REPORT OF THE ACTIVITIES

1991-92

INSTITUTE OF ADVANCED STUDY IN SCIENCE AND TECHNOLOGY,
Khanapara : Guwahati-781022

Report of the Activities

For the Year 1991-92

INSTITUTE OF ADVANCED STUDY IN SCIENCE AND TECHNOLOGY,
Khanapara : Guwahati-781 022

THE REPORT OF THE ACTIVITIES OF THE INSTITUTE OF ADVANCED STUDY IN SCIENCE AND TECHNOLOGY, KHANAPARA, GUWAHATI-22 CARRIED OUT DURING THE YEAR—1991-92.

The Institute of Advanced Study in Science and Technology has presently been conducting research and importing training in the following fields.

1] Plasma Physics.
2] Life sciences.
3] Resource Management and Environment.
4] Mathematical and Statistical sciences.
5] Computer Science.

1] Plasma Physics :

Both theoritical and experimental research on Plasma Physics are being carried out in the Plasma Physics Division. A well equiped laboratory for studying nonlinear waves in Plasmas has been set up with the joint financial assistance of the Department of Science, Technology and Environment, Govt. of Assam and Department of Science and Technology, Govt. of India and the generous donation of sophisticated equipments from the Institute of Space and Astronautical Science, Japan through International colaboration of professor Y. Nakamura of the said Institute of Japan.

The vacuum system consisting of a rotary pump, diffusion pump with a liquid nitrogen trap and a stainless steel chamber of 125cm long and 30cm diameter has been installed. The system can be evacuated upto 5×10^{-7} Torr. A double plasma device where multidipole magnets are used for surface plasma confinment is separated into a source (driver) and a target section by a biased grid which is made of a mesh with 80% transparency. The cathodes are tungsten filamments of 0.1mm diameter placed 6cm apart from the surface anode of both the chambers. Argon gas is introduced into the chamber to maintain the pressure at $(1-4) \times 10^{-4}$ Torr, under continuous evacuating state. The argon plasma is produced by the DC discharge between the filaments and anode of the source and target chamber. The plasma potential of the source chamber is kept at higher potential by applying a DC bias. The external signal is applied to the source anode. To measure the plasma parameters Langumuir probe, Retarding energy analyser are used. Typical plasma Parameters are $n = 10^{8} - 10^{9} cm^{-3}$ $Te = 2 - 3$ eV where n and Te are the Plasma density and temparature respectively. Vg and Vs are adjusted as necessary.

First the spontaneous oscillations (fo) without applying any external signal have been observed. Then an external periodic oscillation of frequencyfm and peak to amplitude indicated by Vp is applied to the source anode and the oscillation is excited. The interaction between the internal and external oscillations has been observed by varying the amplitude and frequency of the external signal.

The significant result of the experimental work is that the suppression of the internal oscillation takes place at a particular voltage of Vp for a frequency difference (fo-fm). The suppression of the oscillation could be explained by using Vander pol equation. At this stage, by keeping fm constant, if Vp is increased slowly, the periodic bifurcations take place. However even though the supression is continuous over a certain range, the bifurcation phenomena occurs at the edge of the suppression and not on the whole frequency range of suppression. The modulation that depends on the frequency difference (fo-fm). The mode suppression exhibits period-doubling cascade at a particular range of modulation depth for a frequency difference of the internal and external oscillation.

It is interesting to note that when we fixed the external signal at some different position within the suppression range or changed the working pressure of the system, different bifurcation phenomena period subtracting, periodic window, U-sequence etc. are observed by changing the amplitude of the driving signal, keeping all other parameters constant.

Experimental study of multi species plasma has been the subject of interest in recent years. Studies of instabilities, chaotic phenomena and soliton in negative ion plasma have been going on. Negative ion plasma are produced by introducing electro-negative gas SF_6 in to the chamber.

The theoritical research works have been consentrated on non-linear waves in plasmas. Solitary waves have been studied on different plasma situations. Introduction of Ion-beam with the plasma particle have been studied in presence of magnatic fields in same interesting result have been founded.

The following project is being conducted in the Plasma Physics Division.

