



News & Views

A Monthly News Letter

RAJ KUMAR GOEL GROUP OF INSTITUTIONS

Vol. 3 No. 4

April, 2010

CHIEF PATRON

Shri Dinesh Kumar Goel

PATRON

Prof. B. K. Gupta

EDITOR IN CHIEF

Prof. M.P. Jakhanwal

EDITORS

Prof. Arvind Singh

Ms. Puja Garg

EDITORIAL BOARD

Prof. O. P. Kaushal

Prof. A. C. Sharma

Prof. V. K. Jain

Prof. N. K. Rai

Prof. S. C. Gupta

Prof. Meenakshi Bajpai

Dr. Sohan Garg

Prof. V. P. Singh

Prof. K. K. Tripathi

Prof. N. K. Sharma

Prof. A. K. Chauhan

Mr. Lalit Saraswat

Prof. Tandra Sharma

Prof. Rakesh Dubey

Prof. P. C. Kumar

Prof. Babita Tyagi

Shri Vipul Goel

Fr. Revd. F.M. Das

STUDENT BOARD

Ravindra

Richa Garg

Rajeev Singh



Founder
(late) Sri Raj Kumar Goel

Commandment

from the Founder

We are building our institute as an ideal family, the **RKGIT PARIWAR** where members strive for the development, well being and promotion of each other.

अज्ञानेनावृतं ज्ञानं ।

श्रीमद् भगवद् गीता अध्याय 5, श्लोक.15

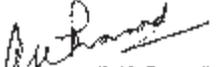


A.K. Prasad

Mining Advisor,
Action - GC, New Delhi
Ex-Head, Geology,
Tata Steel, Jamshedpur

MESSAGE

It is very heartening to know that Raj Kumar Group of Institutions has come out with a monthly news letter, covering all aspects of learning and training. The domain of management enhances with faster communication. Unless views are exchanged between stalwarts of various faculties, an organization cannot grow. The study of others' success and passage adopted by others for achievements are motivating factors for beginners. This news letter will fulfil the requirements and will throw light on various aspects of life. I wish great success for this news letter.


(A.K. Prasad)

FROM THE DESK OF THE EDITOR



The current academic session will soon culminate in the form of end semester exams laying grounds for the commencement of the next. With feelings of déjà vu and hope at the same time, I bring to you this issue of 'News&Views'. Besides regular features it includes an article on artificial life.

Looking forward to your constructive suggestions and cooperation.

Prof. Arvind Singh
Principal - RKGIT (MBA)



RAJ KUMAR

A series of guest lectures by Mr. Niyam Bhushan in RKG Group

A motivational talk was organized on 9th April, 2010 for all the students of B. Tech and MBA of RKGITW by the Training and Placement cell of the RKG Group where Mr. Niyam Bhushan, a man with a dynamic personality, motivated the students to do something unique. He brought to their notice the vision of Indian feminine wisdom. He talked about all the roles played by a woman and motivated the students to live life according to them so that they could touch the peak. Mr. Bhushan also inspired students to find a new path of wisdom by sharing their knowledge with others and by making free and open surface software. Prof. V.K. Jain (Director), all faculties and students attended the talk with zeal and enthusiasm.



Mr. Bhushan delivering the lecture



Students enjoying the talk

Ms. Shalini Sharma, RKGITW

At RKGEC

RKGEC had a feeling of déjà vu and ecstasy when a symposium on motivation was organized at the campus on Saturday, April 10, 2010. The seminar commenced with the inaugural address by the Hon'ble Director Prof. S.C. Gupta. Mr. Niyam Bhushan was the guest speaker at the symposium. Human race has a longing for consummation and manifestation of its innate potential of creativity. The apotheosis of this yearning is the adventure of ideas and scientific advancement but humanistic goals can not be achieved without sensitivity to individuality. In this regard an individual can realize his true potential by cherishing the tasks or activity he undertakes. Humanities along with sciences have a pivotal role to play in defining and shaping the new century. These ideas were received with deference by the audience comprising of faculty members, staff and students. Hon'ble Advisor Prof. B.K. Gupta graced the occasion with his presence.



