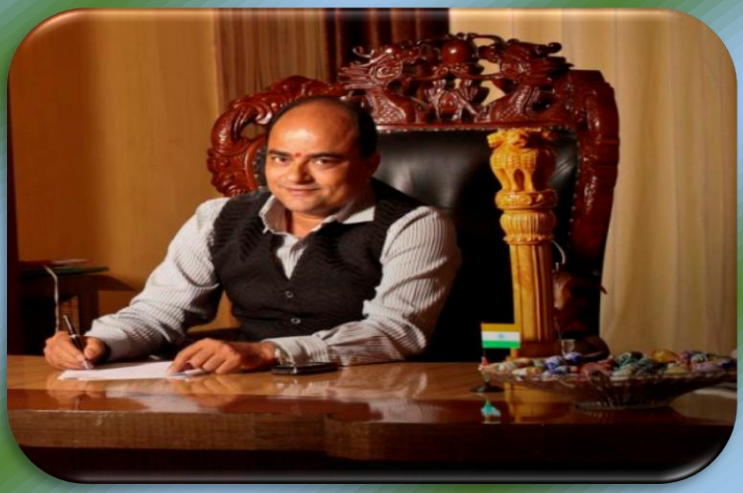
SANDIP FOUNDATION'S
SANDIP INSTITUTE OF
ENGINEERING & MANAGEMENT
Nashik

SIEM

E-BULLETIN

AUGUST 2015

....MESSAGE FROM THE CHAIRMAN....



SANDIP FOUNDATION *was established in 2005 with a vision of creating an education system from which the leaders of tomorrow emerge. Since our inception we have been aware of our strengths, motives and goals which we have set out to achieve. When we embarked on this journey, all we had was a dream and the tools of foresight and strategy. We combined these forces to pave a path of growth towards excellence and merit. Today it is our endeavour to be the most competitive institution in the country with emphasis on efficiency in everyday operations, reliability for students and thrust on discovery and development of new technologies. We are an organization that combines the latest developments in the field of education with our scientific and operational skills to create an environment which nurtures and encourages the aspirations of students. It is our aim that the combination of these factors along with the state of the art infrastructure and a dedicated teaching staff will provide an impetus to the Indian educational system as a whole. Our first campus is set up at Nashik, Maharashtra where the college building is spread across a 200 acre area. Keeping pace with the times, the campus is Wi-Fi enabled. To ensure the complete educational experience, laboratories with the latest tools and machinery are provided along with a comprehensive library with RFID technology, a computer centre with complete internet connectivity a wholesome cafeteria, all set up in a green environment to give our students the most healthy and pleasant experience as they embark and pursue their professional goals. What does an International quality Education system consist of? That is the question we asked ourselves when we set out to build this Foundation. India as a country has no problem with unemployment but there are institutions which churn out a large number of unemployable students. Should we consider ourselves an exception to this? The search for the answer has resulted in the faculty and staff to come up with innovative methods in teaching to construct new knowledge in the classroom. Our motto is to always give our students the best of what is happening in and around so that they are always at the cutting edge of academics the world over. The cultural aspect has always been a strong-point of our College as it has an acknowledged role in moulding the personality, teaching soft-skills, developing leadership and management abilities and strengthening the EQ. Extra-curricular activities, participation in sports and other cultural activities has now become universal contributing to all-round formation which is much needed in the world today. Finally we look to create an Alumnus for inspiration and support so that our students have wonderful role models to emulate. Our faculty and students remain focused on a quality of education that is not just a college degree but a way of life.*

HON. DR. SANDIP KUMAR JHA
CHAIRMAN
SANDIP FOUNDATION

....MESSAGE FROM MENTOR & GM....

GM Message

Sandip foundation was established with the core objective of rendering selfless and dedicated, service to higher education in the disciples of Engineering, Sciences, Arts, management studies, Polytechnic and Pharmacy. It is our vision to provide education aided by the best infrastructure available in the most congenial atmosphere so that every student can aspire, achieve his dreams and succeed in life. The visionaries of Sandip Foundation have been involved in the field of higher education since the last fifteen years. During this period they have provided the most valuable service to thousands of students across the country. In the quest to enhance the cause of higher education, professional courses across various fields are designed and set up with the institution housed out of Nashik.