1. Study of chaotic phenomena in Plasmas.

Life Science Division :

During 1991-92, the active principles of the two of the medicinel herbs namely Doerhaavia diffusa Linn and Thevetia Nerifolia Juss have been isolated, the chemical natures of the active principles have been established with the emperical formulae of

$C_{16}H_{25}NO_3$ and $C_{25}H_{38}O_4$, the latter having an unsaturated lactone ring with secondary and tertiary -01t (hydroxy groups in Diels' Alder type skeleton respectively. The active principles have been admistered into the experimental animals and the effects have been invesetigated covering carbohydrate and lipid moities and some of the enzymes. The active principles of both the medicinal plants posess the hypoglycaemic and hypolipidaemic effect either stimulating or inhibiting the enzyme systems.

In the radio-immunoassay laboratory the circulating insulin is being estimated in the healthy individual before and after oval administration of the water extract of Memordica Charantia and a correlation of plasma insulin and glucose is being attempted to establish and probable improvement in glucose tolerance after ingestion jof Memordica charantra is being investigated another medical plant namely **Clevodendum Coleobrokianum** has now taken up for study ; the plant is clinically established as hypotensive agent but effect of the water extract after administration for varying periods on carbohydrate, Lipid moities & on liver enzymes is under investigation. The active principle has been isolated and chemical analysis is under investigation in collobora-tion with the Meghalaya State Forensic Laboratory, Sophisticated Equipment Centre of NEHU, Shillong, Centre of Advanced Studies in Natural Products, Calcutta University and the National Chemical Laboratory, Pune.

During the period investigation on the effect magnesium in the liver enzymes and effect of hypomagnesemia on transainase Groups of enzymes in humen has been completed.

Another important field, whether intansive research has been started is the evolu-tion of techniques for indoor rearing of muga worm and its desease control. Muga silk is the indigeneous industry of NE region. It is said to be on the verge of extinc-tion due to some environmental factors.

The existence of Muga Silk Industry which is providing subsistence to several thousand families of Assam since immemorable time is threatened, as the production of the basic material, the cocoon of Muga silkworm is sliding down unchecked year by year. The practice of an age old method of outdoor rearing, due to nonavailability of an alterna-tive effective method of rearing under controlled indoor condition, exposing the larvae of the insect to various ranages of nature is identified to be the main cause for this sorry state of affair.

There was a belief among the rears and others connected with Muga silk industry that Muga silk cannot be reared indoor. Closely observing the behaviour of the insect Dr. Talukdar could however evolved a technique in 1963 to rear the larvae of the insect

indoor either individually or in small groups. Since then attempts were made by scientists to rear the larvae indoor in mass scale but without success.

On the basic principles of the technique mentioned above [Talukdar, 1963], a very simple, and effective technique was evolved by Dr. Talukdar in the Institute during the period under report for rearing the larvae of the insect indoor in mass scale. The experimental results indicated that not only it is easy to rear the Muga silk worm indoor in mass scale but also significantly assurred crop could be harvested even in the winter season which is considered to be the most unsuitable rearing period. The mortality rate is conspicuously low in indoor rearing. About 71% cocoons could be harvested from such rearing against only 22% in outdoor rearing. The duration of larval period could also be reduced by at least 12 days in winter rearing. More man days are required round the clock for outdoor rearing. For management of about 10000-15000 larvae of 1—3 and 4—5 stages, it requires, as estimated, only about 4—5 man hours and 7—8 man hours respectively per days. It is estimated that a person can rear about 7000-9000 larvae by applying the technique in a room with floor area of 6M × 4·5 M having 9 racks with 8 trays each. Each tray can hold about 100 larvae of 5th stage. It is also envisaged that, taking the advantage of multivoltine character of Muga silkworm, 4—5 commercial crops could be harvested in a year by applying the technique of indoor rearing against only 2 such commercial crops under outdoor rearing.

The technique evolved by Dr. Talukdar, was released in a meeting, held on 5th June, 1992. The meeting was attended by the personalities like of Dr. N. K. Choudhury, the Vice-chancellor of Gauhati University and Shri J. P. Rajkhowa, IAS, the then Commissioner of Sericulture, Govt. of Assam and the distinguished scientists from Central Silk Board, State Sericulture Department and the Institute of Advanced Study in Science and Technology. The technique was considered to be a "turning point" to bring about revolution to Muga Silk industry and a "break through" in the silk industry in Assam as opined by Shri Rajkhowa and Dr. Choudhury.

