

Reports by Project Directors in 2001-2003

ChIN

Activities of Asian Chemical Information Network (ChIN) in 2001 – 2003

ANEC/CREN

**ENVIRONMENTAL CHEMISTRY DEVELOPMENT INITIATIVES IN ASIA
REPORT ON ATTENDANCE AT ASIA PACIFIC WORKSHOP ON MARINE TOXINS
(17 – 21 June, 2002, Suva Fiji)**

APFAN

APFAN REPORT TO FACS 40TH EXCO MEETING

ACEN

**Regional Seminar on "CURRICULUM DEVELOPMENT IN CHEMISTRY AT
UNDERGRADUATE LEVEL"
Chemical Education Journal (CEJ) Vol. 5 Issue 2 (2002) and Vol/ 6 Issue 2 (2003)**

LCI/MC

**INTERNATIONAL WORKSHOP ON "LOW-COST INSTRUMENTATION-
MICROSCALE CHEMISTRY (LCI-MC)"**

LCP

Low-cost Educational Publications Project Report for 2001-2002

MC

**Report on "Bioactive Discovery in the New Millennium"
Report on Medicinal Chemistry Project Activities 2001-2003**

ANRAP

Activity Report for January-December 2001

Activities of Asian Chemical Information Network (ChIN) in 2001 – 2003

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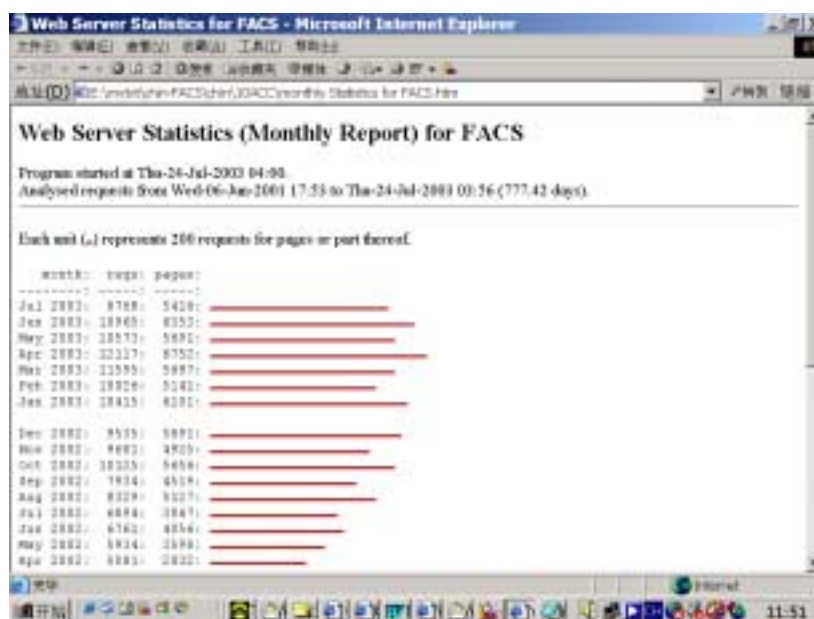
* Dept. Knowledge-based Information Engineering,
Toyohashi University of Technology, Japan

As one of the FACS Projects, the major activities of Asian Chemical Information Network (ChIN) can be summarized as:

1. Maintenance of the FACS Web Site

Since the FACS Web site was officially launched in 9ACC, Brisbane, July 2001, daily maintenance of the web site has been contributed by ChIN project. Major updates including official announcements of FACS, contacts of member societies, meeting information, reports of projects, the electronic publication of FACS Newsletter. The FACS Web site now consists of over 560 files and the size of FACS web site contents is about 15 MB.

Fig. 1 Web Server Statistics (Monthly Report) for FACS



Automated Web Server Statistics for FACS Web site has been added and is taken on daily basis[2], which can monitor the dynamic visits to FACS Web site from chemistry community in the world. Fig. 1 shows the steady growing hits to the FACS site on monthly basis, and the total successful requests to the web site has been over 184,060 since 06-Jun-2001.

The FACS Web site has been linked by some major professional societies such as the ChemSoc[3], the chemistry resources site provided by the Royal Society of Chemistry, Society of Chemical Industry[4].

