

CARBOHYDRATE NEWS LETTER

ISSUE : 5 November 2002

Editor

Dr. Asish Kumar Sen (Jr.)
Head, Dept. of Organic Chemistry (Carbohydrate)
Indian Institute of Chemical Biology, Kolkata 700 032
Telephone : 473-3491, 3493, 0492, 6793, Extn. : 120
Fax : (033) 473- 0284, 0350, 5197
E-mail : aksen@iicb.res.in
asishksen@hotmail.com

Advisory Board

Mr. A. K. Bana Sukhjit Starch & Chemicals Limited, Phagwara
Mr. C. S. Champalal M/s. Sooraj Chemicals &
Sizing Materials Mfg. Co., Karnataka
Prof. B. P. Chatterjee I. A.C.S., Kolkata
Dr. Hasi Das IGIB (CBT), Delhi
Mr. N. C. Dhuldhoya Lucid Colloids Limited, Mumbai
Dr. V. P. Kapoor N.B.R.I., Lucknow
Dr. (Ms.) A. Khare Lucknow University, Lucknow
Dr. D. Loganathan IIT Madras, Chennai
Dr. R. B. Nigam National Sugar Institute, Kanpur
Prof. N. Roy I.A.C.S., Kolkata
Dr. B. Saha The Anil Starch Products Ltd., Ahmedabad
Dr. Subodh K. Singh Sriganagar, Rajasthan
Dr. Vasudeva Singh CFTRI, Mysore
Dr. P. L. Soni F.R.I., Dehra Dun
Dr. K. Vijayakumaran Lancaster (India), Chennai



From the Editor's Desk

Dear Friends and Colleagues,

The past decade has seen a renaissance in carbohydrate chemistry and biology. Carbohydrates are one of the most abundant constituents of living matters. Sugars, once neglected, are now considered to be the most important molecules in the initiation of almost all the biological processes through carbohydrate-protein interaction. New carbohydrates are still being discovered, with new roles in biological processes and diseases. The advent of new and effective methods for the characterization of complex carbohydrate molecules such as lipopolysaccharides, glycoproteins, proteoglycans etc., have contributed towards these recent findings. Unfortunately, in our country this very important area is grossly neglected.

Polysaccharides, gums and mucillages have great value not only in biology but also in industry and economy. India is one of the largest producers of various gums and mucillages which are being used in various industries for diverse purposes. Although demand for new value added gums is in the increase, we are still largely dependent on imported value added gums. In my opinion, much emphasis must be given to this by our scientists and industrialists. With the increasing demand there is also a need for search of new gums that might possess better physical and rheological properties. I am happy to inform you that the Govt. of India has shown its concern in this matter and very recently DBT had organized a meeting with the scientists and industrialists to promote meaningful research under its banner. This is certainly a very good effort and I sincerely hope that we will be able to capitalize on it.

The strength of the Association lies in its achievements through its members. Unfortunately, membership from the industries is not very significant and we need to look into this. I appeal to the industries to take active part in the affairs of the Association.

CNL is now published once a year, but we would like to make it biannual for better interaction with our members. To meet the expenses, we need the support of industries, institutions and entrepreneurs. I sincerely hope our members will extend a helping hand in this regard.

The Association has recently launched a temporary website at <http://www.geocities.com/acctindia>. Please log on to the website and e-mail your suggestions at accti@rediffmail.com or to the Editor CNL. Your response is very valuable to build up this website for the benefit of all.

CONTENTS

<i>Presidents Address</i>	3	<i>Minutes of the AGB meeting</i>	8
<i>Advertisement Tariff</i>	5	<i>Membership Form</i>	9
<i>Membership List</i>	6	<i>Honours & Awards</i>	11
<i>Scientoon</i>	7	<i>Young Scientist Award</i>	11

PRINCIPAL AREA OF R & D

- ❖ Allergy : Immunology and Immunogenetics
- ❖ Immuno Diagnostics, DNA Diagnostics and Biosensors
- ❖ Nucleic Acids and peptide Chemistry : Design & Synthesis
- ❖ Recombinant DNA Technology
- ❖ Genomics and Molecular Medicine
- ❖ Genome Informatics
- ❖ Environmental Biotechnology
- ❖ Products & Process Development for Biologicals



IGIB

INSTITUTE OF GENOMICS & INTEGRATIVE BIOLOGY

(Formerly Centre for Biochemical Technology)

(Council of Scientific & Industrial Research)

Mall Road, Delh-110007

Now genome Junction at CBT

A major network program on Functional Genomics, with focus on Respiratory and neurological Genetics disorders.

**Unveiling
new vistas
through
biotechnological
research &
services**

For further details regarding NFBGR contact :

Sr. Sales & Distribution officer

Institute of Genomics & Integrative Biology
(CSIR)

(Formerly Centre for Biochemical Technology)

Mall Road, Nr. Jublee hall, Delhi-110007

E-Mail : pbansal@cbt.res.in

Fax : (011)-7667471 Ph : 7667310, 7667439

SERVICES OFFERED

- ❖ Consultancy and sponsored projects in various fields of Biotechnological Research
- ❖ Technology packages for the preparation of : fine Biochemicals, Enzymes, Lipids and rDNA products.
- ❖ Custom synthesis of PEPTIDES on demand
- ❖ Pollution monitoring and management
- ❖ Diagnostics Kit

HRD

- ❖ Teaching and training Ph.D. students, Post doctoral fellows, Clinicians and Technicians

FACILITIES EXTENDED

NFBGR

Houses National Facility for Biochemical and Genomic Resources which extend facilities like :

- ❖ MONTHLY IMPORT FACILITY
(Avail the benefit of consolidated air freight)
- ❖ BUFFER STOCK FACILITY
(Off-the shelf availability of chemicals on credit)
- ❖ URGENT AND SPECIFIC IMPORT FACILITY
- ❖ SUPPLY OF CHEMICALS/CONSUMABLES IN INDIAN RUPEES to public funded Research Institutes and Universities established under UGC Act through NFBGR for import and Distribution of chemical from NEB (USA), GIBCO-BRL (USA), AMERSHAM (U.K.), SIGMA-ALDRICH (USA), FLUKA (SWITZERLAND), BOEHRINGER MANNEHEIM (GERMANY) BIORAD (USA), BECTON DICKINSON LABWARE (USA), BIOLOGICAL INDUSTRIES (ISRAEL)

Forging ahead together to next Millennium

In the last G. B. meeting there was a proposal to publish the Patents and new findings in CNL to benefit both the inventor and the user. Please send your findings and documents to us so that we can implement this excellent proposal.

