

Fostering Linkages in Academic Innovation and Research (FLAIR)

Leading Kerala's Higher Education into the Knowledge Era



Capacity Building for New Faculty Members in Academic innovation and Research excellence

HIGHER EDUCATION (F) DEPARTMENT

G.O.(Rt) No.905/2013/H.Edn Dated, Thiruvananthapuram,23.05.2013

New Initiatives in Higher Education

Department of Higher Education

Government of Kerala



“Education is a major catalyst for human development”

-The Millenium Development Goal on Education

Fostering Linkages in Academic Innovation and Research (FLAIR)

Leading Kerala's Higher Education into the Knowledge Era

Vision

Higher Education in Kerala needs to be taken to the next level by motivating the new generation faculty members to raise their levels of productivity in terms of innovation in teaching-learning and research. In the connected world of the Knowledge Era, forging meaningful linkages between academics towards raising the overall quality in teaching and research is a need of the hour. The new breed of faculty members along with experienced academics of the state would form a 'Collaborative Academic Network' (CAN) that will promote meaningful knowledge exchanges.

Programme vision can be expressed as thus:

Leading Kerala's Higher Education into the Knowledge Era

Objectives

To realise the vision, a set of objectives have been defined and which include:

1. Motivating the newly joined faculty members to adopt innovative Teaching-Learning and Research strategies.
2. To bring quality consciousness in the field of higher education through meaningful interventions in academics and research .
3. Raising standards in Teaching-Learning by equipping new generation teachers in innovative aspects of academics
4. Promoting excellence in research in the higher education institutions through capacity building
5. To bring about positive changes in the academic climate in the Colleges of Kerala by raising the level of participation by faculty members and students
6. Establishment of web based networks of academicians called 'Collaborative Academic Networks' (CAN) for knowledge sharing

Who will be the FLAIR beneficiaries?

Faculty members of Government Arts and Science and Engineering Colleges and University Departments who have less than five years of service and at least 20 years of remaining service will be eligible to become FLAIR members in the first year of the programme. Joining the FLAIR system is voluntary and academics with a commitment and a zest for development would be the potential target group. To join the FLAIR system one needs to:

- Understand the roles and responsibilities vested upon him/her for the cause of education.
- Have a commitment towards personal growth and capacity building for making meaningful contributions in education.
- Be willing to undergo a performance evaluation at all stages during the journey in the FLAIR system

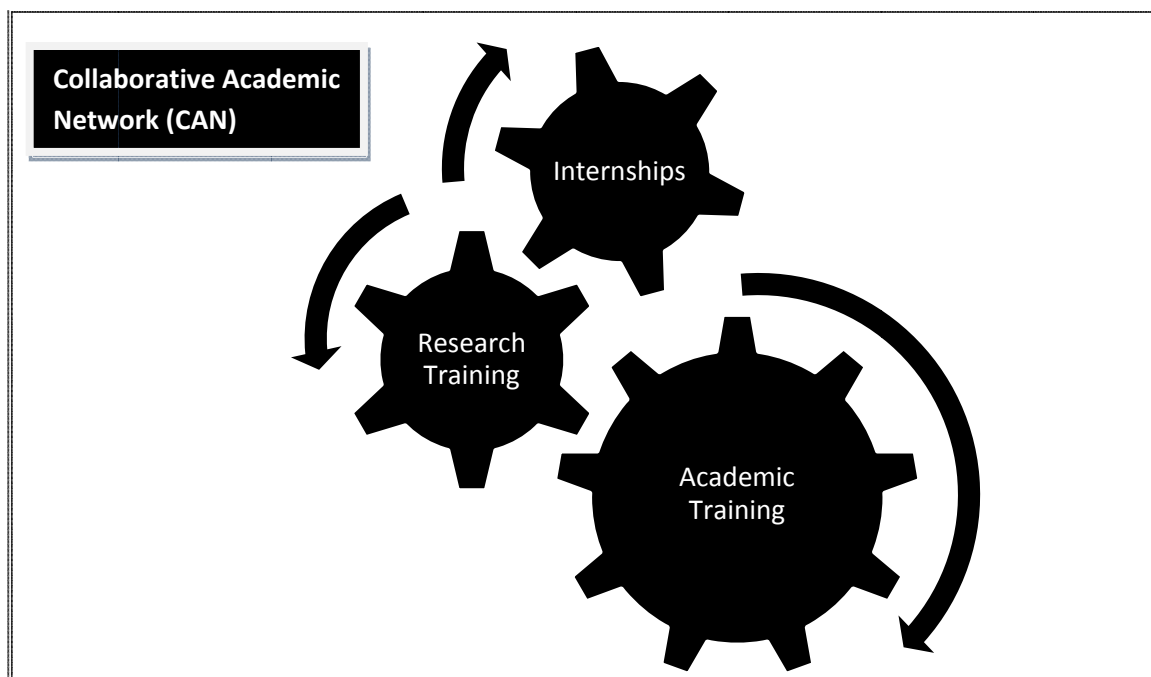
Entire faculty and students of Colleges will be covered in a separate rewards component of the programme called '**Student Teacher Excellence Promotion Scheme**' **STEPS**. This includes recognition of outstanding contributions by teachers and students such as publications in a selected list of high impact international journals and patents.