The FACS Web site has been served as an effective means for promoting and archiving FACS activities. It could be expected that it would play more important role to publicize FACS in the world chemistry community and to facilitate communications among its member societies.

2. Web Guide of Internet Chemistry Resources

As a web guide of Internet chemistry resources for more than 5 years, the construction of ChIN page continues as the Chemistry Portal of the Chinese Science Digital Library[5]. The links in ChIN page database is over 7000 now. The successful requests to ChIN page has been over 7,836,781 since 1998.

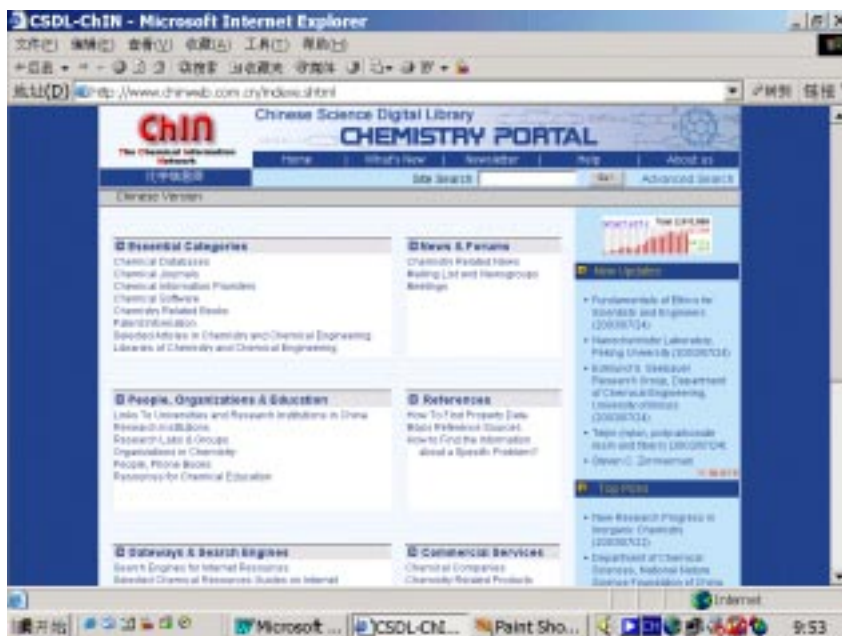


Fig. 2 ChIN Page – A Chemistry Portal Site

3. ChIN Mini symposium on Chemometrics and Cheminformatics at 10ACC

A half day mini symposium on Chemometrics and Cheminformatics will be organized by ChIN project at 10 ACC. We'll have speakers from Australia, China, Japan and Vietnam.

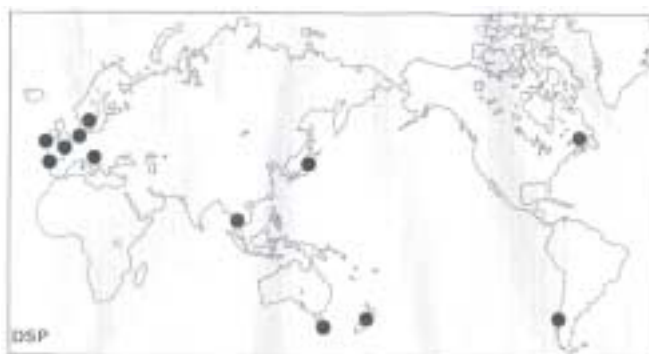
References

- [1] The FACS Web site, <http://www.facs-as.org/>
- [2] Web Server Statistics for FACS Web site, <http://www.facs-as.org/stat/stat.html>
- [3] ChemSoc: networks & societies, <http://www.chemsoc.org/societies/society2.htm>
- [4] <http://www.soci.org/SCI/general/2001/html/ge23.jsp>
- [5] <http://chemport.ipe.ac.cn/> or <http://www.chinweb.com.cn/>

**REPORT ON ATTENDANCE AT
ASIA PACIFIC WORKSHOP ON MARINE TOXINS
(17 – 21 June, 2002, Suva Fiji)**

Through a grant from the Federation of Asian Chemical Societies, Dr. Glen Shaw was able to attend this workshop as a presenter and member of the organizing committee. The five-day symposium was held at the Institute of Marine Science, University of the South Pacific and was jointly organized by Commonwealth Science Council, the University of the South Pacific, the University of Queensland and Queensland Health Scientific Services. Attendees came from throughout the Asia-Pacific region, with strong representation from Commonwealth countries. Additional delegates were drawn from a number of non-Commonwealth countries such as French Polynesia. Indeed the range of countries represented at the workshop attested to the overall significance of the problems under consideration.