I am thankful to the members of the advisory Board; without their active support it would not have been possible to publish this News Letter. Finally, I welcome your comments and suggestions for improving CNL. I take this opportunity to wish you a very happy and prosperous future.

Asish Kumar Sen

PRESENT SCENARIO OF INDUSTRIAL CARBOHYDRATES*

Prof. B. P. Chatterjee

Dr. S. Edison, Director, Central Tuber Crops Research Institute (CTCRI), Dr. P. L. Soni, Secretary, Association of Carbohydrate Chemists and Technologists, India (ACCTI), Dr. S. N. Moorthy, Prof N. K. Mathur, dignitaries on dias, eminent scientists and other participants, ladies and gentlemen. It is my immense pleasure to be with you this morning in CTCRI hosting the XVI Carbohydrate Conference and to give my first Presidential address.

Carbohydrate Conference was first started in Ahmedabad Textile Industries and Research Association (ATIRA) in 1984 under the presidentship of Dr. H. C. Srivastava, one of the legendary figures in the field of carbohydrates at that time.

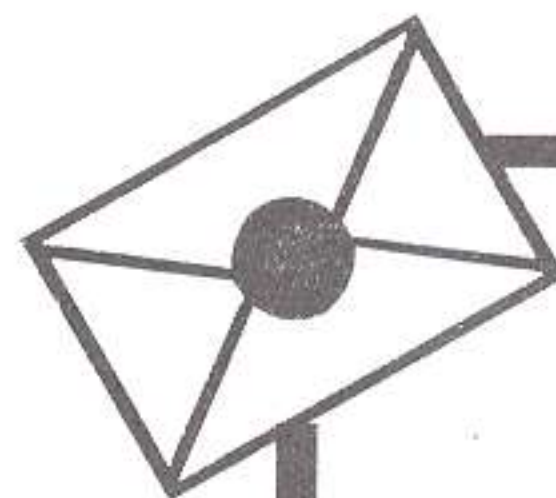
In the subsequent year, 1985, ACCT(I) was formed with the idea to make a platform for dissemination of knowledge and exchange of views among scientists, technologists and industrialists, to transfer 'know how' to industries, particularly to those who don't have R & D. Since then we have come step by step to the XVI Carbohydrate Conference. ACCT(I) had organized VIII conference at RRL Trivandrum in 1992 and it is really a pleasant occasion to have CARBO XVI again in this city at CTCRI.

ACCT(I) with great endeavour of Dr. P. L. Soni and Dr. A.K. Sen started publishing "Carbohydrate News Letter" since 1998 which is the mouthpiece of ACCT(I). At that time it was decided to publish two issues yearly. However, due to financial constraints and lack of adequate articles we failed to achieve our goal. I hope, this lapse will be done away with in near future by your cooperation as well as enthusiasm, when more funds will be generated through advertisements, and more research articles, mini reviews and notes on the recent discoveries in the field of carbohydrates will be received from members. I heartily thank Dr. A. K. Sen as editor for publishing CNL despite many hurdles. In this context I humbly request members of the Advisory Board to look into this aspect for its growth

and propagation, its enrichment by publishing good articles. Another feature of CNL is publishing "Young Scientist Award" with photo of awardees. This certainly boosts the young minds towards better research and presentation of their work either orally or in poster form. Achievements made, awards/recognitions received, visits abroad etc. are the other features of CNL and I trust that learned members of ACCT(I) will sincerely cooperate with the editor in promoting its excellence. I accord my appreciation to Dr. P. L. Soni for his effort and enthusiasm for publishing the proceedings of the Annual Conference, "Trends in Carbohydrate Research" since 1991 which is worth keeping in library or as a personal collection.

The theme of the CARBO XVI is "Carbohydrates in the New Millennium-Structure, Synthesis, Function and Application". In earlier conferences mostly discussed topics were on industrial polysaccharides and gums. However, since last decade the papers related to other aspects of carbohydrates especially lectins, biochemistry of carbohydrates, enzymes, modeling of carbohydrate molecules, synthesis of biologically important complex carbohydrates have been pouring in.

Let me present a glimpse of the current scenario of industrial carbohydrates in the country. Industrial starches and their downstream products *i.e.*, glucose, high fructose syrup, sorbitol, mannitol, dextrin are produced all over India and marketing of these items is promising for their enormous application in food, paper, textile and pharmaceutical industries. Raw materials like cellulose is available plenty as cotton waste. Although it is enormously used in textile and paper industries, their value added products are imported. While the raw materials are available and technology is known, industrialists should come forward to manufacture such useful derivatives (methyl, ethyl, carboxymethyl, mixed ethers etc). Next to cellulose and starch, industrial polysaccharide is galactomannan from seeds of guar, cassia sp. etc., produced largely in north-western India and obviously industries are set up mostly there. These are India's monopoly products. Export earning is over 500 crores for its tremendous applications in oil field, explosives, food, pharmaceutical and textile. There is also demand to develop modified and derivatized product, for export. Next to guar gum is tamarind kernel powder (TKP). It has also export market besides its own use in the country



Write to us.....

News items, about meetings, positions available, your comments, review articles (2-3 pages), scientific matters etc.