The Advisor felicitating Mr. Bhushan

Mr. Praveen Kaushik

A Paper Presentation Contest at RKGIT (MBA)

RKGIT (MBA) organized the "Student Paper Presentation Contest-2010" on 9th April '10 on the theme "Current Scenario of Global Economy". The contest was conducted in two parts i.e. synopsis presentation and full paper presentation. Out of 20 registrations 12 presentations were selected for full paper presentation in HR, Marketing, Finance and the field of IT.

The contest was inaugurated by Dr. Arvind Singh, Principal, RKGIT (MBA). The various papers presented were – Artificial Intelligence, Creative Marketing, New Investment Patterns and Current Challenges etc. Mr. Deepak Dwivedi got the first prize for his paper on- "Creative Approach and Advertising in Marketing". Mr. Mukesh Kumar Mishra and Mr. Mukesh Kumar got second prize for their paper on "Artificial Intelligence &

Robotics" and Ms. Sushmita got the third position for her paper on "Current Challenges for HR Managers".

To entertain the audiences and to hold their attention, humorous jokes were shared and a guitar performance was also organized. At the closing Dr. Vibhuti, Dean RKGIT (MBA) gave a vote of thanks to all the participants and coordinators. Mr. Vishal Srivastava (Asst. Prof.) was the faculty coordinator and Rajeev Singh, Mr. Sunil Kumar Pandey, Ms. Rachita Manglik, Ms. Himanjali and Vikram were the student coordinators of the contest.

Mr. Vishal Srivastava



A student presenting his paper



Prof. Singh with the winners



Prof. Singh sharing his views with the students.

An achieved goal is the starting point for future progress

GOEL GROUP OF

Artificial Life

Ms. Charu Sharma, Assistant Professor and Ms Hemlata Sharma, Lecturer RKGIT (MCA)

Artificial life (Alife) is a field of study devoted to understanding life by attempting to derive general theories underlying biological phenomena, and recreating these dynamics in other physical media - such as computers - making them accessible to new kinds of experimental manipulation and testing. This scientific research links biology and computer science. Artificial life is an alternative life-form - literally "life made by Man rather than by Nature." Artificial cells are used rather than living cells.

Artificial life is an associated art form which examines systems related to life, its processes and its evolution through simulations using computer models, robotics and biochemistry. The discipline was named by Christopher Langton, an American computer scientist, in 1986. There are three main kinds of alife, named for their approaches: soft, from software; hard, from hardware; and wet, from biochemistry. Artificial life studies the logic of living systems in artificial environments. The goal is to study the phenomena of living systems in order to come to an understanding of the complex information processing that defines such systems.

The Importance of Evolution

Evolution is central to Alife research. It offers the possibility of adaptation to a dynamic environment - when an unforeseen event occurs, the system can evolve, in analogy to nature. Genetic programming is now widely recognized as an effective search paradigm in artificial intelligence, databases, classification, robotics and many other areas, such as financial forecasting and image discrimination. An evolutionary method is advantageous not only in solving difficult problems but also in offering better adaptability.

The Importance of Emergence

Emergence is a process where phenomena at a certain level arise from interactions at lower levels. These emergent properties are created when something becomes more than the sum of its parts. Alife systems consist of a large collection of simple, basic units whose interesting properties emerge at higher levels. Examples are von Neumann's universal constructing machine and Craig Reynolds' work on flocking behaviour. Reynolds' algorithm has been used to produce photorealistic imagery of bat swarms for the motion pictures *Batman Returns* and *Cliffhanger*.