The following research projects in the Life Science Division are presently being carried out—

1. Isolation and chemical nature of the active principle extracted from the leaves and flowers of Clerodendurm Colebrokianum.

2. The effect of Cleorodendurm Colebrokianum extract on the enzyme more specially of the liver enzyme system.

3. Study of dietary factors co-relating cholesterol, triglycerides, alkoline phosphatase and atheroselerosis.

4. Study of Tobacco smoking and its relation to cancer laryngopharyns in Assam.

5. Study into physical, biochemical and quality characteristics meat broilers in relation to source of protein and enregy with special reference to agroindustrial waste and byproducts.

6. Study of Antifungal and antibacterial properties of a mixture of Muga sankha, haritala, Raskarpoor, Sangrup and neem in mustard oil base.

7. Study of the effect of Terminatia chebula on the liver enzyme systems.

3) Resource Management and Environment :

It has been reported widely that the oil exploration activities of the ONGC and the Oil India Ltd. are causing extensive damage to the standing Crop. The effects of pollutants from the oil exploration site are immediately reflected on the vegetation growing in the vicinity and on the micro-organism present in the soil. An extensive investigation on the impact of oil exploration on the native micro flora of rice fields of this region is being carried out in this division.

Studies on the impact of oil exploration on the rice field soil of Upper Assam is of great academic importance in respect of total survey and enumeration of native microflora occurring in the soil. The aim of the present investigation is to study the impact of oil exploration on the native microflora viz. Bacteria and Fungi of the rice field soil as compared to the control soil in relation to growth and general welfare of the plants has got great academic importance. Further, it will be of great interest to enumarate and to note the various activities performing by different groups of microorganisms such as nitrifying ammonifying and nitrogen fixing free living microorganisms in carrying out various soil processes both in the oil activated and control soil.

The monitoring of soil analysis is in progress. Parqmeters like P^H, conductivity, organic matter organic carbon content, Nitrogen, Water holding capacity of the soil samples collected from the oil exploring region at Lakowa, Maran and Rudrasagar have been worked out. The quantitative estimation of Bacterial and Fungal population using dilution technique of the collected soil samples have been worked out and quantification of micro-organisms responsible for carrying out various soil processes such as nitrification, ammonification, nitrogen fixation by free living micro-organisms in the vicinity of oil instalations and away from them at specified distances for making comparative study on the impact of oil pollutants are under progress. The experiments on microbioligical aspect with respect to oil concentration in the rice field soil in posts in relation to plant growth parametrs and grain quality under laboratory conditions is in progress.

A study on the impact of industrial effluents of Hindustan paper mill, Jagiroad on Human Health and Agriculture has been initiated.

It has been reported that the unscientific measures adopted to control the floods caused by the river Brahamaputra and its tributaries and the Borak river system have caused immense misery to the people. The drainage congestion, thus created, has enhanced the misery of the people instead of giving relief to them, The scientists have been studying environmental impact due to drainage congestion of Demow and Borbhag areas of Assam in order to suggest mesure to combat the same.

The following research project in the Res-ource Management and Environment Division is presently being carried out—

1. A study on the Impact of Oil Exploration on the Microflora of Rice Field of Upper Assam.

4) Mathematical and Statistical Sciences :

Availability of Scientific and Technological manpower of requsite skills in reuired magnitude at the required time is key to sustained economic growth. Manpower planning on this consideration, has to be directed at forecasting the longterm requirements with a view to planning the required educational and training programmes in advance to produce the required manpower.

The existing database needed for realisting planning of manpower in Assam is, however, scanty. In order to build up this data base as well as to project the requirement of scientific and technological manpower in Assam in course of the next 20 years, the IASST was taken up a scheme entitled "Study of Availability and Requirements of S&T Manpower in the State of Assam in the next 20 years" which is being implemented under the guidance of Dr. J. Medhi, prof. Emeritus Gauhati University as the Principal Investigator with effect from June, 1992.