What are the benefits for the target group

'Quality Higher Education through Teacher Empowerment' is the motto of the programme and hence FLAIR aims at setting new standards in quality. A quality consciousness will be embedded in the young faculty members through the various initiatives of the programme.

The benefits for the community would be:

- Opportunity to undergo a focussed and state of art academic training through the FLAIR Induction Training Programs.
- Setting an academic or research based growth track based on the interest and capabilities of the faculty members assessed by the FLAIR expert team.
- Short term academic/research trainings (Two weeks) on emerging themes in reputed national institutions.
- Two month academic/research internships that would expose the community to cutting edge developments happening in national and international institutions.
- An attractive reward scheme that includes excellence awards and grants for carrying out innovative projects.



The FLAIR Programme - a diagrammatic representation

Background

Present day set up in Higher Education in the State hardly offer any opportunities for young talents to put extra efforts in their professional and personal spheres. Motivating young faculty members to bring out their best in academics, administration and extension would lead to the overall improvement of the quality of Higher Education which is a cause for concern now. New and young faculty members who have joined the Collegiate Education Department during the past few months, lack experience but possess tremendous talent and potential. Many of these young faculty members hold advanced degrees and possess good track record in research.

It is in this context that the Department of Higher Education, Government of Kerala is launching a unique scheme, *Fostering Linkages in Academic Innovation and Research* (FLAIR) meant to infuse new vigour in the field of Higher Education. FLAIR promotes

mentoring for the young faculty members to enable them to act as Change Managers for raising the standards of our educational institutions and also to bring in a new academic culture in the State. The scheme would rest upon three pillars namely, academic innovation, research excellence and expert linkages.

Joining the FLAIR programme

To join the FLAIR Scheme and for taking part in the activities a faculty member should meet eligibility conditions. These are:

1. Newly joined faculty of the Government Arts and Science Colleges, Engineering Colleges and University Departments of Kerala with less than five years of service and with a minimum of 20 years of remaining service (For Universities a minimum of 25 years of remaining service would be needed)
2. Faculty members from 41 Government Colleges and 9 Government Engineering Colleges and five Universities would be covered during the pilot phase (First year i.e., 2013-14). It is proposed that from the second year onwards faculty members from the Aided Colleges of the State shall also be covered.

Programme description

Higher Education, plays a significant role in shaping the human resource pool of any country. The Knowledge era lays great emphasis upon the higher education and India has a great role to transform its younger generation into a valuable resource for development. The State of Kerala has been a model for the nation in many respects including education. However, in the field of Higher Education, we've to go a long way to meet the expectations of the Knowledge Society of the 21st Century. A perspective planning to boost the prospects of higher education is the need of the hour. It is in this context that the FLAIR scheme assumes importance.

FLAIR aims to make higher education in Kerala future-ready through capacity building in young faculty members. In order to translate this into practice the scheme focuses upon academic innovation, research excellence and expert linkages.

For the successful implementation of the programme, an enabling environment is a sine qua non in the campuses. Quality consciousness would be infused in the young faculty by empowering them through the FLAIR activities. Internal Quality Assurance Cells of the Arts and Science Colleges, mandated by the NAAC, works in the same direction and hence shall be entrusted the task of making FLAIR operational at the institutional level.