Differences between Artificial Intelligence and Alife

Brooks' method for building sophisticated robots demonstrates the Alife approach, which is basically different from that of traditional artificial intelligence (AI). AI employs a top-down methodology, where complex behaviours (for example, chess playing) are identified, to build a system that fulfills all the specifications. Alife operates in a bottom-up manner, starting from simple elemental units, gradually building its way upwards through evolution, emergence and development.

Moreover, AI has traditionally concentrated on complex human functions, such as chess playing, text comprehension and medical diagnosis. Alife focuses on basic natural behaviour, emphasizing survivability in complex, dynamic environments.

Genetic Algorithms and Artificial Life

Genetic algorithms (GAs) are currently the most prominent and widely used computational models of evolution in artificial-life systems. GAs have been used both as tools for solving practical problems and as scientific models of evolutionary processes.

However, it can be very difficult to relate the behaviour of a simulation quantitatively to the behaviour of the given system. This is because the level at which artificial-life models are constructed is often so abstract that they are unlikely to make numerical predictions. In GAs, all of the biophysical details of transcription, protein synthesis, gene expression and meiosis have been stripped away. Nevertheless, useful Alife models may well reveal general conditions under which certain qualitative behaviours arise, or critical parameters in which a small change can have a drastic effect on the behaviour of the system.

Applications of Artificial Life

Artificial life, which attempts to explain existing life and recreate biological phenomena in alternative media, results in both better theoretical understanding of the phenomena under study, and practical applications of biological principles in the technology of computer hardware and software, synthetic chemistry to model new compounds, IBM "immune system" to protect computers from viruses, mobile robots, spacecraft, medicine, nanotechnology, industrial fabrication and assembly, and other vital engineering projects.

Learning

There are extensive interconnections between the fields of neural networks and artificial intelligence. Learning in a multi-agent setting of Alife provides numerous challenges for theories originally developed to explain learning in isolated individuals.

The Alife systems can be designed to model interactions between learning and evolution. Biological phenomena can be studied with controlled computational experiments whose natural equivalent (for example, running for thousands of generations) is not possible or practical. Moreover, when performed correctly, these experiments can provide new insights into these natural phenomena.

Virtual Reality

Virtual Reality (VR) is a burgeoning field of computer science with widespread practical applications and tight connections with artificial life. Both VR and Alife practitioners seek to use the computer to represent life-like processes operating in artificial, but life-like worlds.

Ecosystems and Evolutionary Dynamics

Alife is used as ecological monitoring tools, modelling ecosystem behaviour and the evolutionary dynamics of populations. Echo system allows a large range of ecological interactions, and Strategic Bugs System measures evolutionary activity.

Today's preparation determines tomorrow's achievement

INSTITUTIONS

The Strategic Bugs world is a two-dimensional lattice, containing only adaptive agents ("bugs") and food. The evolutionary activity is defined and measured.

Robotics/Psychology

The study of action selection, the mechanisms by which an organism (real or artificial) selects which among a variety of (often mutually incompatible) behaviours to execute at a given moment, has practical implications for robots, as well as providing an experimental platform for the evaluation of psychological theories.

Decentralized, adaptive control of robot motion in Alife is achieved through the robotic controllers which continuously learn and adapt to changing environments. The main idea is that intelligent autonomous agents cannot be built but should evolve in a process similar to the way that intelligence evolved in nature: using a combination of evolution by natural selection, adaptivity and development.

Traffic Control

A typical application for distributed artificial intelligence is found in the control of traffic. The traffic control may concern physical vehicles, or simply the flow of information packets in a network.

Air traffic control, in particular, has been intensively studied. It is focused on cooperation among air traffic controllers themselves, and between the controllers and aircraft. Smooth cooperation is required in order to achieve a safe, orderly, prompt and efficient movement of traffic in airspace.

Intelligent Manufacturing

Distributed systems of agents take over monolithic, centralized control mechanisms. In this approach, each machine or process has an autonomous-agent controller. The agent monitors the state of its machine, tries to satisfy its needs in terms of raw material etc., possibly competing with other agents for resources.