The meeting aimed to consider the problem from as many standpoints as possible. The most important aspect was scoping the problem and elucidating the severity of poisoning episodes involving various marine toxins. It rapidly became clear that many countries in the Asia-Pacific region suffer from ciguatera and also diarrhetic shellfish poisoning and that the incidence of poisoning episodes is probably increasing. Moreover, as fish and shellfish provide the only source of animal protein for many communities in the region, inhabitants are forced to live with the risk of poisoning. Clearly, this situation is not acceptable. Moreover there is a general lack of knowledge regarding poisoning episodes that result from other toxins, notably amnesic shellfish poisons, *Pfiesteria* toxin, etc, within the region.



Known global distribution of Diarrhetic Shellfish poisons



The greatest problem is the lack of suitable, *in-situ* test methods for the toxins in fish and shellfish tissue. In addition, little is known of the biology of the micro-organisms ultimately responsible for production of the toxins, or indeed of the conditions that favour toxin production. The meeting agreed to collaboration amongst the countries present in an effort to solve these problems and this was enunciated in the Suva Declaration, which is appended to this report. Basically, the Declaration provides pathways for achieving these objectives, through closer collaboration amongst scientists within the area and ultimately, through the establishment of a marine toxin research centre. A working party for the

establishment of this centre has been created and an initial objective will be to submit an application to the Asian Development Bank (or other appropriate funding institution) for funds to create such a centre.

Coupled with the above are a number of other factors that require investigation. Persistent folk-lore in the region suggests that there exist a number of traditional remedies which are of use in ameliorating the poisoning episodes. These need to be fully investigated and their efficacy evaluated on a scientific basis. In addition, practices leading to the eutrophic conditions that favour the growth of toxic micro-organisms need to be changed and research needs to be directed towards achieving these goals.

ACTIVITIES SPECIFICALLY CARRIED OUT BY Dr. GLEN SHAW



Dr Shaw's involvement in the meeting consisted of a number of activities. These were:

1. Delivery of a keynote address on the worldwide situation as regards marine toxins.
2. Delivery of a scientific paper on the toxicity of pectenotoxins.
3. Provision of expert scientific advice on the subject of marine toxins and thus acting as a resource person for the conference.
4. Chairing of certain session of the conference.
5. Provision of expert advice during the field trip and also the practical sessions of the conference.

cDNA
Microarray
studies of PTX2-
seco acids

It is thus clear that the meeting benefited significantly from Dr. Shaw's presence and appreciation is expressed to the Federation of Asian Chemical Societies for facilitating his attendance.

FINANCIAL ACQUITTAL OF TRAVEL

The return airfare from Brisbane to Nadi at the time of travel was approximately A\$960 and the exchange rate US 0.52c per A\$1.00. Thus, the FACS travel grant met the cost of the airfare almost exactly. Other travel costs (Nadi-Suva return) as well as accommodation and living allowances were obtained from alternative sources. Documentation in support of these figures can be provided if required.

