

## **Molecular research as a platform for capacity building for interdisciplinary collaborative research**

The Central Research facility of the Academy was established for interdisciplinary research between the Departments of the Academy. The Centre was elevated as a full-fledged statutory Department in the year 2013 for promoting academic programmes in the subjects of genomics and molecular biology with a aim to generate manpower for interdisciplinary research. Two Post Graduate Programs started

1. Master of Science in Molecular Biology and Human Genetics [M.Sc.]
2. Ph.D. in Cytogenetics and Molecular Genetics [Ph.D.]

The capability of the Centre was recognised through the selection for support under a HRD programme of DHR for aimed conducting training programmes for faculty of medical colleges in India.

Following are thrust areas of research

### **Genetic Disorders**

- Congenital anomalies in newborn
- Congenital Heart Defects
- Beta-Thalassemia
- Congenital Ichthyosis
- Hereditary Multiple Exostosis
- Non Syndromic Hearing loss

### **Molecular Biology**

- Preeclampsia
- Oral Squamous Cell Carcinoma
- Psoriasis
- Chronic Otitis media
- Protein Science

### **Phytochemistry**

- Plant lectins
- Nanoparticle biosynthesis
- Anti-cancer agents

Innovation is a key aspect of research and it underlines the translation of basic science into new products that can improve human health. However, this aspect is considered too difficult for a health science institution due to the ethical requirements for the conduct of research. In the current review period, the Centre was able to achieve the milestone of filing the first patent application in the Academy. This aspect underlines the capacity of the Academy to engage in innovation. This is an important milestone as there was a deficiency of intellectual property in the previous NAAC cycle. Capacity building initiatives like workshops and Centre grants were undertaken in order to achieve this milestone. A point of interest is that some of these patents involved students as inventors. This aspect underlines the quality of the academic programmes offered by the Academy.

<b>Date of publication *</b>	<b>Patent Details</b>	<b>Patent status</b>	<b>Patent number</b>	<b>Date of Award</b>
12/15/2017	Single Nucleotide Polymorphism rs1138272 located in GSTP1 gene as a	Published	201741031364	NA

	<b>marker for genetic susceptibility to oral squamous cell carcinoma</b>			
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Molecular research works have been published in peer reviewed scientific journals indexed in international databases.

Year	Total	Scopus	PubMed	Web of Science	Impact factor > 1.0	Cumulative impact factor
2018	7	6	5	4	4	9.37
2017	8	6	5	2	3	8.76
2016	5	2	3	0	3	11.79
2015	4	2	1	1	2	2.47
2014	2	1	1	0	1	2.19
<b>Total</b>	<b>38</b>	<b>24</b>	<b>26</b>	<b>10</b>	<b>22</b>	<b>34.58</b>