Motivation for the faculty members to join FLAIR

A focussed approach and goal-orientation are what makes FLAIR programmes unique and effective. Motivation for the faculty members includes the reward structure it offers along with long term growth opportunities. The salient features of the reward scheme of the programme include:

- a. Link with the Career Advancement Scheme (CAS) – Excellence Awards being offered to high performers will add to points in the CAS.
- b. Highly performing FLAIR members from academic and research tracks will be recognised as FLAIR Professors and Scientists respectively and will be eligible to become mentors and facilitators for future FLAIR initiatives.
- c. Academic and Research grants for members based on performance in internships in India and abroad.

Method of selection of FLAIR members

The stepwise method for selecting the newly joined faculty members for the programme is shown below:

1. Circulation of a basic format to the Principals of the target institutions
2. The filled in data sheet would be brought to the meeting of the Principals, IQAC Co ordinators and representatives of newly joined faculty members
3. A scaled down list will be finalized based on the inputs from the Principals depending on the specific characteristics of the respective institutions.
4. Principals and IQAC Co ordinators will arrange a 1 hour programme to describe the programme to the newly joined faculty. A short concept video provided by the FLAIR Secretariat shall be used for this.
5. A final list of interested faculty members would be given by the Principals to the FLAIR Secretariat after a FLAIR presentation in their respective institutions.
6. Faculty members from the list provided by the institutions will be called for a face to face meeting by the Secretariat in Thiruvananthapuram, Kottayam, Kochi and Kozhikode.
7. A total of 600 faculty members will be selected from these meetings. In case of a demand exceeding 600, a selection will be done from the candidates based on their application and a short interview. (Based on a quota system for Arts and Science Colleges, Engineering Colleges and University Departments)

Programme Description

Induction Training for the newly joined faculty members forms a major component of the programme since it helps to map the competencies and interests of the faculty members who participate in the programme. This profile would be used to determine the eligibility of the faculty members for advanced components such as Short term training and internships in academics and research. Induction training would thus be compulsory for all teachers who wish to join the FLAIR system. The training will be carried out in two phases of five days each with the first phase being one that would address the general aspects of

academic instruction and the second phase, a more focussed one in academic and research aspects respectively. The assessment of the participants at the end of the first phase would help the FLAIR Secretariat to classify the participants into academic and research tracks for the second phase. The final assessment and the competency profiles got at the end of the second phase of the Induction Training would form the basis for the selection of the faculty members for advanced programmes of the FLAIR. (Quantitative aspects of each programme are graphically represented in Fig,1)

Beyond the first phase of Induction Training, there would be two separate tracks for Academic and Research innovation and those who opt and get selected for each would move within that. All the programmes of these two tracks will help the faculty members to get trained in innovative academic and research methods and also to get involved in academic and research activities of reputed institutions within and outside India. There would be a strong monitoring and assessment component in all the advanced programmes of the FLAIR that would help to determine excellence indicators. (Specifics of the programme are given under the implementation head)

Short term training programmes would be offered for a select group of members after the Induction Training. In the field of academics, faculty members would be sponsored to attend focussed training programmes in academic innovation in leading national institutions such as the Indian Institute of Science, Bangalore, Indian Institute of Management, Kozhikode and Bangalore and the Indian Institute of Information Technology, Bangalore and Thiruvananthapuram. Short term research visits and training shall be arranged with leading research institutions of the country such as the Centre for Cellular and Molecular Biology, National Geophysical Research Laboratory, National Physical Laboratory, Space Applications Centre, English and Foreign Languages University, Hyderabad, Tata Institute of Social Sciences and Tata Institute for Fundamental Research.

Academic and research internships shall be offered to a select group of faculty members of FLAIR based on application and rating of the member obtained from the Second phase

Induction Training Programmes in Academics and Research respectively. Internships will be offered both in reputed national institution/Universities/research laboratories and also in renowned international institutions. Assessment of interns will be based on the feedback from the host institutions as well as outputs given by the FLAIR members. Output from research interns would include reports, publications in peer reviewed journals and collaborative programmes initiated between the FLAIR members and the experts of the national and international host institutions. This output will help the FLAIR Secretariat to map excellence among the members.