SUVA DECLARATION

1. Whereas it is the consideration of the participants that the presence of marine toxins (with significant potential threat to public health) in seafood poses a significant and increasing threat to public and environmental health throughout the Asia-Pacific Region. This problem is a significant threat to countries of the region from the following standpoints:

- Seafood is a major and in some cases the only source of meat protein for a number of Asia-Pacific Countries.
 - Seafood is a major source of income for many countries in the region.
2. Whereas it is the belief of the meeting that significant knowledge gaps exist within the following basic areas:
- Occurrence and distribution of the toxin-producing organisms
 - The physiological conditions under which toxins accumulate
 - The substances responsible for toxic effects and their relative toxicities
 - The persistence of toxicity episodes
 - Appropriate endpoints for determination of toxicity
 - Analytical methodology for toxin determination, with particular reference to methods applicable to field determinations.
 - The relationship between environmental disturbances and toxicity episodes.
 - Public health implications of marine algal toxins in Asia-Pacific Countries.
 - Accurate estimation of the economic and trade implications.
 - Epidemiological studies on toxicity episodes.
3. Whereas the participants consider that further attention needs to be paid to management issues with particular reference to-
- Techniques available for the management of the problem through control of organisms, which produce the toxins and food species in which the toxins accumulate
 - The length of toxicity episodes and hence the time for which use of facilities should be closed.
 - The parts of seafood that are safe/not safe for human consumption.
 - The development of a standardized reporting protocol, so that changes in the situation can be reliably scoped throughout the Asia-Pacific Region.
 - The establishment of an international expert task force to investigate major toxicity outbreaks.
4. Whereas the meeting believes that further attention needs to be paid to the public health aspects of the problem, including:
- The development of appropriate public awareness campaigns by all stakeholders.
 - Improved intra-government co-operation amongst various agencies with responsibility for the problem.
 - A proper investigation of rapid methods for assessment of toxicity.
 - The full and complete scientific evaluation of all methods for treatment of toxicity symptoms (including traditional remedies).
 - Better liaison with and education of medical practitioners, involved with the surveillance and treatment of toxicity episodes.

- Development of suitable treatment procedures for victims of poisoning episodes.
- Risk assessment as related to toxin occurrence.
- Establishment of a code of best practice in the seafood industry.

In the light of the above observations, it is the view of the scientific expert panel assembled that the matter receive urgent and full attention by Federal and State/Provincial Governments throughout the region, as well as by international bodies such as the World Health Organization (WHO), the Commonwealth Heads of Government (CHOGM) and The Committee for Science and Technology in Developing Countries (COSTED), etc.

It is the view of the participants that actions should be prioritized on the following basis:

- The establishment of an international expert task force (Knowledge Network) to investigate major toxicity outbreaks and facilitate capacity building. It is proposed that this be co-ordinated and funded as necessary through Commonwealth Science Council. The participants at the meeting would form the nucleus of the resource persons for the group.
- Development of validated determination methods for toxins in seafood that can be used in a wide variety of Asia-Pacific countries. Particular priority should be given to low cost methods amenable to use in the field.
- Determine the occurrence and distribution of the toxin-producing organisms.
- Investigate the environmental parameters that control occurrence and distribution of toxin-producing organisms.
- Concurrently, to carry out definitive investigations into toxicity episodes that can be ascribed to marine toxins. It is envisaged that this would be achieved through liaison with hospitals, who would be encouraged to investigate the circumstances surrounding poisoning occurrences and report using a standardized format.
- The establishment of a web-based information exchange dealing with marine toxin occurrence throughout the Asia-Pacific Region. This would be established through the Commonwealth Science Council website. Andrea Johnson to act as co-ordinator.
- Dissemination of general information regarding toxin occurrence through the region through attendance of representatives at international conferences.
- Provision of specialist training courses and scholarships in the field of marine toxins at tertiary level.

The meeting thanks Commonwealth Science Council (CSC) for its support of the present workshop and requests that consideration be given to the ongoing funding of an annual/biennial forum on the subject, at an agreed location, throughout the Asia-Pacific Region.

In addition, it is the view of the meeting that consideration be given to the establishment of a Commonwealth Pacific Marine Toxin Research Centre and that the Centre be located in Fiji. International funding agencies (e.g. World Bank) be approached to fund the

Centre. Commonwealth Science Council to provide seed money for the steering committee which will comprise:

Professor Aalbsersberg
Regional Co-ordinator CREN
NZ Representative (Catherine Seamer proposed)
SPC Representative
Asian Representative (Professor Lam)
French territories representative

Proposed inaugural meeting in Brisbane during November 2002.