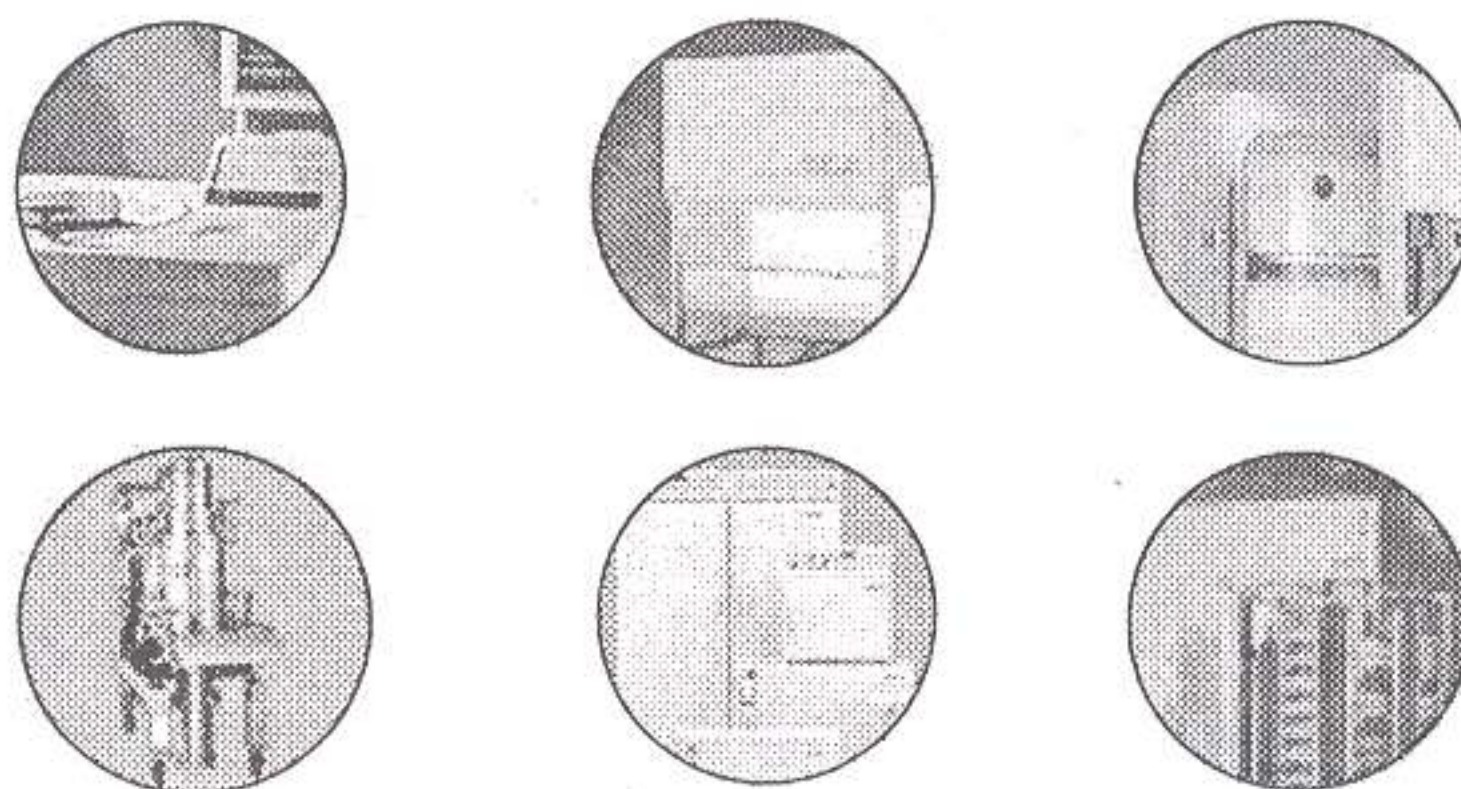
*Based on the Presidential talk at the XVI Carbohydrate Conference held at CTCRI, Thiruvananthapuram, on December 6-7, 2001



Kendro Laboratory Products India Pvt. Ltd.



Quality Products-Lifetime Care



Our clients

World's Top Multinational Pharmaceutical & Biotech companies,
Research & Educational Institutions, Universities, IVF Clinics and Hospitals.

Visit us at www.kendro.com

KENDRO LABORATORY PRODUCTS INDIA PVT. LTD.

B-5/75 (LGF) Safdarjung Enclave, New Delhi – 110 019

Tel: 91-11-6184840/6185840, Fax: 6185397

E.mail: kendro.india@vsnl.com

Products & Services

Kendro delivers sample preparation solutions in four key areas:

Separations

Centrifuges for every application, including superspeed, ultraspeed, bioprocessing, micro-liter, and general purpose

