

## Action Taken Report – 2017-18

Plan of Action by IQAC/Outcome (2017-18)

The plan of action chalked out by the IQAC in the beginning of the year towards quality enhancement and the outcome achieved by the end of the year.

Plan of Action	Outcome / Achievements																		
<ul style="list-style-type: none"> <li>• Curriculum review through Boards of Studies and Academic Council meetings.</li> </ul>	<p>The Board of Studies of various departments were conducted during July to October 2017.</p> <ul style="list-style-type: none"> <li>○ Introduction of new stream of specialization in Actuarial Science in the M.Sc.(Mathematics) Programme</li> <li>○ Introduction of new electives viz., Topology, Linear Algebra and Complex Analysis in M.Sc.(Mathematics) Programme</li> <li>○ Introduction new specializations such as (1) Photonics, (2) Nuclear Physics and (3) Materials Science in the M.Sc.(Physics) Programme</li> <li>○ Updated the syllabus of B.Sc.(Hons.) in Physics Programme</li> <li>○ Updated the syllabus of M.Sc.(Physics) Programme</li> <li>○ Updated academic regulations of Postgraduate Programme</li> <li>○ Updated the syllabus of B.Sc.(Hons.) in Chemistry Programme</li> <li>○ Updated the syllabus of M.Sc.(Chemistry) Programme</li> <li>○ Updated the syllabus of M.Sc.(Biosciences) Programme</li> <li>○ Updated the syllabus of M.Sc.(Food and Nutritional Sciences) Programme</li> <li>○ Ratification of newly introduced syllabus and academic regulations of BPA(Music)</li> <li>○ Updated the syllabus of General English for all Undergraduate Programmes</li> <li>○ Updated syllabus of UPHL-602 in BA major in Philosophy Programme</li> </ul> <p>The Academic Council meeting was conducted on 11 October 2017 and approved / ratified the above deliberations.</p>																		
<ul style="list-style-type: none"> <li>• Collaborative research with Govt. and Private agencies, and Research for Societal Benefit.</li> </ul>	<p><b>COLLABORATORS</b></p> <p>The Science faculty at SSSIHL have established collaborative links with national and international premier academic institutions and industries as listed below:</p> <p><b>Collaborators</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: center;"><b>Collaborators from Academia &amp; Research Institutions</b></th> </tr> </thead> <tbody> <tr> <td style="width: 33%;">IGCAR, Kalpakkam</td> <td style="width: 33%;">IIT - Madras, Kharagpur</td> <td style="width: 33%;">CBER/US-FDA, USA</td> </tr> <tr> <td>IISER Mohali</td> <td>IBAB, Bengaluru</td> <td>Univ. of Maryland BC, USA</td> </tr> <tr> <td>RRI, Bengaluru</td> <td>IIHR, Bengaluru</td> <td>New Jersey Inst. Tech., USA</td> </tr> <tr> <td>TIFR Mumbai</td> <td>MDRF, Chennai</td> <td>Clemson University, USA</td> </tr> <tr> <td>GSI, Hyderabad</td> <td>IISc, Bengaluru</td> <td>JAIST, Japan</td> </tr> </tbody> </table>	<b>Collaborators from Academia &amp; Research Institutions</b>			IGCAR, Kalpakkam	IIT - Madras, Kharagpur	CBER/US-FDA, USA	IISER Mohali	IBAB, Bengaluru	Univ. of Maryland BC, USA	RRI, Bengaluru	IIHR, Bengaluru	New Jersey Inst. Tech., USA	TIFR Mumbai	MDRF, Chennai	Clemson University, USA	GSI, Hyderabad	IISc, Bengaluru	JAIST, Japan
<b>Collaborators from Academia &amp; Research Institutions</b>																			
IGCAR, Kalpakkam	IIT - Madras, Kharagpur	CBER/US-FDA, USA																	
IISER Mohali	IBAB, Bengaluru	Univ. of Maryland BC, USA																	
RRI, Bengaluru	IIHR, Bengaluru	New Jersey Inst. Tech., USA																	
TIFR Mumbai	MDRF, Chennai	Clemson University, USA																	
GSI, Hyderabad	IISc, Bengaluru	JAIST, Japan																	