The study seeks to provide estimates of the current stock of highlevel and Intermediary Science and Technological manpower in Assam, project the reuirement of such manpower during the next 20 years in the perspective of economic development during this period, provide estimates of supply of S & T manpower during the next 20 years form the currently available infrastructure and make an analytical study of the match between supply and demand. Preparatory work like collection of the list of establishments, study design etc have since been started.

Classical and quantum-theoretical studies in Astrophysics and cosmology in curved Space-times under the following heads are being carried out under the guidance of Dr. K. D. Krori, Professor (Hon.) IASST.

Fields of research :

1. Interiors of Astrophysical objects.
2. Probe into Exterior fields of Astrophysical objects.
3. Astrophysical objects in background Gravitational fields.
4. Quantum theoretical studies involving blackholes, quantum cosmology etc.

(5) Computer Science :

1. Teaching : Teaching in Computer Science is mainly imparted to the students through various short and long term courses. The duration and title of the courses are as follows :

a. One month Certificate Course.
b. Three months Certificate Course.
c. Six months Certificate Course.
d. One year Post Graduate Diploma in Computer Applications.

The Examinations for all the above mentioned courses are conducted by Computer Science Division, Institute of Advanced Study in Science & Technology, except for the last, i. e., Post Graduate Diploma Course, which is being conducted by Directorate of Technical Education, Assam.

Apart from the teaching staff of this division, guest lecturers from different prestigious institutions of India like Indian Institute of Technology [Kharagur and Kanpur], National Informatics Center, Govt. of India, Gauhati University, Indian Statistical Institute, Calcutta are also invited regularly to augment the teaching.

During the period, the Namber of Students trained up thronugh different courses are Given below :

Name of Courses	No. of Students admitted	No. of Students came out succesful
1. Post Graduate Diploma in Computer Application of one year duration.	26	13

Name of Courses	No. of Students admitted	No. of Students came out succesful
2. Certificate Course of three-month duration.	117	81
3. Certificate Course of one-month duration.	63	63

2. Training : The division conducted various training courses for professionals viz. Training Assam Agricultural University lecturers on Computer appreciation, Training NIC staff on UNIX, Special trainiug in Craphics for School Children perticipating in the Calcutta Interstate Computer Fair, 1992 organized by Directorate of Science Museums etc. Plans are on to provide training to Tea Board and Bank Executives in the near future.

3. Projects : The division helps in the different research activities of the Institute of Advanced Study in Science and Technology by providing Computer time and consultency services wherever required. Moreover specific jobs are also done for projects and doctoral thesis works form different Institutions like the Gauhati University, Assam Agricultural University, Different Govt. Departments etc. Instances of such are : several Statistical Calculations for research scholars of Assam Agricultural University and Gauhati University, Analysis of Socio-economic impact caused due to drainage congestion in Borbhag and Demow areas in Assam for Brahmaputra Board, Assam, Analysis of data of Plasma Physics, Printing of reports, Drawing graphs etc. Presently, a project to analyse the socio-economic impact of Manas Wildlife Sanctuary on the people residing on the buffer zone is being carried out at this division on behalf of World wide fund for Nature, India and Zoology Depastment of Gauhati University.

Academic achievment :

One research Fellow working in the Life Science Division has been awarded Ph. D. degree by the Gauhati University.

RESEARCH PUBLICATION

Plasma Physics :

1. Mode-mode Coupling leading to period doubling in ion beam Plasma system., Chutia, J., Proceedings of 18th IEEE conference Willi amsburg, 1991. IP3 96.

2. A low-frequency oscillations excited by a mesh grid in a double-Plasma Device., Chutia, J., Nakamura, Y., Kubo, H., Proceedings of 18th IEEE conference, Williamsburg, 1991. IP2 96.

3. Low-frequency instability excited by a mesh grid in a Double-Plasma Device, Chutia, J., Sato, S., Kubo, H., Nakamura, Y., Journal of Plasma Physics, 46, 1991. 463.