Growth

Microbiological, low temperature, and CO₂ incubators

Storage

Freezers and ovens

Containment

Safety cabinets and clean benches



A Global Instrumentation Company

 **Kendro**

.....
SORVALL REVC0 HERAEUS CARR



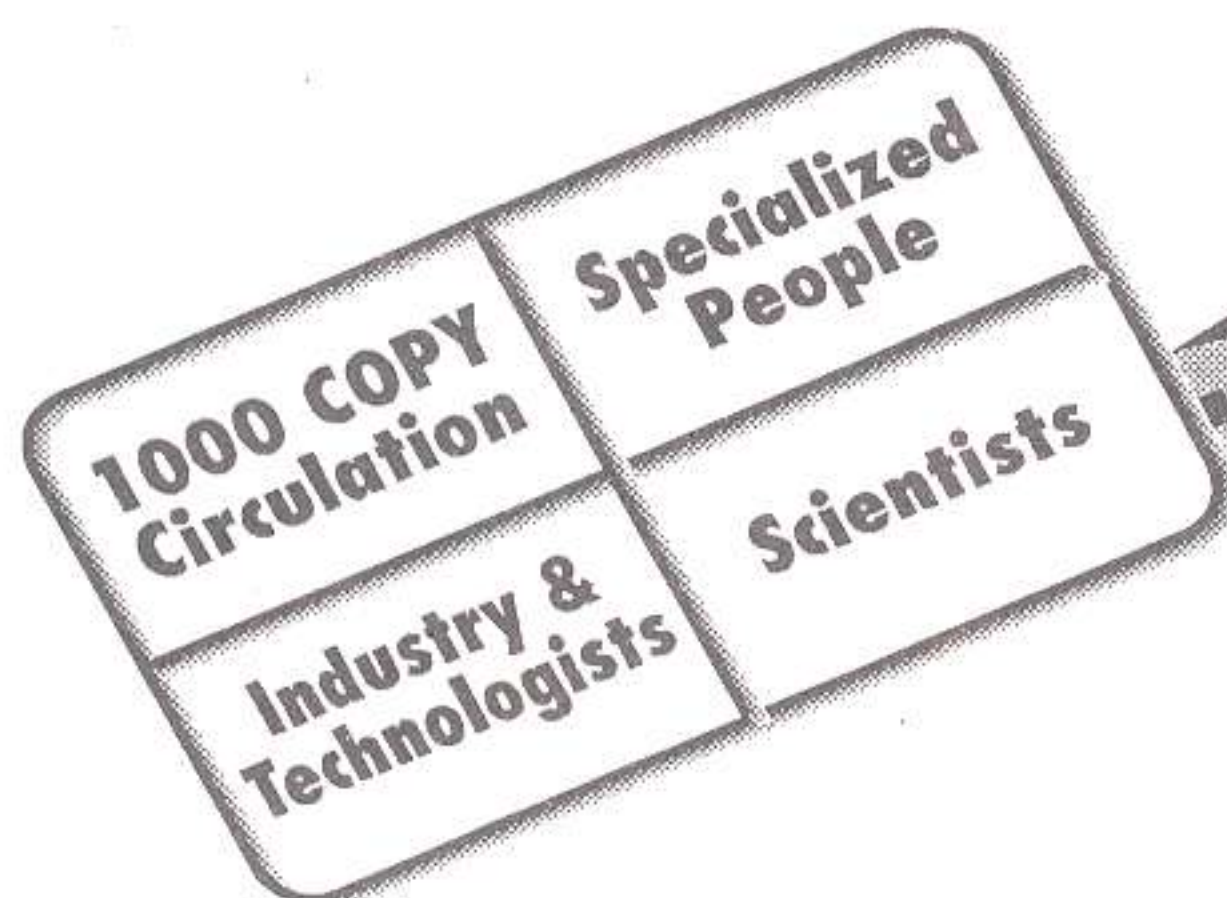
and is a monopoly item. Although it is used in textile, there is need to develop it for food, *i.e.*, a substitute for pectin for gelling and sugar mimics. Gum ghatti (1000 Mt) and gum karaya (6000 Mt) have export market, though production of gum Arabic is limited, only ~ 600 Mt. These are used in food and pharmaceutical industries. Pectin is currently manufactured from orange peels in small units in citrus fruit production areas in Maharashtra. Sunflower head based units have also been established. New field of production of hemicellulose from corn and wheat husk is available and it can be a good source of non-calorie thickener and food fiber. Marine polysaccharides, namely agar used in biological laboratory, alginate used in textile and food, and carragennan in food are not abundant in the Indian sea coast and the quality of these gums produced from the coasts of Andhra Pradesh, Tamilnadu and Gujrat is not good. However, the production is confined to small scale industries in coastal region. More of these polysaccharides are imported. Central Salt and Marine Research Institute at Bhavnagar have developed production technology and surveyed their

occurrence. Microbial polysaccharides, xanthan, dextran and curdlan etc., are only manufactured by some large multinationals. Most of the requirements of the country are met by import.

Carbohydrate research now a days is not confined to structure, synthesis and industrial carbohydrates only, but has discovered its new horizon when applied in biology and medicine. More emerging area in current days is Glycobiology; under its canopy there are other sub areas like glycoparmacology, glycotherapeutics, glycoimmunology, glycopathology and many others. I wish to discuss this field in my next address.

At the end I must thank Dr. S. Edison, Dr. S. N. Moorthy and other colleagues of CTCRI for excellent arrangements they have made for the conference. I welcome and thank all the delegates of CARBO XVI for their participation to make this conference a grand success. I hope their stay will be comfortable and enjoyable. Thank you all.

New!
ACCT(I) goes WEB
 Visit us at
www.geocities.com/acctindia
 Send your suggestions & comments at
accti@rediffmail.com



For further information contact Dr. A. K. Sen, Editor,
 CNL. Draft should be made in favour of
 "Carbohydrate News Letter" payable at Kolkata

Advertise in CNL

TARIFF

Full Back Page	: Rs. 2000 (Per issue)
Full Inside Cover Page	: Rs. 1500 (Per issue)
Full Inside Page	: Rs. 1000 (Per issue)
Half Page	: Rs. 500 (Per issue)

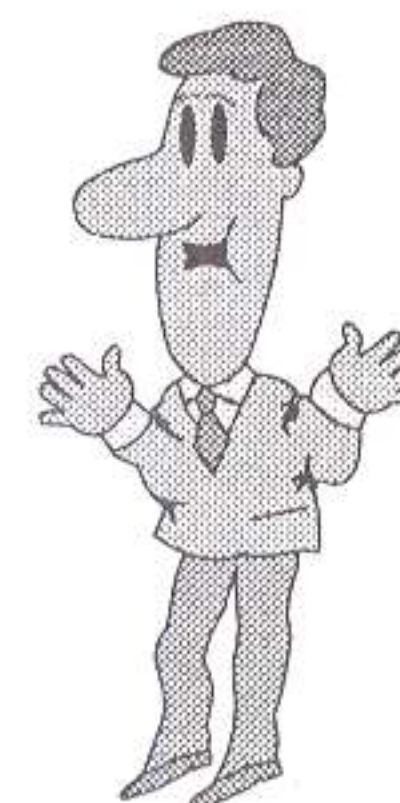
COME FORWARD, WE NEED YOUR SUPPORT

MEMBERSHIP LIST

I am privileged to welcome all the new members during January 2001 and October 2002. The full list of members is now available at the temporary website of the Association [<http://www.geocities.com/acctindia>]. Members are requested to send their complete address, telephone no., e.mail address etc. to the editor, CNL, to make the list more meaningful. To strengthen the Association we need more members. So please come forward, tell your colleagues/friends/students to become members of the Association. Thank you.