Hon. Mohini Patil
GM, Sandip Foundation

Mentor Message:

Sandip Foundation is an educational institution, which strives to form men and women who will build more than just a human world. It strives for an intellectual endeavour that focuses on critical and creative thinking, with the aim of social transformation. The college makes a preferential option for the marginalized and it seeks or give an all-round formation, inculcating both human and spiritual values. Competence, compassion and commitment are the hallmarks of the human person we seek to encourage. The infrastructure is world class with workshops, state-of-the-art Laboratories, overhead projectors in every classroom, an extensive library hostel facilities for outdoor students. The faculty and staff are dedicated in their task of making the Institution a world class learning centre and hence constantly look to improve the learning process.

Hon. Prof. P. I. Patil
Mentor,
Sandip Foundation

….FROM THE PRINCIPAL'S DESK….

On Behalf of the Management, faculty and staff of SIEM it is an honour to welcome you to this prestigious institution. We at SIEM are strongly committed to providing quality technical education to our students. Now what does quality consists of? Is it mere state-of-the-art laboratories and a well-furnished classroom or does it also involve the proactive participation of teachers and students alike? These are some of the questions we asked ourselves before embarking on this journey. In the ensuing years our faculty took up this task seriously, of trying to understand what international quality means and of making the effort to make this a reality. Of course we laid emphasis on educational infrastructure laboratories and libraries and other resources for teaching. But the core of our efforts centred on applying innovative methods to our teaching-learning and evaluation, in spite of the large numbers we deal with. If our students don't pick up the skills of analysis and critical thinking, all the memorisation and reproduction they may achieve in this Institution will be in vain in the global culture and economy. It is our belief that every student has an unending pool of talent and when nurtured properly can help bring out the best in that individual.

The approach of the Institution is holistic. It has called for learning methods that are more demanding both on the professor and student. It has led to a renewed emphasis on research for faculty and to initiating a taste for research among students. The monitoring of this process by Heads of Departments and by Academic Administrators, in order to encourage good practices and to evaluate their effectiveness, gives hope of a renewal of academic culture on campus. I want to congratulate you and wish you the best on this journey. It is our assurance that at SIEM you will emerge as tomorrow's leader, today.

DR. R.G. TATED
PRINCIPAL
SIEM, NASHIK

….DESK OF THE DEANS….

Prof. N. L Bhirud
Dean Admin(SIEM)

Prof. A. S. Dube
Dean Academic(SIEM)

The institute offer Undergraduate courses. From the time of its commencement, the institute have been seen remarkable growth with time, and the augmentation process is always on. The departments are dynamically active in imparting good eminence and value based education to the students. The present and the future prospect of the learning process and experimentation and exchange of ideas are continuously taking place. Each department has different laboratories, well equipped with modern instruments, classrooms, and separate computing facilities with licensed software and have ensured the needs of the undergraduate technical courses are provided. The departments have got their own collection of reference material, manuals, textbooks, magazine issues in its departmental library. It also facilitates the students with proper internet connections for reference on the internet. The departments also have a good history in the academic grades as well. It also actively conducted various events under the students association of their respective departments. The department encourages the students to attend seminars and workshops and also participate in extra-curricular activities. We once again welcome you all to the Departments of our college.

Department Of MECHANICAL ENGINEERING

Prof. Vikram A Kolhe
(HoD)

Installation of ISHRAE Student Chapter

On 31st July, 2015

Mr. Nishad, Mr. Sanjay Nikam
Mr. Govind Nair, Mr. Sachin Save
(ISHRAE Committee)

Prof. B M Dusane, Prof. A R Patil
(Co-ordinator)
ISHRAE Student Chapter

Dr R. G Tated addressed students regarding the applications of Refrigerating and Air conditioning as well as advised to attend industrial training programs. Mr Sanjay Nikam formed committee of students for ISHRAE 2015-16. Mr Sachin Save was the 'Guest Faculty' of the event and he delivered seminar on "Heat Load Calculation of Room". He explained WBT, DBT, factors affecting on selection of AC in brief. While Mr Sanjay Nikam explained basic term of Refrigeration. Students asked various good questions to Guest faculty which was the symbol of understanding of the concepts. Whole seminar was interactive among students and faculty. At the end, Mr Himanhu Kedia has been given vote of thanks to all respected persons.

'Rare and Share'- ISHRAE Event

On 20 August, 2015

Mr. Rauf Shaikh *Shared his technical experience regarding HVAC (Heating Ventilation Air Conditioning). He appealed students to make clear vision for their future. Student's interacted with guest by asking many questions like i.e. how to enter in HVAC? , what are the things required for this field?, how central AC cools no of rooms, what are the filtration methods of air?*

Mr Shaikh also promised students to provide training of 'Installation of Split AC' as well as instructed to attend industrial trainings during the vacations. Prof A.S Dube addressed students to attend different types of training programs as well as to do some small projects in their academic part like skill development. At the end, Abhijeet (Vice - president) gave vote of thanks.