Dr. Glen Shaw (foreground) on Workshop Field Trip, with (l to r) Mr. Geoff Eaglesham (Australia), Professor Michael Moore (Australia) and Professor Paul Lam (Hong Kong).

APFAN REPORT TO FACS 40TH EXCO MEETING

The major activities of APFAN over the 2000/2001 period were reported to the 9ACC Meeting in Brisbane in July 2001.

Since the 9ACC Meeting, APFAN's major activity has been the 5th Analytical Chemistry Conference held in Indonesia. It also has a participating role in the forthcoming WHO Total Diet Study Workshop which will now be held from 4-15 February at the Queensland Health Scientific Services Campus, Brisbane Australia.

5th Analytical Chemistry Conference

The fifth Analytical Chemistry Conference was held as a stand-alone conference from 5-8 November at the Melia Purosani Hotel Yogyakarta, Indonesia. The conference was jointly organized by APFAN and the Indonesian Institute of Sciences (LIPI). Whilst the organisation of the conference, ably led by Dr Julia Kantasubrata was excellent, the unfortunate and unforeseen events of 11 September resulted in the withdrawal of most overseas registrants. Essentially people had concerns about flying and the street demonstrations in Indonesia. The perceived unrest in Indonesia as reported by journalists and via television did not go well for the conference organisation. Indeed, because of the initial warnings from the Australian Department of Foreign Affairs regarding the safety of travel in Indonesia, a number of Australians had their travel warrants withdrawn and Dr Bradbury elected not to travel to 5AC. Accordingly the number of registrations was down from the anticipated number of 150 to around 80 with most coming from within Indonesia.

Despite the lower than expected participation rate, the conference was considered a success from a scientific basis with a full program of diverse oral papers and some 30-40 poster papers. The participation and financial support from Instrument suppliers helped to keep the financial outcome to only a modest loss which was carried by LIPI. Because of the early financial commitments made by the organizing committee as well as LIPI, it was considered too difficult to defer or cancel the conference.

The social activities included both a welcome and farewell dinner and participants were treated to the welcoming of the rice goddess at the opening ceremony, traditional singers and dancers as well as some group sing-alongs at the farewell dinner.

Some of the participants also managed to find some spare time to visit the magnificent Borobudur temples for which Yogyakarta is world famous.

As Co-ordinator of APFAN, I would like to record my thanks and congratulations to Dr Julia Kantasubrata and her committee members for their very professional efforts and LIPI for its staff and financial support.

Regional Seminar on "CURRICULUM DEVELOPMENT IN CHEMISTRY AT UNDERGRADUATE LEVEL"

The Institute of Chemistry, Ceylon is organizing (with FACS collaboration) a one day regional Seminar on "CURRICULUM DEVELOPMENT IN CHEMISTRY AT UNDERGRADUATE LEVEL" at Colombo on Saturday June 22, 2002. Recent and proposed changes to the chemistry curricula at university level will be discussed. The Institute of Chemistry, Ceylon, which for the past 25 years has been conducting a tertiary level Graduateship Programme in Chemistry seeks to develop relevant awareness amongst Chemistry academics and learn from each other's experiences.

The Institute of Chemistry therefore seeks participation of relevant experts from amongst FACS member countries at this seminar. Those interested should write to

Prof. J.N.O. Fernando
FACS/ACEN Director

At ichemc@sltnet.lk with a copy to oleap@iname.com. There will be no Registration fee for this seminar.

We are also able to offer upto US \$ 250 towards international travel funds of two participants from developing countries for the Seminar on June 22nd, through the SEED money available from FACS. Such participants will also be offered two days free Board & Lodging in Colombo to enable them to attend this seminar. Those interested and who are able to make a contribution towards curriculum development are kindly requested to contact Prof. Fernando as soon as possible.

All international seminar participants are also welcome and cordially invited to attend the 31st Annual Session and 61st Anniversary Celebrations of the Institute of Chemistry, Ceylon scheduled to be held in Colombo from Wednesday June 19th to Friday June 21st on the Focal Theme "Integrated Chemical Education to Meet Emerging Challenges in the New Millennium".