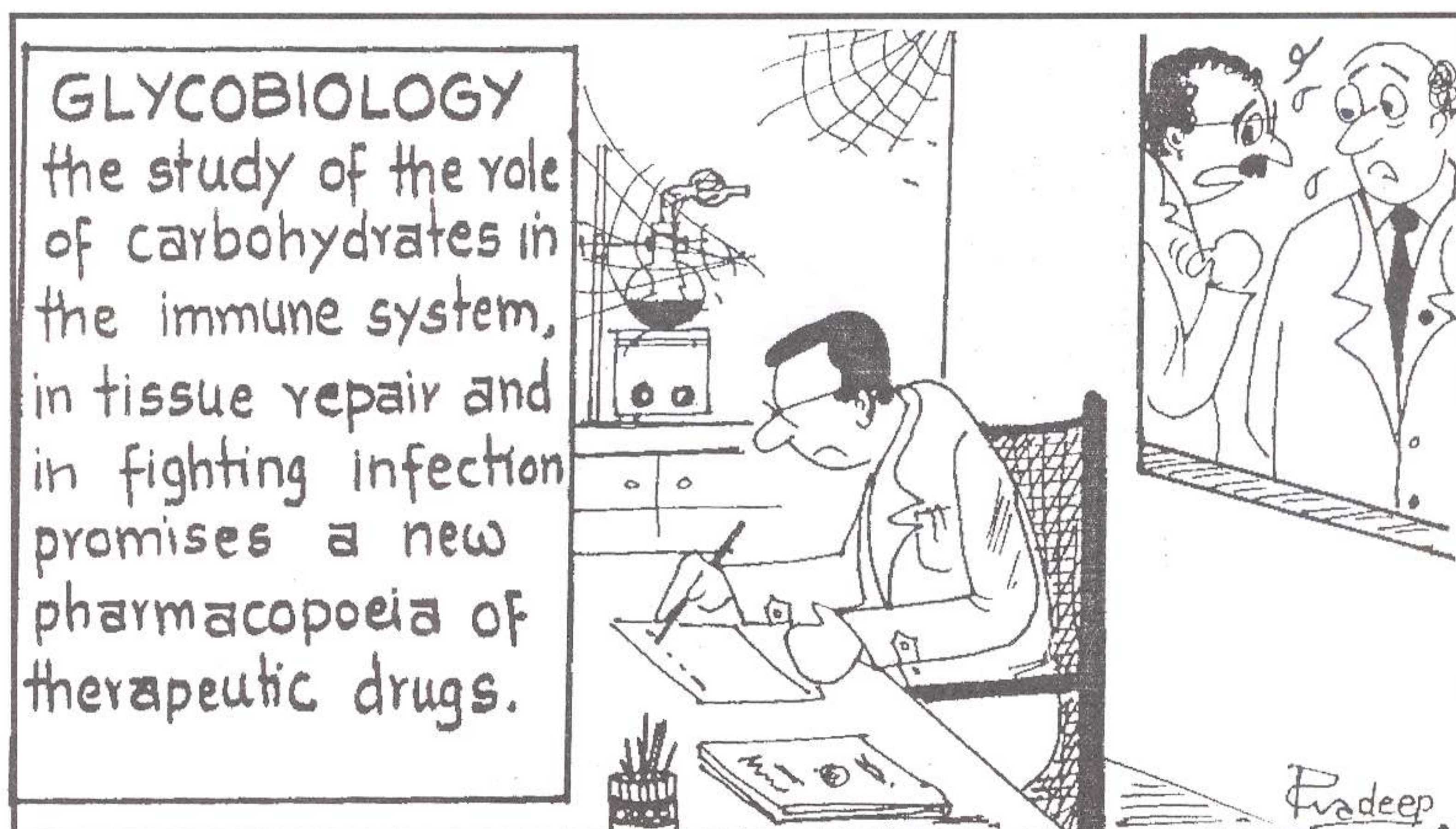
No.	Name	Surname	Address	Membership No.
Patron Members				
1	Shri Bharat	Joshi	Encore Natural Polymers Ltd., (Ahmedabad Business Unit) (Formerly Indian Gum Industries Ltd.) 227-233 GIDC Industrial Estate Naroda, Ahmedabad 382-330	P/3/2000
2.	Mr. Rohit	Gupta	Herbex India Pvt. Ltd. 146-R, Model Town, Karnal - 132001, (Haryana), India. Email: herbex@palcom.net Tel: 0184 - 266293, 266843; Fax: 0184 - 265157	P/4/2002
Life members				
1.	Dr. Partha	Chattopadhyay	Dept. of Medicinal Chemistry, Indian Institute of Chemical Biology, Kolkata - 700 032	LM/108/2002
2.	Dr. Debaprasad	Dev	Indian Gum Industries Limited 227-233, GIDC Estate, Naroda. Ahmedabad - 382330 Email: ddev@ah1.agmgroupp.com debaprasaddev@hotmail.com	LM/101/2000
3.	Miss P	Hemasankari	16, Second Street, Teachers Colony, Ambasanudram, Tirunelveli District - 627401	LM/107/2001
4.	Dr. Anita	Iyer	170 - Geetanagar, Ghogha Road, Akwada, Bhavnagar - 2	LM/110/2002
5.	Dr. Suman	Khowala	Motisree, 14/1, Raipur Road (East), Kolkata - 700032	LM/109/2002
6.	Dr. H. H.	Mody	Marine Algae & Marine Environment Discipline CSMCRI, Bhavnagar.	LM/111/2002
7.	Dr. K. C. M.	Raja	C/o Sri P. M. Vasudevan Nambrodiripad Pazahedathu Mana, P. O. Lakkidi, Palghat Distt. - 679301	LM/105/2001
8.	Miss P.	Ramadevi	16, Second Street, Teachers Colony, Ambasanudram, Tirunelveli District - 627401	LM/106/2001
9.	Dr. Pradeep	Sharma	C/o Dr. P. L. Soni, Chemistry Division, P. O. New Forest, Forest Research Institute, Dehradun - 248006	LM/102/2001
Institutional Membership				
1.	Dr. R. P.	Shukla	Professor and Head, Organic Chemistry Division, National Sugar Institute, Kanpur - 208017	IM/1/2001
2.	Dr. S. V. N.	Vijayendra	Scientist, Food microbiology department, CFTRI, Mysore-570013	IM/2/2001
3.	Dr. N. S.	Sussheelamma	Scientist, Dept. of Sensory Science, CFTRI, Mysore-570013	IM/3/2001
Ordinary Members				
1.	Mr. B. K.	Bettadaiah	Senior Research Fellow, PPSFT Department CFTRI, Mysore - 570013	OM/4/2002
2	Dr. Shailendra	Bhatt	Organic Chemistry Division, National Sugar Institute Kalyanpur, Kanpur - 208017	OM/4/2001
3	Prof. Satish Kumar Gupta		Prof., Sugar Technology Division, National Sugar Institute, Kalyanpur, Kanpur - 208017	OM/5/2001