Industrial Visit-
Nashik Engineering Cluster (NEC)

On 1 September, 2015

Ms. Prachi Kulkarni
Mr. Nilesh Kokate
(NEC Members)

Prof Kiran S Patil
Prof Swapnil Ambekar
Prof Nitin Sarode
(SIEM Members)

Students of 3rd year, Department of Mechanical Engineering, visited 'Nasik Engineering Cluster' in MIDC-Ambad, Nasik. The purpose of this visit was to familiarize students with practices in metrology and measurement.

At the facility, Ms. Prachi Kulkarni & Mr. Nilesh Kokate guided students, with in-depth explanation of the various processes and machines on the shop floor of Nasik Engineering Cluster. They also presented a brief overview of the company and its initiatives towards enhancing employability of today's fresh engineer.

Students witnessed technologies like CMM, rapid prototyping, metallurgical testing and calibration. Furthermore, students were motivated to pursue additional short term training programs that add vital value to their resume.

The visit was a success, since not only the students got the first know-how of a manufacturing shop floor, but also developed curiosity that will eventually lead to their career progress.

Department Of ELECTRICAL ENGINEERING

Prof. Hemant R Kulkarni
(HoD)

A Guest Lecture on
"Design of Solar Power Plant"

By Dr. O. G. Kulkarni

Date: 4 August, 2015

Electrical Department has organised a guest lecture by Dr. Omprakash Kulkerni, Scientist, who is working as an expert advisor to many governmental, semi-governmental and private organisation. He guided the students about Solar Energy resources in India, government plans to develop Solar energy usage in energy sector.

A Guest Lecture on
Advanced Microprocessor and Embedded System

In asso. With Visionary Technologies

An expert lecture was organised by Electrical department on Advanced Microcontrollers and Embedded Systems for the students of Third year. The students were informed about applications of processors and how electronics is getting into most of the activities of human life. Most of the intelligent systems are designed with a processor for its thinking process.

Industrial Visit at
Rishabh Instruments Pvt. Ltd

On 25th August, 2015

Rishabh Instruments Pvt. Ltd., with an experience of nearly three decades is an organization that has built its core competence in manufacturing, design and development of Test and Measuring Instruments and Industrial Control Products on strong fundamentals; in terms of people, infrastructure and financials. The company provides a hands-on, value driven, professional environment considering people its most important asset. The students experienced a lot about various electrical instruments and their manufacturing.

Industrial Visit at

Dahanu Thermal Power Station (Reliance Power)

On 31st August, 2015

Dahanu Thermal Power Station under Reliance Power, is a coal based thermal power plant located at coastal Dahanu town in Palghar district in the Indian state of Maharashtra. The power plant is operated by Reliance Infrastructure. The plant is located on Mumbai-Ahmedabad rail line and is 120 km away from Mumbai and 20 km away from Mumbai-Ahmedabad-Delhi National Highway 8 (India).

Capacity: *It has an installed capacity of 500 MW (2x250 MW). The power plant was commissioned in 1995 and is commercially producing power since 1996.*

EESA ACTIVITY

"AN INTERVIEW WITH THE LEADERS"

Prof. Mangesh Nikam
Mr. Sandeep Sakhala
Judging Team

Prof. Joydeep Sarkar
Prof. Milind Tambat
EESA Coordinator

EESA has organised a student's program in which students who have shown immense endeavour in their respective fields are selected for interviews. In this public interview with students, they were asked about their struggles, how they battle it out and were judged on their attitude and optimism level.

Mr. Sandeep Sakhala, GM Marketting, Rishabh Instruments Pvt. Ltd, was one of the judge, and he also shared a lot with the students about his life towards becoming the General Manager in his company.

Prof. Mangesh Nikam, also judging the event, shared his idea about being positive and approach towards education.