Education

Artificial intelligence has been used extensively for computer-aided instruction. A number of Alife simulators have been developed to teach biology, especially to children. Some of these programs are commercially available as educational games, such as SimLife, for learning about artificial life, the management of resources and so on.

Computer Viruses

A computer virus can be viewed as a kind of Alife. It is a computer program which attempts to satisfy its purpose without human intervention. Typically, its aim is to reproduce and spread copies of themselves to many computers through communication links or disk exchange. These viruses often integrate their code directly into that of other programs, such that execution of the host program causes execution of the viral program.

Virtual World

An open-ended evolution can be constructed within a computer, proceeding without any human guidance. This virtual world is achieved by the Alife simulators. The ideal general-purpose Alife simulator would allow the user to choose from a variety of fundamental algorithms (neural networks, evolutionary algorithms, cellular automata), to easily design populations of creatures, to easily collect and analyze data. Although this ideal simulator does not exist, the closest match is the Swarm Simulation System.

A virtual world, called Tierra, can undergo evolution. The Tierra creatures (programs) compete for the natural resources of their computerized environment, namely CPU time and memory. The virtual world's natural resources are limited, as in nature, serving for competition between creatures. Tierra is used for the study of the evolution of artificial organisms. Other Alife simulators can be found in the Artificial-Life Simulators and their applications.

Artificial life is still in the evolutionary stage in India but fast gaining momentum. It is being widely accepted as a sophisticated tool for research and development.

Faculty Corner



विक्रान्त गुप्ता
एम.सी.ए. विभाग
आर.के.जी.आई.टी.

पाना तो बहुत कुछ चाहता हूँ मगर, बस आज खुद को कहीं खोने दो।
करने को बातें हैं बहुत मगर, बस आज मुझे चुप होने दो।

झिंझोड़ दिया है जिंदगी ने आज इतना, ये तूफान शान्त तो होने दो।
अपने ही जीवन की राहों में कांटे, फिर अपने ही हाथों बाने दो।

फिर से बचपन जीना है मुझे, कोई मेरे वो टूटे खिलोने दो।
टूटे हुये ख्वाब को समेटूँ कैसे, मुझे कुछ सपने सजोने दो।

प्यार तो खुद से बहुत किया है, आज खुद से नफरत भी होने दो।
इन्सान था शायद, ये क्या बन गया, कुछ देर इसका एहसास तो होने दो।

सपने देखने है फिर से मुझे, कुछ देर के लिये बस सोने दो।
जीना मैं भी चाहता हूँ मगर, आज मुझे रोने दो।

पाना बहुत कुछ चाहता हूँ मगर

If you cannot do great things, do small things in a great way

Students' Corner

India as an Emerging Economy



Ms. Raghuvveer Kaur
MBA 4th Sem

India is a large country having a population of more than a billion, the second highest in the world. It is the largest democracy on the globe. GDP of India is the fourth highest in the world in price parity parameters terms. Here is a comparison of Indian economy with the US, European Union, Canada, Japan, China and rest of the world.

Indian GDP ranks No.12 in nominal terms of world GDP after US, Japan, UK, Germany, China, France, Italy, Spain, Canada, Brazil and Russia. However, India (\$3000 bn) comes to No.4 after US (\$13800bn), China (\$7000bn) and Japan (\$4300bn) in PPP terms.

India has a very large economy. It has GDP of \$1100 bn (2007) or Rs.55000 bn. It is approximately two percent of the GDP of the world i.e. \$55000 bn. It does not tell the real story because world GDP is counted based on dollars but Indians have to buy, sell and spend in Indian rupees. Price parity parameter shows a comparatively better picture. In the PPP method, Indian GDP is calculated to \$3000bn, that is approximately 4.7 percent of the world GDP of \$64000 bn.

India is growing at the rate of eight to nine per cent per annum whereas most of the developed countries including US, Canada, Japan and countries of EU and UK were growing at a very slow speed until last year. Only China had shown a bigger growth rate than India.