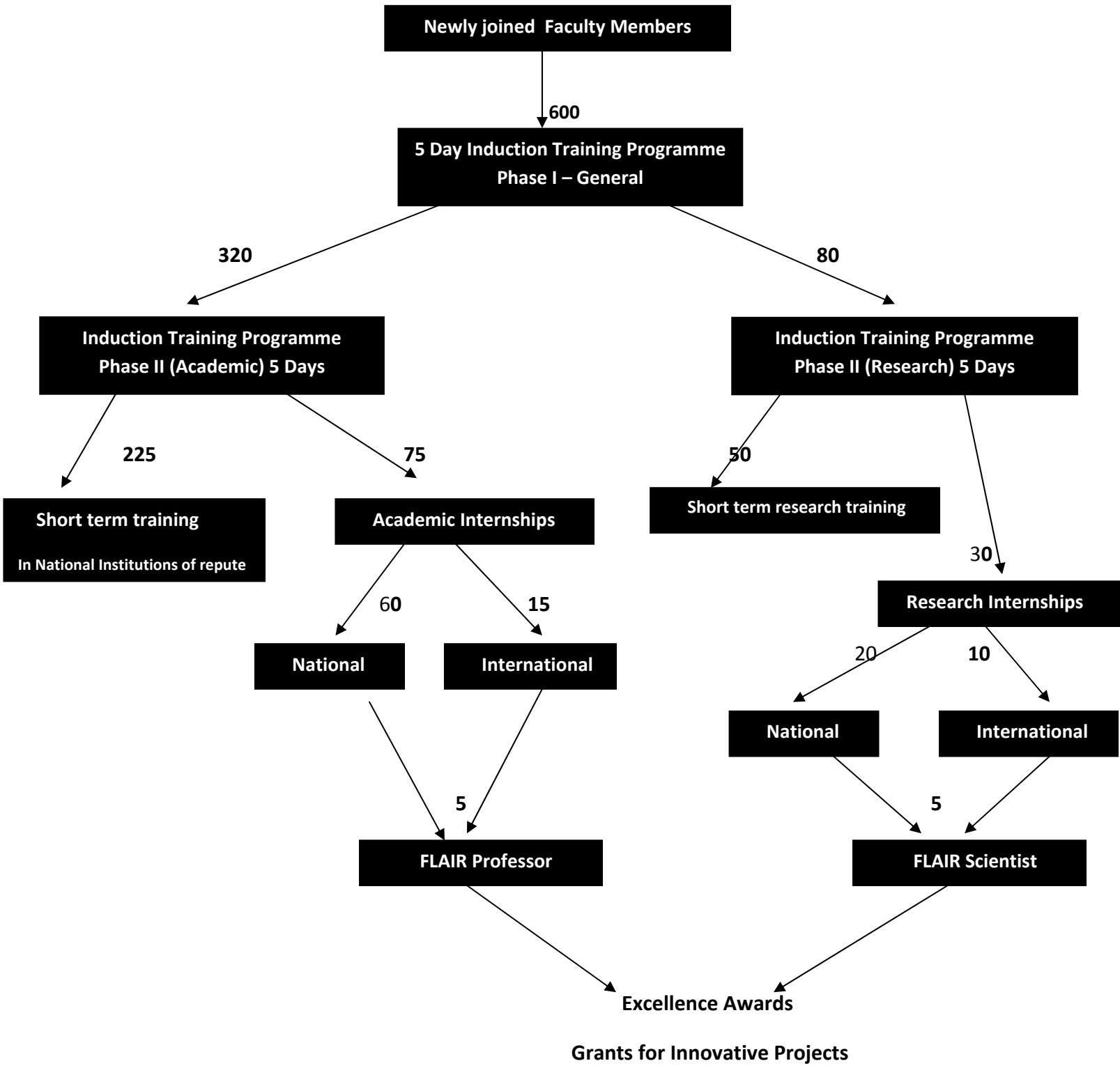


Fig.1 Graphical representation of the FLAIR path for the faculty members who join the system

At the field level, there shall be separate **FLAIR Cells** under the Internal Quality Assurance Cell/Career Guidance and Placement Cells of Colleges. The Cell will be lead by the Principal in the case of Colleges and the Director, Planning in the case of Universities. The Co ordinator, IQAC will also be the FLAIR Co ordinator in the Colleges and the Universities. In order to monitor and co ordinate programmes at the field level, there shall be District level Co ordinators, who will be faculty members chosen from Colleges close to the District headquarters.