EESA WORKSHOP ON

"BASICS OF MICROPROCESSOR 8085"

12 August to 14 August, 2015
By Prof. Shraddha Vinchurkar, Prof. Joydeep Sarkar

EESA has organised a workshop for SE Electrical Students which detailed the students about the basics of 8085 microprocessor and its initial programming. The event was attended by around 70 students

Details of Course:

Part 1: Lecture on 8085 Manufacturing, Architecture and components

Part 2: Lecture on 8085 programming & related Instructions

Part 3: Hands on practice on 8085 microprocessor kit & interfaces

Part 4: Programming modules on 8085 Microprocessor

Department Of COMPUTER ENGINEERING

Prof. Umesh B Pawar
(HoD)

Workshop on "LATEX"

3rd August 2015

By Prof. A.C. Taskar

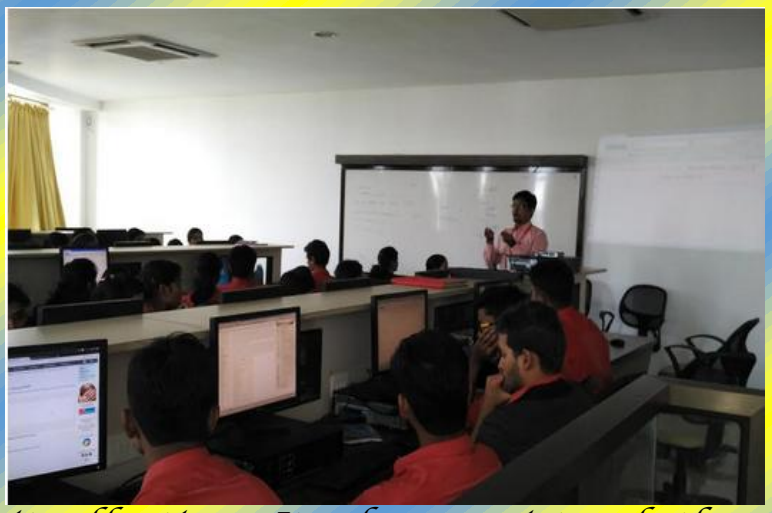
Department of Computer Engineering, SIEM, Nashik

LaTeX, a shortening of Lamport TeX is a word processor and a document mark-up language. It is a high-quality typesetting system; it includes features designed for the production of technical and scientific documentation. LaTeX is the de facto standard for the communication and publication of scientific documents. LaTeX is available as free software. It is distinguished from typical word processors such as Microsoft Word and Apple Pages in that the writer uses plain text as opposed to formatted text, relying on markup tagging conventions to define the general structure of a document (such as article, book, and letter), to stylise text throughout a document (such as bold and italic), and to add citations and cross-referencing. Output is suitable for printing or digital distribution.

PHP WORKSHOP

On 24th August, 2015

Prof. N.S. Suryavanshi, Prof. P.R. Kulkarni,
Prof. A.C. taskar and Prof. A.R. Gaidhani
Department of Computer Engineering, SIEM, Nashik



The aim of the workshop was to introduce the new technology (scripting language) to the students of Third Year which is a current need of industry. The workshop was mostly focused towards the concepts and hands-on session, which made it effective. It also consists of the demonstration of the software installation and configuration for the PHP programming. The feedback from students is very motivating.

Department Of ELECTRONICS & TELECOMMUNICATION ENGINEERING

Prof. Dipak Patil
(HoD)

Industrial Visit at Shivananda Electronics

On 14st August, 2015

S.E Electronic & Telecommunication Engineering students have visited Sivananda Electronics. Students have learned about the working operation & design of following Equipment:

1. *Metal Detector,*
2. *Oil insulation test kit,*
3. *Automatic Transformer Ratio Meter,*
4. *Digital Surge Tester.*

Seminar on "LED Manufacturing & PCB Designing"

On 17th August, 2015

A session on LED manufacturing and PCB Designing was done for the students of T.E E&TC.

Through this session, students have learned about:

1. *How to manufacture LED's*
2. *Different LED's with its specifications*
3. *Concept of PCB Designing*
4. *Different Electrical household Equipment.*

One Day Technical Session on

"MATLAB, Simulink and Toolboxes & its applications in Electronics Engineering"