4. Dependence of Period-Doubling bifurcation on growth rate of external oscillations in Ion-Beam Plasma System., Buragohain; A., Bailung, H., Chutia, J., 6th National Symposium on Plasma, Indore, 1991,

5. Universal sequence in Ion-Beam Plasma System., Sarma, B. K., Chutia, J., 6th National Symposium on Plasma, Indore, 1991.

6. Mode-Suppression and period-doubling case cade in a Double-plasma Device., Buragohain, A., Chutia, J., & Nakamura, Y., physics letter A 163, 1992. 425.

7. Bifurcations in periodic windows & period subtracting in ion beam plasma system., Buragohain, A., Sarma, B. K., & Chutia, J., Proc. of 7th symposium on Plasma Bombay, 1992. Accepted.

8. Observation of instabilities in Multi Species Plasma., Sarma, B. K., Buragohain, A., Chutia, J., Proc. of 7th National symposium on Plasma Bombay, 1992. Accepted.

9. Periodic window and Period Subtracting in Ion-Beam Plasma system., Sarma, B. K., Buragohain, A., & Chutia , J., International J. of Bifurcation & Chaos. Communicated.

Life Science :

1. Thyroid functions in deficiency diseases with special reference to nutritional oedema, Goswami, P., antiseptic 88 (12), PP 650, 1991.

2. Effect of Antitubercular therepy on free Amino Acids of Serum, Goswami, P. Antiscptic 89/7, PP 372, 1992.

3. Effect of Boerhaavia diffusa Linn extract on the activities of enzyme systems (1) In vitro study on amylase and cholinesterase activitites, Goswami, P., Bull. Med. Ethon. Bot Res.

4. Effect of Boerhaavia diffusa Linn extract on the activities of enzyme systems (ii) In vivo study on Catalase and adenosine triphosphatease (ATPase), Goswami, P., Bull. Med. Ethon. Bot. Res.

5. Fate and role of chemical constitucuts of chilli fruits during infaction with collectotrichun Capsici, Azad, P., Jour. Ind. Phytopath. 1/44, PP 129. 1991.

6. Role of vitamins on in vitro growth and spornlation of collectotrichum Capsici (Syd.), Azad, P., Buflet & Bisby Jour. Assam. Sci. Soc. 33/2, P. 37, 1991.

7. Efficacy of certain fungi toxicants against collectotrichum Capsici (syd), Azad, P., Butlet and Bisby incitant of ripe-root of Cgilli, Jour. Assam Sci. Soc. 34/2, P34, 1992.

8. Impact of crude oil on the growth of soil micro-organisims in the rice field of Khanapara, Guwahati, Assam, Azad, P., Jour. Ind. Poll. Cont. 8/1. PP11, 1992.

9. Talukdar, J. N., communicated to journal "Sericologia", 25, Quai Jean-Jacques. Rousseau-69350 La Mulatiere-France.

Resource Management and Environment :

1. Quantities of Yeast extract in terms of N-source for growth of Rhizobium, Deka, S., J. Ass. Sc. Soc. 33 (4) PP 23-25 (1992).

2. Impact of crude oil on the growth of soil Micro-organisms in the Rice field of Khanapara, Guwahati, Assam, Deka, S., J. Indus. Pollu. Cont. 8 (1) PP11-14 (1992).

3. Studies on the storage efficiancy of different carrier matterials for Rhizobia Culture, Deka, S., J. Ass. Sci. Soc. 34 (2) PP 28-32 (1992).

4. Studies on the impact of oil pollution on the microflora of rice field soil

of Moran (Assam), Deka. S., Journal of Environmental Biologies. (communicatd for publication).

MATHEMATICAL & STATISTICAL SCIENCES

1. String medified four dimentional cosmology, K. D. Krori et. al., Can. J. Phys. Vo. 10, 1992.

2. Two models in quantum cosmology, K. D. Krori et. al., Can. J. Phys. (accepted).

3. Quantum effects near the black-hole singularity, K. D. Krori et. al., Modern Phystcs letter A (MPLA) (accepted).

4. Quantum effects near a charged black-hole Singularity, K. D. Krori, et. al. Modern Physics letters A (MPLA) (accepted).

5. A multipolar stationary object attached to a cosmic string embedded in a Gravitional field, K. D. Krori et. al. General relativity and gravitation (accepted).