NIN, Hyderabad	Shalgreńska Univ Hosp, Sweden	Baylor Colg. Med., USA
NCL Pune	Univ of Wollongong, Australia	Univ. of Colorado, USA
ICGEB, New Delhi	NIPER, Hyderabad	Univ. del Norte, Columbia

<b>Industrial Partners</b>	
Grey Scientific Labs, Visakapatnam	Agilent Technologies India Pvt. Ltd.
Amara Raja Batteries Pvt. Ltd., Tirupati	Twastrix, Pune
LightMotif Automation Sensors and Systems Pvt. Ltd., Hyderabad	Omix Research & Diagnostics Laboratories Pvt. Ltd., Bengaluru
Lab Engineers, Bengaluru	Labby Inc., USA
Insta Power Ltd., New Delhi	Symrise, Chennai
Indras Pvt. Ltd., Hyderabad	Syngene Intl Ltd, Bengaluru

IQAC has its imprint on all the following research projects/activities:

The institute, in order to support socially beneficial research and to provide the best possible facilities for students, scholars and faculty, has invested on equipment and infrastructure across all the campuses. The expenditure on general equipment and infrastructure was ₹8.11 crores.

The ongoing department-wise research projects are as follows:

Mathematics and Computer Science:

- Automatic Defense against Zero Day Polymorphic Worms in Communication Networks using Machine Learning Algorithms – SSSIHL funding.

Physics:

- Design and Development of Small Organ Imaging Gamma Camera System – SSSIHL funding.
- Multi Model Microscope: Field Trails (Phase-II) – DST-TSDB.
- Research based reforms in Physics Instruction: Classroom and Laboratory – VGST, DST, Govt. of Karnataka.
- DST special assistance Programme (FIST).

Chemistry:

- Synthesis of novel Andrographolide derivatives as potential anticancer and antibacterial agents – CSIR.
- Development and Validation of an indigenous high sensitivity low cost paper based assay for Lp-PLA2 and other cardiac markers to identify Indians at risk for early onset of coronary artery disease – 4S Foundation (USA).
- Regiospecific functionalization of Anisotropic Nanoparticles & Implications towards generation Plasmonic Metal Nanoclusters – DST INSPIRE Faculty Award

Biosciences:

- Augmenting Postgraduate Teaching & Research facilities – DST-FIST.
- Antibiotic resistance in clinically isolated bacteria - OMIX research and diagnostic laboratories Pvt. Ltd.
- Bioinformatics Infrastructure Facility (BIF) – DBT.
- Mechanism of ATP secretion and the role of ATP-activated P2 receptors in the Microglial inflammatory response: Implications for multiple sclerosis – DBTD.

Few Research outcomes:

Active Collaborative Research Projects with **International Institutions and Companies:**

- The Department of Biosciences has established a “Centre for Regenerative Medicine and Tissue Engineering” in Collaboration with Sri Sathya Sai Institute of Higher Medical Sciences – Prasanthigram. Faculty from the Department of Biosciences have developed “Autologous Chondrocyte Implantation” to treat the osteochondral defects of the knee in collaboration with the Department of Orthopedics, SSSIHMS-PG. This project has been approved by the Institutional Ethics Committee of SSSIHL (SSSIHL/IEC/PSN/BS/2012/01) and Clinical Trials Registry of India (CTRI/2015/06/005841). First transplantation of invitro Cultured Autologous Chondrocytes has been successfully performed and one year followup reveals excellent regeneration and repair of the knee cartilage.
- The Department of Biosciences along with the Dept. of Physics, SSSIHL has signed a Memorandum of Understanding with Centre for Biologics Evaluation and Research (CBER), Food and Drug Administration (FDA), Bethesda, Maryland, USA. As part of the research agreement, our research teams have synthesized several fluorescent nanoparticles for ultrasensitive, rapid and specific detection of HIV-1 p24 using Time Resolved fluorescence in a Sandwich ELISA format. The lowest detection limit of this assay is 0.3 pg/ml in blood serum or plasma. There have been no false positive reactions and cross reactivity was not observed, when tested using serum/plasma samples infected with other viruses such as Dengue, Hepatitis-B and HCV.
- The Department of Mathematics and Computer Science has signed an MoU with Maestro Technologies, Inc. located at 1 W State Street, Trenton, NJ 08608 to work with infrastructure dedicated to Data Science, Analytics and Computing program and also enable engaging suitably qualified Academic Faculty to educate and train students in related new technologies and help in implementation of Research projects with protocols and objectives of the Institute. – 1<sup>st</sup> October 2017.
- The Department of Biosciences, SSSIHL in Collaboration with OmiX Research and Diagnostics Laboratories Private Limited, Bangalore for a