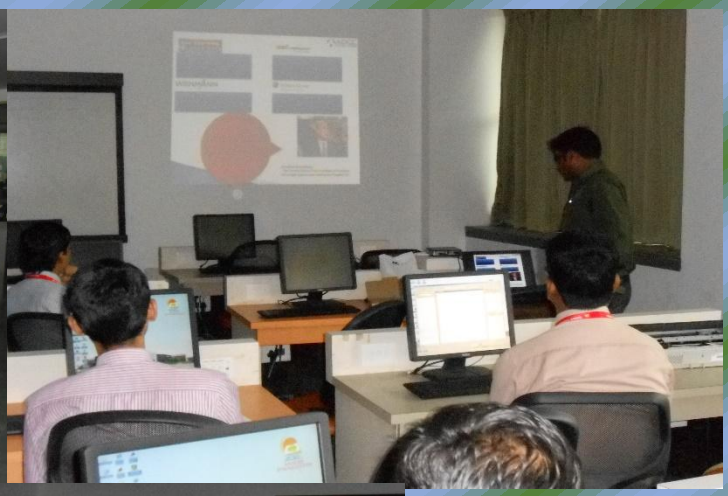
On 4th August, 2015

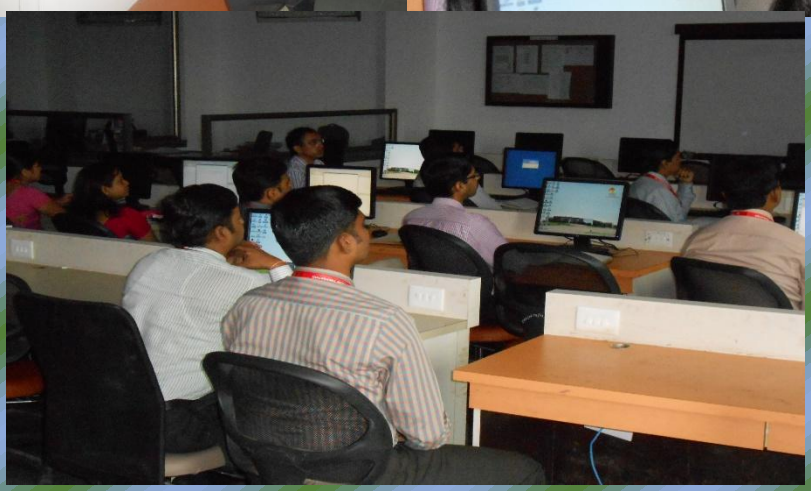
Association with ADCC Infocad Limited, Mumbai

To provide a learning platform for Faculty of Engineering Institutes interested in teaching and research in the areas of Speech, Signal and Image Processing.

Through this session, Faculty got the knowledge of:

1. *How to use Matlab for hardware interfacing.*
2. *New toolboxes included in updated version of Matlab (2015) and their use in the areas of Speech, Signal and Image Processing as well as for hardware interfacing*





Guest Lecture on "Gender Equality"

3rd August 2015

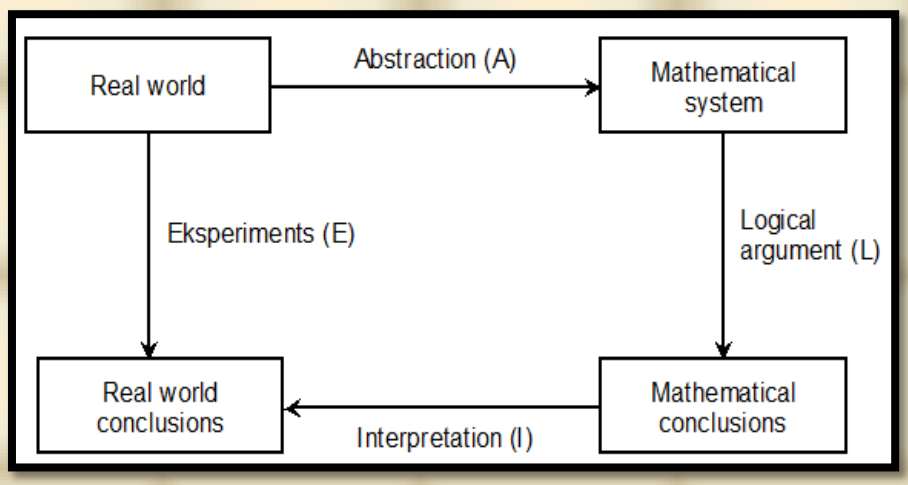
Mr.Ajinkya Patil, Ph.D Astrophysics

STAFF CORNER

Mathematical Modeling – A Powerful Tool in Engineering

By Prof. Ms. Neetu M. Sharma
Assistant Professor in Mathematics, ESH Dept., SIEM

A model is a representation or an abstraction of a system or a process. We build models because they help us to (1) define our problems, (2) organize our thoughts, (3) understand our data, (4) communicate and test that understanding, and (5) make predictions. A model is therefore an intellectual tool.