FLAIR Interface meetings for Faculty Selection

From the list of faculty members provided by the Colleges after the FLAIR presentations, teachers will be called for a face to face meeting at Thiruvananthapuram, Kottayam, Thrissur and Kannur. The meetings will preferably be arranged in any one of the Arts and Science or Engineering Colleges close to the respective district headquarters. Programme at each venue shall be of one day duration. There will be a motivational talk on FLAIR following which two or three panels from the Secretariat will receive applications from the faculty members and also have a very short interaction. In case there is a large demand that exceeds the intake threshold of 600, there will be a selection process based on pre fixed norms and regulations. A total of 600 faculty members will be selected for the first phase of the programme (2013-14) and these academics will register with the FLAIR website which will be the online platform for the programme management.

Academic Innovation

The challenges being faced by the present educational system include shortfalls in course transaction time, lack of innovation and a traditional approach. The Knowledge era in which we live offers exciting opportunities for knowledge exchange and personal development. The following are some of the possible avenues in academic innovation:

Supporting innovative approaches in instruction

Promoting ICT based approaches for 24x7 educational experience for students (Application of Course Management Systems such as Moodle or Blackboard)

e Learning strategies to supplement the conventional instructional methods.

Introduction of participatory and peer assisted learning strategies for students

Use of Open Course Ware and sharing of Teaching plans and best practices in Teaching Learning

These can be achieved through:

1. State of the Art induction level training with a focus on academic innovation
2. Teaching internships (Faculty members observe expert classes, involve in research of the mentors and also assist in teaching/laboratory sessions)
3. Knowledge sharing to promote dissemination of best practices in teaching-learning

The Outcome

FLAIR initiatives in this area would result in a new breed of academicians who're aware of the present realities as well as the modern trends in education. By infusing innovative elements in academic engagements, these academicians would act as change agents within the system. Higher Education in the state, through the meaningful interventions of this generation of new faculty members, will gradually evolve to match global standards.

Induction Training for the new faculty members

Faculty members joining the University, Technical Education and Collegiate Education system willing to join the FLAIR scheme would be required to undergo a compulsory short term training to get initiated in the academic and research programmes. The objectives of the training programme are:

Embedding a quality consciousness addressing all levels of academic engagement and situating new members in the HE system

Introducing faculty members to effective Teaching-learning strategies that also include e learning methods (Use of Course Management Systems such as Moodle)

To give an overview of the higher education system and its responsibilities

Promoting a spirit of enquiry and research

Exposing faculty to case studies/best practices in TL

Induction Training shall earn credits/points for the teachers in their Career Advancement Schemes (CAS). A total of 21 days training in the FLAIR system shall be considered as equivalent to an Orientation Course as outlined in the UGC regulations.

A total of ten days shall be utilized for this in two phases. The first phase of five days shall be of foundational nature during which the participants will be exposed to the fundamentals of academic instruction including course design, instructional methods, assessment and course management systems of teaching and the need to innovate. Unlike traditional training programmes that are trainer-centered, the FLAIR exercise would be participatory in nature. Trainees would be provided with opportunities to share ideas/experiences and best practices with in the group.

Participants of this phase will be involved in a course design exercise which also involves planning instructional and assessment strategies. From the third day onwards there will be presentations by the participants based on their specific work during the course. These ten minutes presentations shall be assessed using a well designed rubric and used for rating the participants. Assessment of the participants based on their personal biodata and performance in the training will help the Secretariat to classify the academics into academic and research tracks from Induction Training Phase II onwards.