project on '*Detection of Antimicrobial resistance genes in bacterial cultures and clinical isolates*' – 2<sup>nd</sup> November 2017.

**New MoUs signed during 2017-18:**

- The Department of Chemistry has signed an MoU with Labby Inc., a company registered in United States of America having its registered office at 125 Chiswick Rd, Brighton, 02135, Massachusetts, USA dt. 2<sup>nd</sup> February 2018. The purpose of the agreement is to set out the arrangements for collaboration between the parties for the 'Design, Development and trials of Device(s) for Spectrometry and Image based Bio-medical sensing' for a duration of 5 years.
- The Department of Chemistry has signed an MoU with Twastrix a company registered in India under the Maharashtra Shops and Establishments Act 1948 having registered office at G-602, Mystique Moods, New Airport Road, Viman Nagar, Pune 411014 dt. 15<sup>th</sup> March 2018. The purpose of this MoU is to set out the arrangements for collaboration between the parties for Design, Assembly and Development of Surface Plasmon-Coupled Emission based Hand-held and/or Benchtop Device(s) for Spectrometry and Image based Bio-medical and Chemical Sensing.
- An agreement between TATA Education and Development Trust, C/o Sri Ratan Tata Trust, Bombay House, Homi Mody Street, Fort, Mumbai – 400 001 and department of Chemistry dt. 23<sup>rd</sup> August 2017. The Trust sanctioned an amount of Rs.96.92 lakhs over three years to SSSIHL for the research project title 'ANIRVID' A cellphone based point-of-care diagnostic device (for dopamine and serotonin) to evaluate the effect of Therapeutic interventions on depression and heart ailments.

**Research for Societal benefit:**

Research at the institute continues to touch greater milestones without sacrificing the focus on societal benefit. For instance, SSSIHL faculty are involved in the development of sensors for water monitoring in and around Anantapur District. Successful performance of autologous chondrocyte implantation in a patient with osteochondral defect in collaboration with Sri Sathya Sai Institute of Higher Medical Sciences is a noteworthy achievement by the faculty. This project was completed in 2017.

Besides meeting in rural needs, our faculty are also involved in the design and fabrication of high end equipment such as multimodal microscope and resonant optical gyroscope for a variety of applications.

The Research Conferment Cell (RCC) meets twice a year and sends the inputs to the administration on various aspects of research and research related activities.

**Research Highlights in the year 2017-18**

Sciences

#### **BIG DATA ANALYTICS AND HIGH PERFORMANCE COMPUTING**

The Department of Mathematics & Computer Science are working on DNA sequence Analysis and Structural Biology using High Performance Computing (HPC) and Machine Learning (ML) tools. They also envisage providing a framework for compressed storage, analysis and secured sharing of genome sequence. They are working to build an immutable data storage and management platform in Big Data environment using Scalable Blockchain. Study on issues of Interoperability of Blockchain is opening up ways to develop platform for Fraud Free financial transactions, Comprehensive Health Insurance Management systems, E-voting platform etc. The researchers intend to use HPC technology to detect fake news and rumours using epidemic models and large graphs. Efforts are on to demonstrate that Artificial Learning (AI) and Blockchain together can provide solutions to many real-life problems and finally deliver the promise that AI holds. Work on predictive analytics in healthcare, such as effective treatment for Perinatal depression, Automatic segmentation and detection of stones in case of Renal CT images, early detection of cardiac disorders from CT images is also underway.