One of the most important aims for construction of models is to define the problem such that only important details becomes visible, while irrelevant features are neglected. A road map of the triangle area is an example of a model. If a motorist understands the symbols that are used in the map, then much information about the region becomes available in a package small enough to carry around in one's pocket. The motorist can use the map, for example, to plan a route from the mathematics department to Conference hall at a University. The road map is one representation of many important features of the region. But it omits many other features that may not be crucial. Most road maps do not contain sufficient information to tell a motorist what is the speediest route to take between two points during the morning rush hour.

A mathematical model of a complex phenomenon or situation has many of the advantages and limitations of other types of models. Some factors in the situation

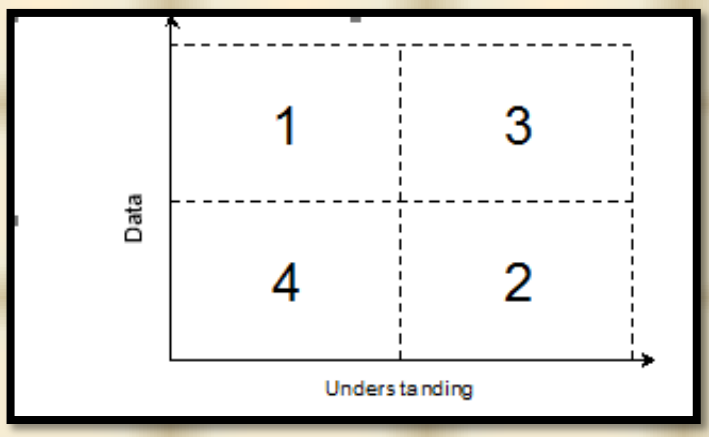
will be omitted while others are stressed. When constructing a mathematical system, the modeler must keep in mind the type of information he or she wishes to obtain from it. The role that mathematical models play in science can be illustrated by the relatively simple schematic diagram of Figure 1.

The scientist begins with some observations about the real world. He or she wishes to make some conclusions or predictions about the situation he or she has observed. One way to proceed (E) is to conduct some experiments and record the results. The model builder follows a different path. First, he or she abstracts, or translates, some of the essential features of the real world into a mathematical system. Then by logical argument (L) he or she derives some mathematical conclusions. These conclusions are then interpreted (I) as predictions about the real world. To be useful, the mathematical system should predict conclusions about the real world that are actually observed when appropriate experiments are carried out. If the predictions from the model bear little resemblance to what actually occurs in the real world, then the model is not a good one. The modeler has not isolated the critical features of the situation being studied or the axioms misrepresent the relations among these features.

What happens quite frequently is that some of the predictions of a mathematical model agree quite closely with observed events, while other predictions do not agree with the observed events. In such a case, we might hope to modify the model to improve its accuracy. The incorrect predictions may suggest ways of rethinking the assumptions of the mathematical system. One hopes that the revised model will not only preserve the correct predictions of the original one, but that it will also make further correct predictions. However, it is important to keep in mind, that the goal is not to make the most precise model of the part of the world that is modeled, but that the model (like the road map) includes all the essential features, even if that means that some other features in the model do not present the reality. For example, a model of the cardiovascular system (the heart, arteries, and veins) could accurately present the systemic arteries and veins and

then lump the pulmonary circulation into a single compartment. Such a compartment would never represent any of the subsystems correctly. When building mathematical models one should distinguish between the different types of models, some models (deterministic models) can be derived directly from physical laws (e.g. Newton's second law), while other models are based on empirical observations. Both types of models provide insight into the system modeled, but the type of model must be considered carefully. For example, very different types of models are used for predict the weather tomorrow and to determine a rockets trajectory to the moon.

Holling (1978) has a diagram (Figure 2) that provides a simple and useful classification of problems. The horizontal axis represents how well we understand the problem we are trying to solve; the vertical axis represents the quality and/or quantity of relevant data (Figure 2). Holling divides the quadrant between the two axes into four areas, corresponding to four classes of problems.



Area 1 is a region with good data but little understanding. This is where statistical techniques are useful; they enable one to analyze the data search for patterns or relation, construct and test hypotheses, and so on.

Area 3 is a region with good data and good understanding. Many problems in engineering and the physical sciences (for example, the problem of computing a rockets trajectory to the moon) belong to this class of problems. This is the area where models are used routinely and with confidence because their effectiveness has been proved repeatedly. Area 2 has little in the way of supporting data but there is some understanding of the structure of the problem. Area 4, in this area there is little knowledge of the structure of the problem and little data to support

it. Unfortunately, many problems in the nonphysical sciences (especially in the biological sciences) belong to areas 2 and 4. However, recent explosion in experimental techniques move some of these problems to areas 1 and 3. The main difference from the physical problems is the uncertainty and high levels of noise often found in the data.

