Research Investigations on amorphous silicon thin film photovoltaics</td>
<td>Dr. Shekhar Bhattacharya</td>
<td>DRDO</td>
<td>Rs.87.74 Lakh</td>
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<tr>
<td>29</td>
<td>Amorphous Silicon Thin Films for Microbolometers.</td>
<td>Dr. Shekhar Bhattacharya</td>
<td>SSPL</td>
<td>Rs. 9.00 Lakh</td>
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<tr>
<td>30</td>
<td>Investigations on various doped ZnO films as front contact TCO in flexible amorphous silicon solar cells</td>
<td>Dr. Balaji Bhargav Mr Nafis Ahmed</td>
<td>UGC-DAE:CSR</td>
<td>Rs.6.50 Lakh</td>
</tr>
<tr>
<td>31</td>
<td>Crystal growth of alkaline earth halide and cesium based alkaline earth halide scintillation crystals for gamma ray spectroscopy</td>
<td>Dr. P. Ramasamy, Dean – Research PI Dr. G. Ananda Babu Co-PI</td>
<td>BRNS</td>
<td>Rs.24.82 Lakh</td>
</tr>
<tr>
<td>32</td>
<td>Development of High Quality Direction Controlled Lithium Iodate and Lithium Sulphate Single Crystals for Nonlinear Optical applications</td>
<td>Dr.P.Rajesh, Physics Dr. P. Ramasamy, Dean - Research</td>
<td>BRNS</td>
<td>Rs.23.03 lakh</td>
</tr>
<tr>
<td>33</td>
<td>Development of cascaded Z-source multilevel inverter for photovoltaic applications</td>
<td>Dr.R.Seyezhai EEE</td>
<td>AICTE</td>
<td>Rs.23.83 Lakh</td>
</tr>
<tr>
<td>34</td>
<td>Experimental and finite element investigations of the machining process with composite materials</td>
<td>Dr.K.S.Vijaya Sekhar Mechanical</td>
<td>AICTE</td>
<td>Rs.18.22 Lakh</td>
</tr>
<tr>
<td>35</td>
<td>Industry Institute Partnership Cell (IIPC)</td>
<td>Dr. Ve. Annamalai, Prof. &amp; Head/Mech.</td>
<td>AICTE</td>
<td>Rs.11 Lakh</td>
</tr>
<tr>
<td>36</td>
<td>Modernization of High Voltage Lab as a Unified Power Engg. Lab with Electromechanical energy conversion, power electronics and power systems experiments</td>
<td>Dr. V. Rajini, Prof./EEE</td>
<td>AICTE</td>
<td>Rs.19.51 Lakh</td>
</tr>
<tr>
<td>37</td>
<td>Development and characterization of PMN-PT single crystals for under water applications</td>
<td>Dr. N.P. Rajesh, AP/Phy. &amp; Dr. Prita Nair, Asso. Prof./Physics</td>
<td>DST – SERB</td>
<td>Rs.36 Lakh</td>
</tr>
<tr>
<td>38</td>
<td>Fund for Improvement in Science and Technology Infrastructure (FIST) Programme – To strengthen Research Facilities</td>
<td>Dr. S. Salivahanan, Principal &amp; Dr. S. Radha, Prof. &amp; Head, ECE</td>
<td>MST – DST</td>
<td>Rs.50 Lakh Including Rs.25 Lakh from the Management</td>
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</tbody>
</table>