CONFERENCES / WORKSHOP / SEMINARS ATTENDED.

1. Dr. P. Goswami Chaired the Scientific Session and delivered the keynot address in the "National seminar on Biotechnology its prospect in the North East" organised by the Gauhati University Biotech. Forum.

2. Dr. P. Goswami delivered the Padma Kanta Goswami memorial lecture on "Medicinal plants and Antibiotics."

3. Dr. P. Goswami delivered the talk, "Curriculum Planning in Medical Education and the need of the University of Health Sciences" in the symposium on "present system of Medical education".

4. Dr. P. Goswami delivered the talk in the symposium on "Science Research in the Educational Institute of Assam" organised by the Assam Science Society in its annual conference, Nowgaon.

5. Dr. P. Goswami delivered two talks on "Racent Concept of Diabetes Mellits" and toxicity of medicinal plants "in S. N. D. T University, Bombay.

6, Dr. P. Goswami chaired by the Scientific Session, "biological section" of the Assam Science Society held in AAU, Khanapara.

7. Dr. P. Azad participated in the National Seminar on "Biotechnology its prospect in the North East" organised by the Gauhati University Biotech. forum.

8. Dr. J. Kotoky participated in the National symposinm on Natural products held at University College of Science & Technology, Calcutta, organised by Centre of Advanced Studies on National products.

9. Dr. J. Kotoky participated the International School on Chromatography.

10. Dr, J. Kotoky participated in the training workshop on separation and spectrol analysis of complex Natural Products held at RSIC, NEHU, Shillong.

11. Dr. J. Kotoky participated in the seminar on chemistry at AAU, Khanapara, organised by Assam Science Society,

12. B. K. Sarma, Research Fellow, Plasma Physics Division and Shri A. Buragohain & H. Bailung, part time Research Scholar of Plasma Physics Division, IASST, participated 6th National symposium on Plasma Science and Technology, Indoor.

13. Dr. J. Chutia, participated workshop on Solition and Chaotig dynamics, Delhi.

Training :

1. Dr. P. Azad, Assistant Professor, Life Science Division, IASST, undergoes a course of training on Radio immunoassay at BARC, Trombay, Bombay.

2. Shri B. K. Sarma, Research Fellow, Plasma Physics Division, IASST, undergoes training on 2nd SERC School on Plasma Physics & Technology, IIT, New Delhi.

3. Shri A, Buragohain, Part time Research Scholar, IASST, participated 2nd SERC School of Plasma Science & Technology, IIT, New Delhi.

4. Shri H. Bailung, Part time Research Scholar of Plasma Physics Division, IASST, got trained for six months at the Institute of Space & Astronautical Science, Tokyo, Japan.

Seminar / Workshop / Lecture Organised :

1. Present Status of "Tokamak Research" by Dr. J. Basu, Prof. and Head, Plasma Physics Division, Saha Institute of Nuclear Physics.

2. "Scope of Research in Plasma" by Dr. J. Basu Saha Institute of Nuclear Physics.

3. Statistical forcasting by Prof. J. Roy. Indian Statistical Institute, Calcutta.

Facilities :

The Library of the Institute played a very important role in retrieval and dissemination of information. It catered the need of information for the staff members of Institute. The reference and reading room services of the library were extended to the academic staff members of different Universities / organisations in and around Guwahati.

The Library of the Institute is having 750 books on different subjects mainly on Plasma Physics, Environmental Science, Life Science, Computer Science and mathematical & Statisticals Sciences. Its has subscribed 25 Journals for the current year.

Computer Section :

Computer fascility has been used extensively by the staff members, of the Institute. The Computer Section at present has one uni-power 30 (ECIL), mini Computer system with 6 terminals and two printers, one PC/AT 386 (WIPRO) with 5 [five] and one Dot matrix printer running on UNIX operating system and one PC-XT with printer and two off-line Date Entry Machine.