#### **DEVELOPMENT OF SMALL ORGAN IMAGING GAMMA CAMERA SYSTEM**

Thyroid diseases are among the commonest endocrine disorders worldwide and in India. It is estimated that 42 million people in India suffer from thyroid diseases. Early diagnosis and treatment remain the cornerstone of medical management. Development of portable thyroid specific imaging system which serves as a cheaper alternative to the traditional large field and expensive gamma cameras is being pursued at the Department of Physics. The spatial resolution is expected to be better than the traditional Gamma Cameras. The Department of Physics has developed a prototype of Small Area Imaging Gamma Camera (SAIGC), with all digital Front End Electronics and Data Acquisition System. Relevant software is being developed for Image Reconstruction and Processing of gamma camera images to detect the cases of abnormalities like hyper and hypothyroidism.

#### **RESEARCH BASED REFORMS IN PHYSICS INSTRUCTION - CLASSROOM AND LABORATORY**

One of the ways of improving the quality of Physics Education is through research-based methodologies involving concept inventories, active learning, clicker methods, Interactive Lecture Demonstrations, Computer Simulations & Virtual Experiments and Context rich problems. The faculty members involved in undergraduate teaching are involved in the design and development of courses based on physics educational research practices in which efficacy of research-based physics learning strategies are tested and implemented in classroom with active participation of learners. This is sponsored by the Government of Karnataka under the scheme of establishment of centers of Innovative Science Education (CISE) through VGST, DST, Karnataka.

#### **SYNTHESIS AND SEMI-SYNTHESIS OF NOVEL MOLECULES WITH POTENTIAL THERAPEUTIC APPLICATIONS**

In this regard, spirobenezopyrans and andrographolide have been identified as the novel synthetic and semi-synthetic pharmacophores respectively. In due

course of research, we have discovered a new class of spirobibenzopyrans with potent anti-cancer activity. A library of over 40 novel spirobibenzopyrans have been synthesized and studied for their therapeutic applications. On the other hand, andrographolide is known to possess a wide range of biological activities such as anticancer, antidiabetic, anti-inflammatory, etc. Currently, isolation of the active compound andrographolide from *Andrographis paniculata* and further synthesis of derivatives as potential leads against various diseases is under progress.

The clear objective of the research is to provide new compounds having potent biological activities like anti-cancer, anti-inflammatory and anti-bacterial properties with lesser side-effects, which therefore has high social relevance in tackling major health problems in our country.

#### DEFLUORIDATION OF WATER BY POLYMER-METAL ION NANO-COMPOSITES: SYNTHESIS, CHARACTERIZATION AND THEIR APPLICATION STUDIES

Fluoride has a tendency to disperse in ground water from the rocks and soil. The excess amount ( $\geq 1.5$  mg/L) of fluoride intake leads to fluorosis, collagen break down and disruption of immune system. The Geographical Information System (GIS) aided assessments of the ground water of the Rayalseema region of Andhra Pradesh, India revealed that more than 70% of the villages surpass maximum limit of fluoride (1.5 mg/L) defined as per World Health Organization (WHO) and Bureau of Indian Standards (BIS).

Therefore, the development of cheaper, robust, eco-friendly, and easy to use materials for defluoridation of drinking water would be the best to assist to extenuate this 'fluorosis menace'. The Department of Chemistry is actively engaged in the synthesis of potential adsorbents based on polymer metal nanocomposites for effective removal of fluoride from ground water.