The modeling challenges for problems in area 2 and 4 are:

- *Decisions may have to be made despite the lack of data and understanding. How do we make good, scientific decision under these circumstances?*
- *How do we go about improving our understanding and suggest new ways for collecting the data necessary to validate the modeling. This is an area where modeling can be used to predict new experimental settings.*

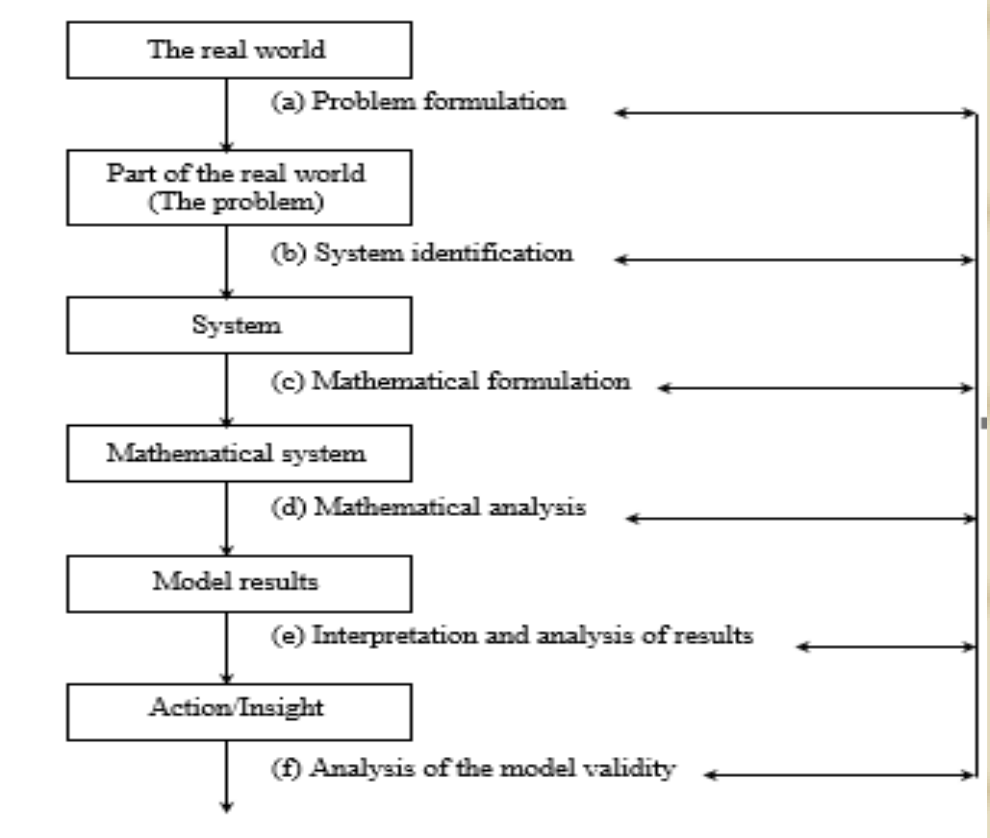
Models that lie in areas 2 and 4 are bound to be speculative. They will never have the respectability of models build for solving problems in area 3 because it is unlikely they will be sufficiently accurate of that they can ever be tested conclusively. In fact most models in biology cannot be tested conclusively, while we have a lot more data today that 20 years ago there are still many types of data that could validate models, but that are unethical to measure. Models build this way should never be used unquestioningly or automatically. The whole process of building and using these models has to be that much more thoughtful because we do not really understand the structure of the problem and do not have (and cannot easily get) supporting data.

We therefore build models to explore the consequences of what we believe to be true. Those who have a lot of data and little understanding of their problem (area 1) gain understanding by "living with" their data, looking at it in different ways, and searching for patterns and relationships. Because we have so little data in areas 2 and 4, we learn by living with our models, by exercising them,

manipulating them, questioning their relevance, and comparing their behavior with what we know (or think we know) about the real world. This process often forces us to reevaluate our beliefs, and that reevaluation in turn leads to new versions off the models. The mere act of assembling the pieces and building a model (however speculative the model might be) usually improves our understanding and enables us to find or use data we had not realized were relevant. That in turn leads us to a better model.