The Training Team

The Training team shall be headed by **Prof. N.J. Rao**, Former Professor and Chairman, CEDT, Indian Institute of Science, Bangalore who is heading the Faculty Development Programmes (ELITE) at the Indian Institute for Information Technology (IIIT), Bangalore. There shall be three training teams, each one comprising two experts from the area of academic instruction, one from research and a fourth from e Learning. Thus there will be a total of 12 members in the FLAIR Training Team. Members of the training team shall be selected from the following group of persons:

1. Professors who have got excellent rating from participants of orientation programmes/refresher courses being organized by the UGC ASC.
2. Academicians with a good background in research and having an ability to communicate and motivate others.
3. Academics who're already working in the area of Educational planning and having good motivational/communicative skills.

A list of potential resource persons prepared by the Academic convenor shall be discussed and approved by the State Working Group and used for the training programmes.

The Master Trainers of the programme will be given a Training before the beginning of the Induction Training in order to equip them to train the academics in innovative and effective teaching learning strategies.

Selection based components

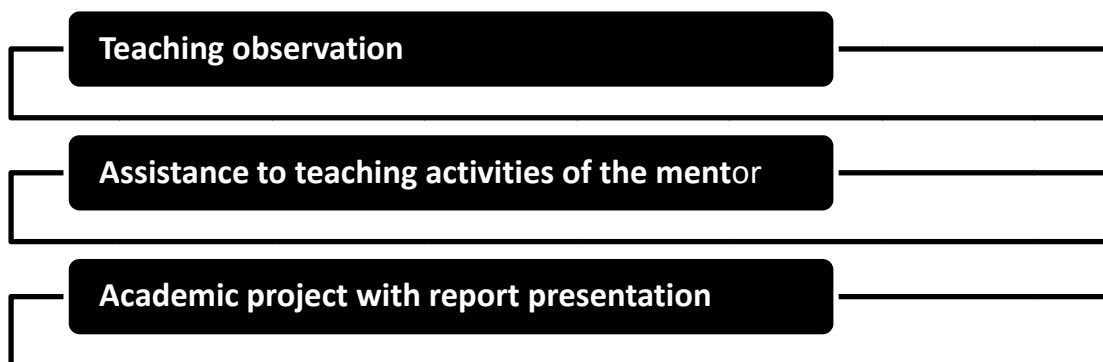
1. Short term (academic) Training Programme

Two weeks focussed training programme on academic instruction shall be provided to 225 faculty members. This will include areas such as e Teaching and learning, ICT based Teaching, Innovations in Teaching learning and Assessment strategies. Reputed national institutions such as the Indian Institute for Information Technology (Bangalore and Thiruvananthapuram), Center for Teaching Excellence, IIT Madras and Indian Institute for Science and Research shall become the training partners for the programme. At the end of the training, the participants will have to submit a detailed report in a prescribed format and also share their experience through the FLAIR Website.

2. Academic internships (Gurukul based Mentoring System)

Academic excellence depends to a great extent upon experience and there can be no substitute for this. Tapping into the vast soft knowledge repositories of expert teachers would help the young faculty to imbibe meaningful insights and best practices in education. Academic internships have been instituted with the sole objective of transfer of best practices and methods in higher education from experts of today to that of tomorrow.

Short term (1-2 months) internship programmes shall be open to new faculty members during which he/she can move with experienced professors and get associated with the teaching/research assignments of the senior faculty. At the end of the programme, the beneficiary shall submit a report and also disseminate the ideas and experiences to their fellow colleagues in educational institutions.



Components of Academic Internship programme

Plan of the programme

National educational institutions of repute such as the Indian Institute for Science (IISc), National Institute of Technology (NIT), Indian Institute for Science Education and Research (IISER), Indian Institute for Space Science and Technology (IIST), Tata Institute of Social Sciences (TISS) and English and Foreign Languages University (EFLU) shall be identified as academic partners for this programme. International Internships shall be arranged with leading Universities of the world such as the Southampton University, U.K., Texas A&M University and the Stuttgart University of Applied Sciences, Germany, Institutional arrangements will be done between the Government of Kerala and the concerned institution for the conduct of the programme. The institutions will also be asked to provide a list of highly reputed senior faculty, based on their internal quality assessments, who can serve as mentors for the Academic internship programme. A list of mentors for the programme, available each year shall be published for the benefit of the FLAIR Faculty.