#### SURFACE PLASMON-COUPLED EMISSION BASED BENCH-TOP DEVICE FOR CARDIAC TROPONIN T QUANTIFICATION

Troponin T (cTnT) measurement is important for ruling in or ruling out heart attacks and evaluation of patients with acute coronary syndromes. With the inclusion of high-sensitivity cTnT (hs-cTnT) assays, an early and more frequent diagnosis of AMI has been made possible. However, there is an increased need for individualized care in patients with heart disease, especially in resource limited settings. Ironically, the reliability, sensitivity and rapid diagnostics of current cTnT detection platforms come with the need for sophisticated instrumentation due to the non-specificity of the existent low-cost methods and increasing health care expenditure.

The researchers at the Department of Chemistry are engaged in the design and development of SPCE based bench-top device for cTnT quantification resulting in near real-time cardiac damage assessment, and clinical decision making, in rural India and emergency conditions.

The current capital-intensive technology that is in use towards quantification of cardiac Troponin T, restricts its reach to a large segment of the Indian

population. A low-cost affordable technology would help widen the impact and also to render timely treatment during first Aid and emergency conditions.

#### DETECTION OF ANTIMICROBIAL RESISTANCE GENES IN BACTERIAL CULTURES AND CLINICAL ISOLATES

Drug resistant bacteria have been the major cause of increased morbidity and mortality affecting the vulnerable patients with decreased immunity. They are also one of the major causes of nosocomial infections in India. Antimicrobial resistance is a major clinical challenge in treating patients infected with antibiotic resistant bacteria. Hence, understanding the mechanisms of antibiotic resistance among clinically isolated bacterial pathogens may help in developing appropriate intervention strategies to tackle this global menace.

The researchers intend to gain insights into the mechanisms of antibiotic resistance being employed by the pathogens and their capacity for horizontal gene transfer using whole genome sequencing. Scant information is available on WGS based genomic analyses of clinical isolates from India.

The proposed research efforts could offer insights into the prevalence of the antibiotic resistance genes (AMR genes) in the Indian subcontinent. Our laboratory is involved in the characterization of (AMR genes) using a range of molecular tools among the isolated resistant cultures.

#### RECEPTORS IN THE MICROGLIAL INFLAMMATORY RESPONSE: IMPLICATIONS FOR MULTIPLE SCLEROSIS

Researchers at the Department of Biosciences are actively trying to understand whether secreted ATP has a role in the LPS and cytokine (TNF $\alpha$  and IFN $\gamma$ ) induced calcium response, expression of critical genes in inflammation, and activation of phagocytosis and chemotaxis. This will help to understand the role of P2 receptors and downstream signaling events involved in the processes. It will also help us to delve into the details of the role of P2 receptors in a mouse model of MS and help identify possible therapeutic targets. It may be noted that some P2 receptor inhibitors are currently used as drugs, such as for thrombosis. Some are in phase II and phase III clinical trials for various cancers. The research work will validate these drugs for mouse model of MS (Multiple Sclerosis).

This work proposes to reduce the lag period of these drugs for human MS trials. It will have considerable impact on understanding and identifying possible therapeutic targets in other neuro-degenerative diseases. Many genes that are induced by exogenous treatment of ATP (Hsp90 and HDACs) are known therapeutic targets in various diseases and hence inhibiting up-regulation of these genes by targeting purinergic receptors will have a favourable therapeutic effect. These diseases include Parkinsons, retinal degeneration and Alzhimers disease.

#### Management & Commerce

#### SPIRIT AT THE WORKPLACE (S@W): A STUDY OF S@W IN BUSINESS ORGANIZATIONS IN INDIA

The dawn of the twenty first century has witnessed what appears to be a turnaround with many business organizations laying emphasis on ethics / values, Corporate Social Responsibility, and sustainability, with a focus on

multiple stakeholder welfare maximization. Business organizations in many parts of the world still maintain a skewed attention to mere economic criteria, even at the cost of societal and environmental factors, leading to a sense of hollowness, ‘something missing,’ in the organization. Using the phrase that has become widespread today, we seem to have lost ‘spirit at the workplace’ also referred to as ‘S@W’ or ‘spirituality at the workplace’ or ‘workplace spirituality’.