The process is one of boot-strapping: If we begin with little data and understanding in the bottom left-hand corner of Holling's diagram, models help us to zigzag upwards and to the right. This is a far healthier approach than one of just collecting data because we improve our understanding as we go along. (Those who collect data without building models run the very real risk of discovering, when they eventually analyze their data, that they have collected the wrong data!)

The modeling process:



STAFF CORNER

A short story on
Why to "Sharpen Our Skills"

By Prof. S Ahirrao

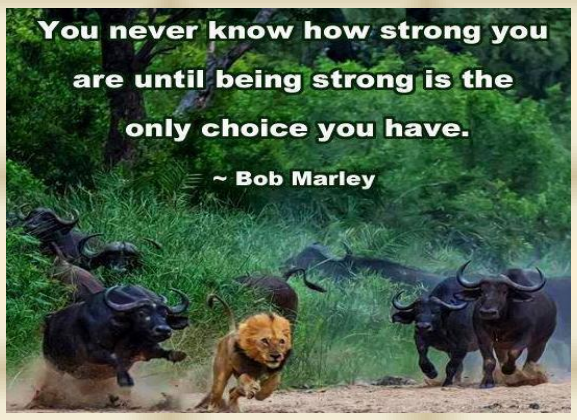
Once upon a time a very strong woodcutter asked for a job with a timber merchant, and he got it. His salary was really good and so were the working conditions. For that reason, the woodcutter was determined to do his best. His boss gave him an axe and showed him the area where he was supposed to fell the trees. The first day, the woodcutter brought down 15 trees.

"Congratulations," the boss said. "Carry on with your work!"

Highly motivated by the words of his boss, the woodcutter tried harder the next day, but he only could bring 10 trees down. The third day he tried even harder, but he was only able to bring down 7 trees.

Day after day he was bringing lesser number of trees down.

"I must be losing my strength", the woodcutter thought. He went to the boss and apologized, saying that he could not understand what was going on.



"When was the last time you sharpened your axe?" the boss asked.

"Sharpen? I had no time to sharpen my axe. I have been very busy trying to cut trees..."

That's right. Most of us NEVER update our skills. We think that whatever we have learned is very much enough. But good is not good when better is expected. Sharpening our skills from time to time is the key to success.

STAFF CORNER

An Article on "FREEDOM"

By Prof. Amit Kumar Mishra

Freedom means very different things to different people. Some people think of freedom as being able to exercise maximum control over their own lives and make their own life decisions. Others consider freedom to be the degree they are free from want and fear. These different definitions are so contradictory that they become mutually exclusive. Freedom from want and fear inevitably requires some sort of authority structure that can take responsibility for dealing with those aspects of life. Personal freedom requires an absence of controlling authority. A free society simply can't function without a strong connection between the freedom enjoyed by its citizens and their willingness to accept responsibility and accountability for their exercise of that freedom.

"Freedom is not absence of all restrictions but it means ability to face unshakable conviction for any obstacle"

"Freedom means freedom from necessity, freedom to do what you want without having to sell yourself in order to survive. Freedom to express who you are through whatever you want to do without any forces stopping you."

There is nothing mysterious about the foundations of a healthy and strong democracy. The basic things expected by our people of their political and economic systems are simple. They are:

- *Equality of opportunity for youth and for others.*
- *Jobs for those who can work.*

- *Security for those who need it.*
- *The ending of special privilege for the few.*
- *The preservation of civil liberties for all.*
- *The enjoyment of the fruits of scientific progress in a wider and constantly rising standard of living.*

History indicates that any real measure of personal freedom is extremely rare. The personal freedom we take so much for granted today was the product of a unique confluence of enlightened thinking, limitations in the communications and enforcement technology of the day, and access to the unspoiled natural wealth of the frontier. It is extremely unlikely that these conditions will ever converge again on an overpopulated earth where humans have spread to every corner, and technology provides us with instantaneous communications and rapid delivery of sufficient military force to suppress any attempts to overturn authority based systems and restore personal freedom.

Some Quotes on FREEDOM from our staff members:

"Freedom" is the right to question and change the established way of doing things. -- *Prof. Neetu Sharma*

"Freedom is not only absence of all restrictions but it means ability to face unshakable conviction for any obstacle." -- *Prof. AK Mishra*

Freedom is doing right things at right time. Our behavior should not disrupt society. --- *Mrs. Ashoo Gupta Khan*

Team
THE E - BULLETIN

असतो मा सद्गमय ।
तमसो मा ज्योतिर्गमय ।।

SANDIP FOUNDATION

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