The picture was a little different this year. Most of the developed countries have started showing a tendency of negative growth. This brought a change in India and China but they can manage their growth in a positive range. It was expected that China will manage a growth rate of eight to nine per cent whereas India will be anywhere between six to seven per cent. On the contrary, India managed a better growth rate than China.

The size of India's foreign trade has noticeably expanded, both in absolute terms and relative to the country's GDP. Exports have again picked up since 1999, when they showed a 13 percent growth. Imports have also ballooned, showing an average of 20 percent growth per year during 1992-2000. Total exports in 2001 are expected to be near US\$46 billion and total imports at US\$51 billion. Petroleum constitutes the largest import item at more than US\$6 billion and accounts for 14 percent of total imports in 1999. Petroleum imports may be as high as US\$17 billion in 2001. Gems and jewellery constitute the single largest export item, accounting for 16 percent of exports and earning about

US\$4.5 billion in 1999. The top 3 export destinations of Indian goods were the United States, Britain and Germany, constituting one-third of the total Indian exports in 1999.

In turn, the top 3 import sources were the United States, Britain and Belgium, together constituting 21 per cent of total imported items.

In 2001, FDI in India was expected to near US\$4 billion. To further seek buyers for Indian products, Indian companies have also major plans for investing abroad.

The Indian Economy – A snapshot

- Real GDP growth rate 8.1% (Double digit growth in next few years)
- Robust growth rate in all sectors

SECTORS	2004-05	2005-06	2006-07
AGRICULTURE	0.7%	5.8%	4%
INDUSTRY	10.5%	10.6%	9.4%
SERVICE	9.9%	11.15%	11.18%
GDP	7.5%	8.1%	9.6%

Manufacturing sector: 9.4% growth rate.

The service sector contributes 54.1% to India's GDP.

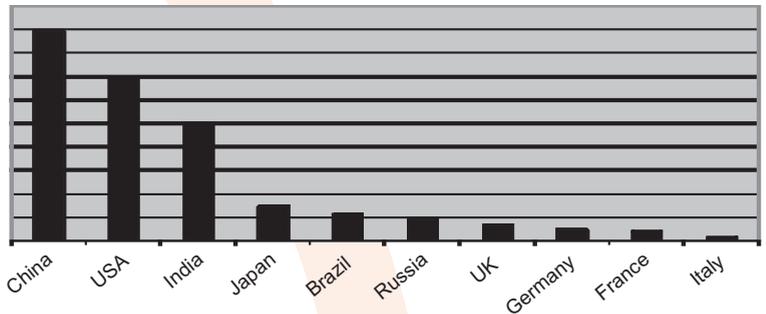


FIGURE: Indian Economy Projections

BRIC Report – Highlights

- Indian economy – 3rd largest by 2050
- In less than 40 years the BRIC economies together, could be larger than the G6.

India Economy – Growth Factors

Various determining factors that led to spectacular growth of the Indian economy were:

1. Information technology boom
2. Largest democracy
3. Young educated workforce
4. Abundant talent pool
5. Improving agriculture – 2nd in farm output
6. Connectivity : 2nd in roadways construction

Soul Byte

Try, Try Again! Because Failures Lead To Success



Rajeev Singh,
MBA 2nd SEM,
RKGIT

Patience and perseverance are the two qualities that help a person to overcome difficulties and reach the goal. Since one has neither a magic stick nor possesses Aladdin's lamp so it is simply foolishness, thinking that one can work out wonders overnight. Every work requires very careful planning, consistent efforts, patient endeavour and strong will power. Most of us fail in our objective because we lack these essential qualities. If we have these qualities it is very sure that we will neither accept defeat nor will be afraid of failure. Rather we will keep fighting for the things we have set our hearts on without even a thought of the possibility of failing.