No.	Name	Surname	Address	Membership No.
4	Dr. Bala	Nambisan	Principal Scientist (Biochemistry) Central Tuber Crops Research Institute, Trivandrum - 695017 Email: prsbnamd4@vsnl.net.in	OM/3/2002
5	Mr. V. V.	Raghavan	E/703 Rosewood Estate, Satellite Road, Ahmedabad - 380015	OM/6/2001
6	Dr. A.	Banerji	Regional Research Laboratory, Trivendrum - 695019	OM/7/2001
7	Dr. P. K.	Agrawal	Biochemistry Division, National Sugar Institute Kalyanpur, Kanpur - 208017	OM/1/2002
8	Miss Ummehani	Kamdar	Gamni Vorawad, Near Barton Library Diwanpara Road, Bhavnagar - 2	OM/2/2002



Scientoon

Pradeep Kumar Srivastava, Senior scientist at the Chemical Technology Division, Central Drug Research Institute, Lucknow, is the first person in the world to coin the word 'SCIENTOON' – a novel concept of communicating science through cartoons. In his effort to popularize science he has delivered more than 240 lectures in USA, Caribbean countries and several Asian countries. As an acknowledgement of his work of excellence he has received many awards National and International, which include the most prestigious award- "The outstanding young person of the world" –given by Junior Chamber International (USA). Congratulation and thank you Pradeep for your contribution to CNL.



Indian pharmacopoeia ?. Arre he is not touching even B. P., U.S.P., Extra pharmacopoeia. He is writing something novel and important GLYCOPHARMACOPOEIA".

Minutes of the XVI ACCT(I) Annual General Body meeting held at the Central Tuber Crops Research Institute, Thiruvananthapuram, on 6th December, 2001

Prof. B. P. Chatterjee, President of ACCT(I), presided over the meeting and welcomed the members. Thirty two members of the Association attended the AGB meeting. Dr. P. L. Soni, Hon. Secretary of the Association, presented the minutes of the XV AGB held at the Sardar Patel University, 16th October, 2000, which was accepted unanimously. The motion was proposed by Mr. C. S. Champalal and seconded by Dr. V. P. Kapoor.

Dr. P. L. Soni placed the statement of Accounts in the absence of the treasurer, Dr. P. K. Gupta, Scientist, Forest Research Institute, Dehra Dun. After a brief discussion, the statement was passed by the House unanimously; proposed by Dr. B. Saha and seconded by Prof. N. K. Mathur.

The issue of the use of the "logo" of the Association (appeared in CNL-4) was read out by Dr. P. L. Soni and was opened for discussion. Several members expressed their views on the matter. Finally it was decided that the "Logo" will be allowed to be used on particular product basis which is accepted nationally and internationally. The concerned companies must have proper documentation, R & D reports, quality control reports, and certificates. A team of ACCT(I) members will visit the factory/company and on their recommendation the "Logo" will be allowed to be used. It was also decided that companies which have turnovers of more than 10 Cr. will be considered to be big companies and the rest will be considered as small companies. The capitation fee will be decided on the nature and turnout of the product.

All the members felt that the Association should have a Website. Dr. A. K. Sen was requested to find out the expenditure to launch a Web site. Members requested to post the abstracts of the papers presented in the conference, in the web site.

The Lucid group of companies proposed to sponsor one 'young scientist award' on the best oral/poster presentation on plant hydrocolloids for researchers below 35 years of age. The proposal was accepted after a brief discussion.

The statement of accounts of the Carbohydrate News Letter was placed by Dr. A. K. Sen. It was accepted unanimously; proposed by Dr. V. P. Kapoor and Seconded by Dr. S. N. Moorthy. Mr. C. S. Champalal, Dr. B. Das, Dr. Subodh K. Singh, Dr. Hasi Das and Dr. Nigam were inducted in the advisory board of CNL unanimously. The members felt that new patents should be published in the CNL.

Dr. Soni pointed out that although best efforts have been made to make new members, the response was not satisfactory specially from the Industry. He appealed to Industries to come forward and become members of the Association.

To honour the retired members, it was decided unanimously that no registration fee will be charged from them hence forward. The motion was proposed by Dr. A. K. Sen and seconded by Dr. S. N. Moorthy.

The meeting lasted for one and a half hours. Finally Dr. Soni gave the vote of thanks. He thanked Dr. Edison, Director CTCRI, for giving his consent to hold the XVI Carbohydrate Conference and for his full support and encouragement. He also thanked Dr. S. N. Moorthy and his colleagues at CTCRI for making excellent arrangements for the delegates.

Dr. P. L. Soni



Inaugural ceremony of the CARBO XVI at CTCRI, Thiruvananthapuram, December 6-7, 2001.