NEW ADDITION TO SCIENTIFIC EQUIPMENT

1.	G. L. C.	: 1 (one)
2.	Atomic Absorption Spectro Photometer.	: 1 (one)
3.	Micro-Lab.—100	: 1 (one)
4.	Quntum 386 DX 80386 CPU 25 MHz 2 MB RAM 101 KB 40 MBHDD S/W Monitor with GPIB-IEEE 488 Card.	: 1 (one)
5.	Printer Ex-1000	: 1 (one)
6.	A_3/A_4 Size Graftek MP 4100 Plotter.	: 1 (one)
7.	Signal Generator 1040 MHz	: 1 (one)
8.	54502 A Digitizing Oscilloscope 400 MHz	: 1 (one)
9.	8590B Spectrum Analyser	: 1 (one)
10.	Diffusion Pump Set	: 2 (two)
11.	Wide Band Oscillator	: 1 (one)
12.	Synchroscope	: 1 (one)
13.	C. R. T. Camera	: 1 (one)
14.	Liquid Nitrogen Trap	: 3 (three)

ACADEMIC STAFF OF THE INSTITUTE

Hony, Professor :

1. Dr. J. Medhi	Emeritus Professor, Mathematical and Statistical Science Division.
2. Dr. K. D. Krori	Professor (Hon.) Mathematical Division.
3. Dr. J. N. Talukdar	Professor (Hon.) Life Science Division.
4. Dr. L. C. Kagti	Professor (Hon.) Resource Management and Environment.

Visiting Faculty Members :

1. Dr. Y. Nakamura	Insititute of Space and Astronautical Science, Tokyo, Japan.
2. Dr. J. Roy	Indian Statistical Institute, Calcutta.
3. Dr. G. P. Bhattacharjee	I. I. T., Kharagpur.
4. Dr. G. Barua	I. I. T., Kanpur.
5. Dr. P. Gupta	I. I. T., Kanpur.
6. Dr. M. Dutta	Gauhati University.
7. Dr. H. K. Barua	Gauhati University.

Plasma Physics Division :

1. Dr. (Ms) Jayanti Chutia, Associate Professor.
2. Dr. M. K. Kalita, Secretary (i/c)

Life Science Division :

1. Dr. P. Goswami, Director.
2. Dr. P Azad, Assistant Professor.
3. Dr. J. Kataki, Assistant Professor.

Resource Management & Environment :

1. Dr. S. Deka, Assistant Professor.

Mathematical and Statistical Sciences :

1. Dr. K. D. Krori, Professor, (Honorary).
2. Sri D. Das, Chief Statistician.

Computer Science Division :

1. Sri S. Swaminathan, Assistant Professor.
2. Sri A. Barman, Assistant Professor.
3. Sri B. Bora, Jr, Programmer.
4. Ms. L. B. Mahanta, Jr. Programmer.

Research Fellow / Scholar :

1. Sir B. K. Sarma.
2. Ms. A. Devi.
3. Ms. L. Devi.
4. Ms. D. Devi.
5. Ms. J. Goswami.
6. Ms. N. Barua.
7. Sri H. Bilung
8. Sri A. Buragohain.
9. Sri R. Sarma.
10. Sri S. Dey.
11. Sri R. P. Bhatta.
12. Sri Prasanna Deka.

Supporting Staff :

1. Sri N. Bhagabati.
2. Sri M. Singha.
3. Sri J. Das.
4. Ms. J. Bordoloi.
5. Sri B. Talukdar.

Administration :

1. Dr. P. Goswami, Director.
2. Dr. M. K. Kalita, Secretary (i/c) & Administrative Officer.
3. Sri M. C. Barua, F. A. O.
4. Sri R. Sarma, P. R. O.
5. Sri P. K. Deka, U. D. A.
6. Sri S. Sarma, Acctt.
7. Sri R. Kalita, L. D. A.
8. Sri R. Mahanta, L. D. A.
9. Sri D. Deka, L. D. A
10. Ms. S. Bora, Office Asstt.
11. Sri K. Baishya, Library Asstt.
12. Sri Nimai Hazam, Driver.

Dr. M. K. Kalita
Secretary (i/c)
Institute of Advanced Study
in Science and Technology
Khanapara, Guwahati-781022

Dr. P. Goswami
Director,
Institute of Advanced Study
in Science and Technology
Khanapara, Guwahati-781022

Date : 16-11-92