Once upon a time, there was a king named Robert Bruce who ruled over Scotland. He lost his empire after he was defeated by his enemies. He fled away but again reassembled his forces and fought back but he was defeated again and again. Being frustrated and sad, he lay on a stone in a cave. He suddenly saw a tiny spider hanging from its web. It was trying again and again to reach the top though it slipped and fell down a number of times. But the spider was persistent in its efforts and ultimately reached its

destination in the seventeenth attempt. This incident inspired the tired king and he gathered his self confidence. He recollected his forces once again and fought courageously and recaptured the lost empire.

According to Greek mythology, once there was a famous poet and musician named Arian, who jumped in to the sea to escape from his enemies. The sea was rough and his chances of survival were remote, but he was brave and resourceful. He sang loudly as he fought with waves and as a result, his music so charmed a dolphin that it carried him to the safety of the shores.

History is full of such brave people and their extraordinary acts of bravery, who are real heroes and legends. It is also true that the brave are subjected to countless hardships and cowards enjoy a good time. But this is only a momentary triumph, because in the end, it is the brave who have the last laugh. So friends, always remember that fear of failure cripples one's mind while, conquering fear is a great act. The people who stand at the top are really those who stuck to their job patiently and resolutely. Their failures only made them strong. They have got up after each failure with a new resolution and more determination.

Forthcoming Event :

**Scout and Guide Camp of
B.Ed. students will be organised on
28th April - 4th May, 2010 at LMR.**

Many Many Happy Returns of the Day RKGIT

Mr. Rohitash Kr. Singh (EC)	- 1st May
Mr. Navneet Kumar (EEE)	- 5th May
Ms. Puja Garg (MBA)	- 23rd May
Mr. Mayank Srivastava (EC)	- 27th May
Mr. Madhup Agarwal (IT)	- 28th May

RKGIT(W)

Ms. Kadambri Agarwal (CS)	- 14th May
---------------------------	------------

RAJ KUMAR GOEL GROUP OF INSTITUTIONS

- **Raj Kumar Goel Institute of Technology, Ghaziabad**
(Approved by AICTE, Ministry of Human Resource Development, Govt. of India and affiliated to U.P. Technical University, Lucknow)
Ph. : 0120-2788273, 2788409, www.rkgit.edu.in
- **Raj Kumar Goel Engineering College, Pilakhuwa, Ghaziabad**
(Approved by AICTE, Ministry of Human Resource Development, Govt. of India and affiliated to U.P. Technical University, Lucknow)
Ph. : 09258609099, website : www.rkgec.in
- **Lala Mangat Ram Mahavidyalya, Ghaziabad**
(Approved by National Council for Teacher Education, Govt. of India and affiliated to C.C.S. University, Meerut)
Ph.: 0120-2788273, 2788409 Fax : 0120-2788350, 2788447, website : www.lmrmvgzb.in
- **Raj Kumar Goel Institute of Technology for Women, Ghaziabad**
(Approved by AICTE, Ministry of Human Resource Development, Govt. of India and affiliated to U.P. Technical University, Lucknow)
Ph.: 0120-2784774, 2784775, 2784776 website : www.rkgitw.in
- **Raj Kumar Goel High School Pura Mahadev, Baghpat**
Opp. Pura Mahadev Temple, Dist. Baghpat, U. P.
- **RKG Chandrakanta College of Management & Technology for Women, Garhmukteshwar, Dist. Ghaziabad**
(Approved by AICTE, Ministry of Human Resource Development Govt. of India and affiliated to U.P. Technical University, Lucknow accredited by American University Accredition Council)
Ph. : 05731-222831, website : www.rkgcmt.in
- **Raj Kumar Goel Girls Degree College Garhmukteshwar, Ghaziabad**
(Approved by National Council for Teacher Education, Govt. of India and affiliated to C.C.S. University, Meerut)
Ph. : 05731-222831

For suggestions : please contact newsandviews@rkgit.edu.in