Imagination is more important than knowledge - Albert Einstein

ASSOCIATION OF CARBOHYDRATE CHEMISTS & TECHNOLOGISTS (INDIA)

Forest Research Institute, Dehra Dun - 248006

E.Mail : sonipl@icfre.org
soniplin@yahoo.co.in
Fax : 91-0135-756865

Phone (O): 0135-752671 Extn : 4207
(R): 0135-773736

APPLICATION FOR MEMBERSHIP

1. Name (in block letters) : Dr./Mr./Mrs./Miss

2. Mailing Address (in block letters):

3. Organization affiliated:

4. Official capacity/ designation /nature of job:

5. Category of membership applied for: Ordinary () Life () Honorary ()
(Tick the appropriate one) Patron () Institutional ()

6. Highest academic qualification :

Degree/Diploma	Institution/Univ.	Specialization	Year of passing
----------------	-------------------	----------------	-----------------

7. Publications: Number: [] Field:

Patent: Number: []

Date & Place:

Signature of applicant

8. I propose Dr./Shri/Smt. _____
for the membership of the Association.

Signature, Name, & Address of the proposer.

FOR OFFICE USE ONLY

Amount Received Rs. _____ Rt. No. _____ Dt. _____

Category of membership : _____ Membership No. _____

PRESIDENT/HON. SECRETARY

Application along with subscription only by D.D. or M.O., in favour of Association of Carbohydrate Chemists & Technologists (India), to be sent to the Hon. Secretary, Dr. P. L. Soni, Scientist-SF, Head, Chemistry Division, Forest Research Institute, P.O. New Forest , DEHRA DUN, Uttaranchal, Pin - 248 006



SUBSCRIPTION RATE (January - December)

Patron Membership	Rs. 5000.00	(One time only) + Admission fee of Rs. 5.00 only.
Life Membership		
Academician	Rs. 1000.00	(One time only) + Admission fee of Rs. 5.00 only.
Industrial personnel	Rs. 2000.00	(One time only) + Admission fee of Rs. 5.00 only.
Institutional Membership	Rs. 500.00	(Yearly) + Admission fee of Rs. 5.00 only.
Ordinary Membership	Rs. 100.00	(Yearly) + Admission fee of Rs. 5.00 only.

Eligibility:

Ordinary Member :	Any person with a degree / diploma / certificate from recognized University/Institution in basic and applied sciences.
Life Member:	Same as ordinary member.
Patron Member:	Organizations concerned with Sciences and Technology of Carbohydrates
Honorary Member:	Carbohydrate Chemists of eminence in India & abroad.
Institutional:	Institution concerned with Science & Technology of Carbohydrates.

Kindly send your subscription by D.D. or M.O. along with duly filled Membership form on or before 30th September for the Year 2003, to the Hon. Secretary, Dr. P. L. Soni, Scientist-SF, Head, Chemistry Division, Forest Research Institute, P.O. New Forest, DEHRADUN - 248 006, Uttarakhand.

Address Information

Please send your full mailing address with Pin Code, E-mail, Ph. No. etc., for incorporation into our Web Site. Please fill it up and post it to the Editor CNL or E-mail at aceti@rediffmail.com

Name :

Address :

..... Pin Code

Ph. No. :

E-mail :

✓ Join ACC7(7)



Honours & Awards

Prof. B. P. Chatterjee has been elected the Treasurer of the Indian Science Congress Association for the term 2001-2004.

Young Scientist Award

To encourage young students, the Association of Carbohydrate Chemists & Technologists (India) is giving a cash award and a citation for the best oral/poster presentation at the "Carbohydrate Conference" every year. Only research scholars, research associates etc. (below the age of 30) are eligible for this award.

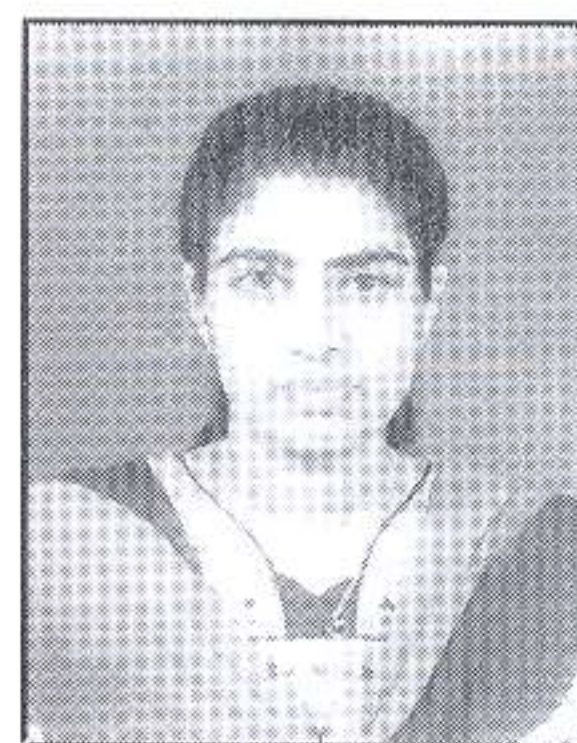
At the XVI Carbohydrate Conference, the paper entitled "Studies on Rhizobium lipopolysaccharide mutants and identification of genes involved in LPS biosynthesis"-by Monika Pathak, Rema Devi and Hasi Das was judged the best oral presentation.

The paper entitled "Synthesis and characterization of new biodegradable plastics"- by Rex George, Datta Madamvar, C. P. Patel and H. C. Trivedi was judged the best poster presentation. Our heartiest congratulations to Ms. Monika Pathak and Ms. Rex George. Wel done!



MONIKA PATHAK is a research scholar at the Glycobiology laboratory at the Centre for Biochemical Technology, New Delhi. She has worked on a research project entitled "The Mechanism of le gume-Rhizobium interaction", under the able guidance of Dr. Hasi Das.

Born in October, 1976, Monika did her B.Sc and M.Sc in Botany from Delhi University with certificate of Merit. She had an excellent academic record throughout. Besides her devotion in scientific research, Monika showed her talent in painting, sketching & writing. Monika, a voracious reader, likes to interact with people to understand human behaviour. Once President of the Botanical Society in College, Monika has always been an active participant of various ongoing sports & cultural activities.