This exploratory research study, investigates the construct ‘Spirit at Work’ in an Indian context. This research uses extant literature coupled with empirical investigation of the perspectives and the perceptions of managers in Indian business organizations. This study has adopted a multiparadigmatic approach using a mix of quantitative and qualitative methods.

The study identified new elements of S@W specific to the Indian context and thereby highlighted the differences in the perceptions and views of S@W between the Indian and Western context. It has drawn upon insights from Karma Yoga principles, an Indian psycho-philosophical equivalent of S@W. It further depicted S@W as a dynamic experience – as a journey to be undertaken by business organizations as well as business managers from a basic level to an advanced level.

In addition, it has presented both an individual-centric and an organization-centric approach to S@W. It shows that individual values and attitudes play a role in integration of S@W through ‘Personal attitude’ at the basic level and ‘Transpersonal work orientation’ at the advanced level of the S@W journey. Unlike earlier studies, this study indicates that organizational culture and philosophy too have an explicit role to play in the integration of S@W through ‘Engagement at the workplace’ at the basic level and ‘Transorganizational work orientation’ at the advanced level of the S@W journey.

#### DEVELOPING THE CONCEPT AND PRACTICE OF ‘INCLUSIVE BUSINESS’ FOR POVERTY ALLEVIATION: A STUDY OF SELECT ORGANIZATIONS IN INDIA

This research work focuses on the concept and applications of Inclusive Business (IB) - businesses that enable the economically-weaker section of the populace to participate in market activities to gain by becoming part of the value-chain of firms as suppliers, distributors, employees or consumers. The study addresses three foundational issues, with the aim of advancing knowledge in this field relating to IBs: What is Inclusive Business, What is the process of value creation in an Inclusive Business, and How can organizations formulate strategies for developing inclusive business models?

It has adopted a qualitative research design using the case-study method. The study of successful and unsuccessful IBs have led to three unique and important contributions to the body of knowledge available on the theory and practice of IBs.

The first contribution aims at advancing the theoretical foundations of the field, by proffering a framework and a working definition for IB. The framework bridges—for the first time—ideas of human development and business strategy,



by delineating how integration of the disenfranchised communities into value-chains can and must lead to the expansion of human capabilities on one hand, and enhanced firm competitiveness on the other.

The second contribution of this study is the operationalization of the Human Development and Capabilities Approach (HDCA) through the development of a human-centric value-chain intervention (HC-VCI) framework. The HC-VCI framework is a first-of-its-kind management tool that focuses on helping the poor transition into market economies, rather than focusing exclusively on firm efficiency or competitiveness. The HC-VCI framework offers a novel perspective to human lives, where humans are valued not as factors of production but as social agents with human rights. These findings resonate with the latest research on well-being, human development and happiness. The third contribution is the development of a framework for formulating strategies for developing successful inclusive business models. This contribution is divided into two parts. In the first part, the study identifies specific contingencies that IBs face, and relevant capabilities needed to overcome the contingencies. Specifically, the contingency-capability framework developed in this study points towards a holistic view of strategy. In the second part, the study develops a process model of strategy formulation in IBs.

#### Economics & Humanities

##### FINANCIAL AND MACROECONOMIC MODELLING

Research at the Department of Economics is primarily focused on financial and macroeconomic modelling leading to policy analysis on the domestic and international economies. While the studies relating to economic policies, financial markets and their interlinkages in the emerging economies were taken up on the international front; the research on the domestic economy concentrated on diverse issues relating to various aspects of the Indian economy. These include topics like determination of exchange rate, inflation, oil prices, automobile demand, modelling volatility in stock markets, measuring operational efficiency in Indian banks, studies in the fiscal aspects relating to GST, fiscal policy etc.

The research is quantitatively oriented, relying on leading edge techniques in statistics and econometrics in delivering research publications of high standard. Apart from producing high quality research publications in reputed national and international journals, the faculty at the department have also been regular participants in the conferences and seminars conducted by prestigious institutions across India.