There shall be two month summer/winter internship programmes every year during which the selected faculty members get attached with their mentors and their academic activities. The intern shall sit in the classes being engaged by the mentor, assist him in his teaching/lab assignments and also get involved in the research activities of the institution. At the end of the two month period, the intern shall prepare a project report on the activities undertaken and the learning experiences. He will also make a short presentation before the FLAIR Academic team of his institution based on his internship experiences soon after the programme.

A total of 75 internships shall be offered (45 from the Arts and Science Colleges and 30 from the University Departments) every academic year, properly distributed between summer and winter

programmes based on the availability of mentors and convenience of the faculty members. Out of this, 15 internships shall be offered in international institutions or repute. Selection will be based on application in which due consideration shall be given to the rating obtained by the faculty member at the Induction level training programme and also the recommendation by the FLAIR team leaders at the institutional level.

Seed grants of one lakh each for Academic Innovation shall be granted to 10 faculty members who obtain a high rating in the Competency analysis. This amount can be utilised for carrying out academic projects by the awardees. Those who carry out such projects shall submit a comprehensive report and also make a presentation before the Academic Team of FLAIR.

3. Research internships

Faculty members having a flair for research shall be provided opportunities for two months Summer/Winter Internships during which he/she gets an opportunity to work with research mentors in reputed laboratories of the country. Short term project works that the faculty undertakes can translate into long term research commitments based on merit. At the end of the internship, the faculty member shall submit a research report and present the work before a research community. There shall be incentives for outstanding works, publications leading from the work and also patents.

Plan of the programme

FLAIR faculty members who have outstanding paper/poster presentations on research themes at the Early Career Research Conferences and those who've got excellent rating at the Induction level training programmes shall be eligible to apply for research internships. A total of 40 research internships (20 from the Colleges and 20 from the Universities) shall be offered each year. FLAIR Secretariat would identify a set of institutions/research laboratories that are centres of excellence in selected research areas (inter disciplinary research would be given priority) where eminent researchers work and engage in institutional arrangements with them for providing research internships. NIST laboratories, research laboratories of the Central Universities/NITs and research institutions of the Govt of India such as the Space Applications Centre, Ahmedabad and Centre for

Cellular and Molecular Biology, Hyderabad would be the potential research institutions for research internships.

There shall be a well defined system for allocation of research internships in different disciplines based on the importance of subjects. Also, in the case of rare subjects and disciplines a quota system on rotational basis may be followed. FLAIR will publish every year the themes in which internships will be offered and also the list of institutions with names of the researchers from which faculty members can make a selection. Applications will be invited from the faculty members every January and July for Summer and Winter internships respectively.

Seed money of one lakh rupees each shall be awarded to 10 outstanding faculty members who display high interests for research and also submit a challenging research proposal to the FLAIR Academic Team. The incumbent shall produce a report at the end of the work and publish a paper based on the work in a peer reviewed national journal.

Those who have a very good track record in research including published papers and conference presentations shall become eligible for International Research Internship Grants and work for a period of two months in a reputed international institution. On completion of the work the researcher shall publish the work in an international journal having an impact factor of not less than 0.50.

Short term Research Training

Teams of faculty members shall visit reputed research laboratories for understanding the latest trends in research. The visiting faculty members will interact with senior researchers and also get training classes on research themes. The programme shall be of one week duration. Selection to this programme will be based on the competency profile of the members.

Collaborative Academic Network CAN

FLAIR members who undergo trainings and internships will become part of a Web based Knowledge Community called the Collaborative Academic Network (CAN). Subject based sub groups in the CAN will promote knowledge exchanges between the faculty members who will share experiences, insights and best practices through blog postings and group discussions. Academic resources such as Course designs, instructional strategies, lesson plans, learning materials and assessment items and research based resources such as abstracts of papers, full text of papers and project details will be uploaded in the subject based online repositories. There will also be provisions for uploading class videos and research based videos.

Through CAN members can post messages in a white board, engage in blog based discussions and also post their class videos and other learning material in an online library. The front page of this network will have a design as given below:



Fig. Diagrammatic description of the CAN

In order to promote knowledge based interactions and to encourage sharing of best practices, special incentives will be given to the active members of CAN who contribute significantly to the collective knowledge. The awards committee that will be set up to implement STEPS will be entrusted with the task of identifying faculty members who participate meaningfully in the CAN.