REX GEORGE is a research scholar at the Department of Chemistry, Sardar Patel University, Vallabh Vidyanagar, Gujarat. She has worked on a research project entitled "Synthesis, character-ization and evaluation of graft copolymers as biodegradable plastics", under the able guidance of Prof. H. C. Trivedi.

Rex has a brilliant academic record all through out. She is the recipient of Gold Medals in both the B.Sc. and the M.Sc. which she did in Tolani College of Arts & Science, Gujarat University and Dept. of Industrial Chemistry, Sardar Patel University, Vallabh Vidyanagar, in 1998 respectively. She also served as lecturer at the Post Graduate Department of Industrial Chemistry, V.P.& R.P.T.P. Science College, Sardar Patel University, Vallabh Vidyanagar, Gujarat, before persuing research carrier.

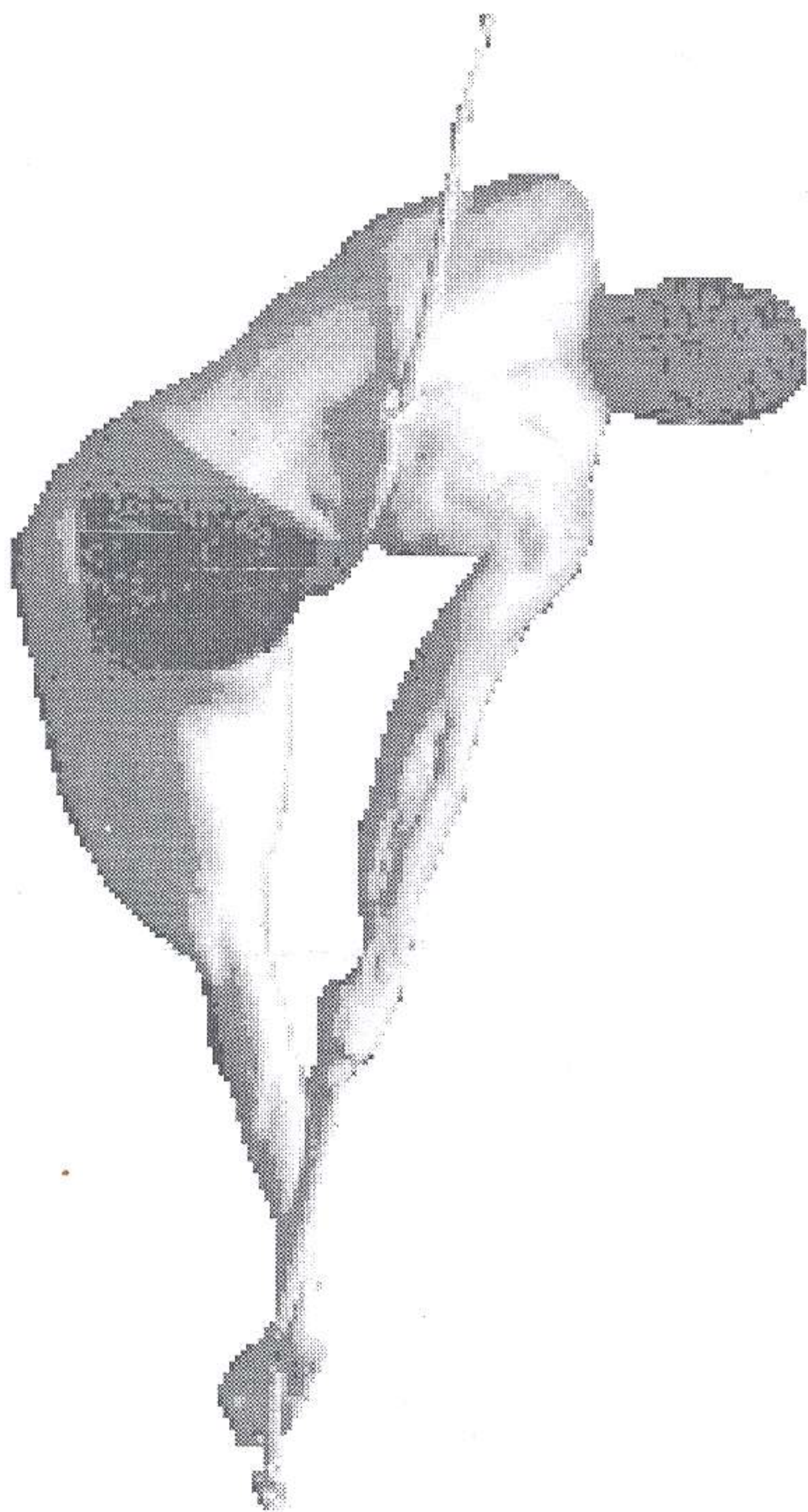
Born in November 1975, Rex has a keen interest in cultural activities. She was crowned Miss Mount Carmel at High School Level and received various prestigious awards for her scientific talent, profeciency in elocution etc.

*The morning will surely come,
The dawn will vanish
And thy voice pour down
In golden streams breaking through the sky*

- Rabindranath Tagore

For Bronchial Asthma Patients

UNTIE the knot of suffering



ASMON (Capsule & Syrup)

Start a Rewarding Affair with ASMON

- **ASMON**, a purely herbal product, relieves from all chronic and old bronchial asthmatic problems.
- **ASMON** constitutes ingredients of authentic ayurvedic plants known for medicinal use and food additive.
- **ASMON** has no hepatotoxicity as in currently used drugs.
- **ASMON** inhibits arachidonic acid oxidation in an ex-vivo human blood system.
- **ASMON** blocks the key enzymatic step for the synthesis of leukotriene, the asthma inducer
- **ASMON** is developed on the basis of formulation by Indian Institute of Chemical Biology (I. I. C. B.), a unit of CSIR.
- **APPROVED** by Department of Science & Technology (DST, Govt. of India).

ASMON, THE ULTIMATE RELIEF

For further details, please write to :



HERBOCHEM REMEDIES INDIA (P) LTD.

28 Southern Avenue, Kolkata-700 029, India

Ph : 91 33 463 2819, 465 6065 ; e-mail : herbochem@vsnl.com