As an outcome of macroeconomic modelling, a doctoral research was done in the area of Current Account of India's Balance of Payments Under the New Economic Policy Regime. The summary is as follows:

One of the most successful aspects of India's structural reforms has been the strength and dynamism of its external sector. The sector continues to be robust, despite sharp increase in India's imports over exports leading to huge trade deficits. India's balance of payments has recorded large and persistent surpluses,

<ul style="list-style-type: none"> <li>• Engaging Young Faculty Members in Research</li> <li>• Consultancy Services offered free of charge</li> </ul>	<p>with foreign exchange reserves currently around US\$ 400 billion. Increased earnings from exports of services and remittances coupled with enhanced foreign investment inflows have provided strength to the external sector. The overall objective of this work is to identify and quantify linkages between the domestic and world economic developments on the one hand and the current account of India's Balance of Payments on the other, so as to make them more meaningful in terms of policy initiatives. Applied econometric methodology in keeping with the modern time series analysis is utilized to ensure rigorous analysis and valid inferences.</p> <p><b>THE 'I' OF WOMAN THROUGH THE EYE OF SHAKESPEAREAN DRAMA</b></p> <p>The thesis is an investigation of the nature and locus of the feminine as represented in the aesthetic universe of the Shakespearean oeuvre. About 20-25 plays of Shakespeare have been reviewed in this study, using variables such as the trappings of patriarchy, agency and the principle of androgyny. This triangulation helped in mapping the complexity of human behaviour and also minimised the intrinsic shortcomings of any single approach of the feminist coterie. Whereas some texts were more viable for particular kinds of interpretations, the others refused to render meaning when subjected to certain other theories, owing both to formal principles and the specificity of the content.</p> <p>Each chapter reads a cluster of plays and traces a subliminal and discontinuous emergence of notions associated with feminine identity. There are some counterintuitive findings on the attribution of evil on the nexus of femininity and agency. The study discovers how the conceptions of androgyny in the human personality, and the uroboric unity of being, help in negotiating selfhood as transcendent of gender dispositifs.</p> <p>The plays are, more or less, an alibi. The single desideratum that has guided this disquisition is inclusion, even at the risk of a rupture of coherence. The conclusion highlights how Shakespeare balanced his imagination with reality to produce some of the most enduring portraits of women in the whole of world literature. Reconnaissance of gender and its performativity, through the trope of female characters in Shakespearean drama, unravelled inclusion and relatedness as the core of femininity.</p> <p>Yearly faculty workshops were organized. Faculty workshop is organized in the last week of May every year. The training for young faculty was provided with regards to question paper setting, evaluation and other rules of engagement.</p> <p>Young faculty members were also encouraged to enrol for doing Ph.D. and those faculty with Ph.D. qualifications were encouraged to undertake supervision of research work either through projects or by research scholars.</p> <ul style="list-style-type: none"> <li>• Sri Sathya Sai General Hospital: e-NeutriAnalyzer: A Mobile App to help physicians to evaluate the nutritional needs of focusing on various categories, such as Lifestyle, Food Habits, History of Diseases etc. – 2018 and ongoing</li> </ul>
---	--