Excellence Promotion Scheme of the FLAIR

Promoting excellence in academics and research is another aspect of the FLAIR Scheme. Young faculty who involve in the FLAIR programmes and accumulate points for the CAS can pass through a 10 year growth curve that will make them experts in own field and emerging areas. Competency mapping and performance assessment shall be inbuilt into the programme for measuring the needs as well as the results of the excercises.

Competency mapping

Induction training programme will also involve competency mapping and every FLAIR faculty will be aware of their personal SWOT profiles. Movement of members through FLAIR waters will be based on the felt needs of the members that in turn depend upon the competency maps. Highly motivated and committed FLAIR members identified from the cells in institutions will also be used as resource persons/facilitators for the Core components of the programme during the successive years. Services of such faculty members will be used to promote peer assisted learning and collaborative learning in induction training programmes.

Performance based FLAIR Career path

Faculty members joining the scheme can earn points which can be used for CAS as well as moving up in the FLAIR ladder. Excellence in academics and research displayed by the FLAIR members (a part of this will also be applicable to the senior faculty)will be recognized and rewarded. Recognition will be in the form of citations that can help them accrue points in the CAS. State level awards for academic and research excellence will be announced every year in different streams.

Performances at the Induction training, Early Career Conferences, Academic and Research Internships and involvement in the Knowledge communities through real and virtual world

interactions and level of participation in the talent pools shall be made measurable. Guide lines will be issued for measuring performances and converting them into point format.

The salient features of the Career path would be:

1. Eligibility for special and merit based FLAIR schemes such as Academic/Research internships.
2. Transformation of FLAIR faculty into FLAIR mentors after five years of successful involvement and performance.
3. Award of special points to the highly performing faculty (both FLAIR and non FLAIR) for assisting them in their journey in the CAS.
4. Provision for the highly performing FLAIR faculty, at the end of 10 years, to become Knowledge leaders/Innovation experts within the higher education system

Student Teacher Excellence Promotion Scheme (STEPS) is another component of the Excellence Promotion scheme under FLAIR. In contrast to the other components of the FLAIR programme, STEPS shall be open to the entire academic community including students and teachers. Under this scheme, outstanding contributions from the part of students and teachers such as paper publications in high impact International Journals, patents, innovative technology developed and adopted by industries and international awards shall be rewarded.

A Scientific Committee constituted for this purpose shall scrutinise the eligibility of academics and students for the STEPS. The Committee will include as its members the Additional Chief Secretary Higher Education, Kerala, Vice Chairman, Kerala State Higher Education Council, a renowned academician (preferably a former Vice Chancellor or a NAAC Peer Team Member), two Scientists from the basic sciences and social sciences and two representatives from the FLAIR Secretariat. Applications shall be invited from students and teachers from the Colleges and Universities of the state during January, 2014 and a final list of awardees shall be published by 1 March, 2014 after a scrutiny of the applications by the Scientific Committee.

Besides, innovative student projects prepared as part of Course work/project work/dissertation will be promoted through an award scheme. This will be planned and organised by the State Innovation Council. As part of this innovative student project team would get a grant of Rs 1,00,000 for an All India Tour covering key industrial centres/business houses. Supervising Teacher of the project will also be included in the team.

The structure of the award scheme is as follows:

1. Incentives for papers published in reputed peer reviewed, high impact journals (With an Impact Factor above 1.00) – Rs 5,000/-
2. Patents generated by researchers – Rs 1,00,000/patent
3. Special incentive for innovative student projects – Rs 1,00,000 for All India Study Tour for the project team including Supervising Teacher.

This programme would be introduced in the Colleges through a short project video that show cases the various programme components with video inputs developed by C-DIT from eminent academicians and premier institutions of South India and multimedia animation of future educational scenario of the state.

Officers- in- charge of FLAIR

1. **Dr.Rajookrishnan, [Dy. Director] Officer on Special Duty(New Initiatives in Higher Education)**
2. **Dr.Jaikiran, Asst.Professor in Geology, University College, Thiruvananthapuram as Co-ordinator for FLAIR.**