<ul style="list-style-type: none"> <li>• Campus-Hostel Management Committee</li> <li>• Leadership Team for Quality assurance</li> </ul>	<ul style="list-style-type: none"> <li>• SSSIHMS Whitefield: SARANG – A HL7 interoperability engine to integrate the communication between different medical equipment – 2018</li> <li>• SSSIHMS Whitefield: An application to map the medical terms in SSSIHMS to international standards – SNOMED-CT – in order to process intelligent searches – Ongoing and 2019 release.</li> <li>• SSSIHMS Whitefield: Structured Data Capture – Dynamic and structured data capture of patient data based on context for effective procedures – Ongoing and 2019 release.</li> <li>• SSSIHMS Prasanthigram – CT image segmentation and classification for kidney stone, 2018</li> <li>• SSSIHMS Prasanthigram – Mobile App for Automatic Announcement over PA system for Blood Donors, 2018</li> <li>• Sri Sathya Sai Hostel for Senior Students, Prasanthinilayam, DialIn – A customizable telecommunication framework, 2018</li> <li>• Sri Sathya Sai Digital Studio: Automatic content based classification of images &amp; videos 2017-18.</li> <li>• SSSIHMS: Internet Email – An intranet based email communication framework to communicate between campuses only MPLS network – 2018</li> <li>• Sri Sathya Sai Hostel, Muddenahalli: Health Score – An Android based customizable application to collect patient health, dietary and other habits to calculate a health score in order to prescribe treatment with a holistic approach – 2018</li> <li>• Sri Sathya Sai Hostel, Muddenahalli: HSBC – Hostel Services Banking Centre – An online application that integrates multiple self-reliance departments of the hostel to enable on point payment and multi-point spending e.g.,: Photocopy, Laundry, Photocopy, Telephones etc. - 2017</li> <li>• Sri Amit Sood, Five consultancy Projects for Ernest &amp; Young MBA - Three Projects on Lean Six Sigma interventions MBA- Energy conservation in SSSIHMS</li> </ul> <p>The four campuses and hostels of SSSIHMS are important and co-dependent and complementary parts of the Institute. This committee deliberates and approves all decisions pertaining to the Campus and Hostel to ensure smooth functioning of the Campus-Hostel dyad.</p> <p>Three meetings were held in the year 2017-18 and issues related to faculty and students, curricular, co-curricular and extra-curricular activities of students, management, parity across campuses, campus-working schedule, campus-workers' welfare, facilities like bathroom complex in the hostel, garbage disposal, sports, cultural &amp; self-reliance calendar, access of IT infrastructure to the students were discussed regularly in the CHMC meetings.</p> <p>Leadership Team consisting of Vice-Chancellor, Registrar, Controller of Examinations, Directors of the Campuses, Wardens of the Campuses, Heads of Departments and Associate Heads of Departments of the Institute has been established in 2015. Periodical meetings are being held ever since.</p>
---	--

<ul style="list-style-type: none"> <li>• Sri Sathya Sai Values-based Integral Education</li> <li>• Promoting Green Initiatives in the campus</li> <li>• Promoting Public Awareness of SSSIHL's Contribution and Quality Education</li> </ul>	<p>This team takes leadership role in all the academic and administrative matters. Points discussed in this meeting were on the topic of Sri Sathya Sai System of Integral Education and how to effectively implement it in the dynamically changing world of today. Detailed deliberations were held on aspects like effective student mentoring, awareness courses, need for cooperation from parents, more teacher's workshops and orientation programmes, collective ownership of students by teachers etc.</p> <p>Student teacher ratio of 9:1 is maintained as one of the best in the country. The model of integral education adopted, necessitates a favourable student-teacher ratio and a host of residential teachers who are willing to make sacrifices by living with the students and these by the student-teacher interaction that is the basis of a modern <i>Gurukula</i>.</p> <p><b>800kWp Solar Roof-top and Ground Mounted System</b> was installed in Prasanthi Nilayam Campus of SSSIHL in April 2018. This will cater to the energy needs of CRIF and the Prasanthi Nilayam campus.</p> <p>A well formulated and comprehensive annual report is brought out by the institute every year reporting the milestones achieved in the field of Quality education and other dimensions of holistic development being undertaken for the students in the institute. This is uploaded on the website for the public at large to refer to it.</p> <p>As a part of creating awareness about the institute for prospective applicants during the admissions season, admissions posters briefly describing the salient features of the value based education at SSSIHL is circulated to all the major schools and universities across India.</p> <p>Help of the Sri Sathya Sai Seva Organization, a sister organization of SSSIHL is taken to create awareness about this unique experiment of value based education across the country. This is done through the sevadal volunteers and office bearers of SSSSO.</p>
--	--