Prof. J.N.O. Fernando

The first ever FACS sponsored regional PROGRAMME was held on Sat June 22nd in Colombo, Sri Lanka on the subject

Curriculum Development in Undergraduate Chemistry

There were 4 foreign participants:

Prof M Ahamed, Member, UGC, Bangladesh
Prof Farida Akhtar, Jahangirnagar University,
Dhaka, Bangladesh
Prof John Hill, La Trobe University, Australia
Dr Amara Jayaweera, University of Teeside, UK

We have promised US \$ 250 towards Prof Ahmed's travel costs & we are advancing this amount from our funds pending receipt from FACS.

We are thankful to FACS for allocating US \$ 500 SEED money for this purpose. We have got out

an attractive document with the relevant seminar data and we contemplate publishing the recommendations. There has been other organisational expenses as well. I will send the Treasurer detailed accounts for re-imbursment after tomorrow's seminar.

We are really happy about this first FACS event & look forward to your continued cooperation in the future towards ACEN activities in the region.

As already indicated, we must have a good Chemical Education Symposium in Vietnam next year .

Thanks

J N O Fernando
ACEN Project Director

The Chemical Education Journal (CEJ), Vol. 5, No. 2 (Serial No. 9), The date of issue: March 12, 2002.

A special issue edited by Dr. Masato M. Ito, CEJ Editor-in-Chief for Asian Edition in English, ex-Director of the Asian Chemical Education Network (ACEN), Soka University

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19. [Graphic Page] [Scenes from the World Chemical Congress 2001 and the 9th Asian Chemical Congress](#) by Masato M. Ito (Soka University, Japan)

Proceedings of the Symposium "Chemistry and Community" in the 9th Asian Chemical Congress, Brisbane 2001

20. [Chemistry Beyond the Classroom: Linking High School Chemistry with the Local Community](#) by Ma Assunta C. Cuyegkeng, Chona L. Maderal and Ann Joan H. Vallespin (Ateneo de Manila University, Philippines)
21. [Things You Always Wanted to Know about Chemistry](#) by Igor Novak (National University of Singapore)
22. [Enhanced Multifarious Tertiary Education Opportunities in the Chemical Sciences through Sri Lanka's \(New\) College of Chemical Sciences](#) by J. N. Oleap Fernando (The Open University of Sri Lanka)
23. [European Chemistry Thematic Network \(E.C.T.N.\) Over 100 Chemistry Departments from 30 European Countries](#) by Pascal Mimero and Anthony Smith (ESCPE Lyon, France)

Contributions on Chemical Education to the World Chemical Congress, Brisbane 2001

24. [Computer and IT Skills of Australian First-year University Undergraduate Students](#) by Kieran F. Lim*¹ and Amanda Kendle² (¹Deakin University, Australia. ²University of Western Australia, Australia)
 25. [The Role of Computers in Teaching Chemistry Problem Solving](#) by Rowan Hollingworth (University of New England, USA)
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The Chemical Education Journal (CEJ), Vol. 6, No. 2 (Serial No. 11). The date of issue: March 31, 2003.

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 10. [Chemical Education] [Shaping the Future of Chemical Education to meet the Challenges of the New Millennium](#) by John O. HILL^{*,1} and Roger T. CROSS² (1 La Trobe University, Australia, 2 University of Melbourne, Australia)
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**INTERNATIONAL WORKSHOP
ON**

“LOW-COST INSTRUMENTATION- MICROSCALE CHEMISTRY (LCI-MC)”

Dec 5-6, 2002

Hong Kong Baptist University, Hong Kong

Under the auspices of the Federation of Asian Chemical Societies (FACS), an International Workshop on “Low-Cost Instrumentation-Microscale Chemistry” will be held on Dec 5-6, 2002 at the Hong Kong Baptist University. The objectives of the event are to share the experience of (1) designing low-cost instrumentation applicable to the chemistry teaching laboratories; (2) incorporating microscale chemistry in various teaching curricula; and (3) conducting laboratory activities in environmental chemistry by LCI and MC. Keynote lectures will be delivered by renowned scientists on the topics of “Low-Cost Instrumentation” and “Microscale Chemistry”. In the Workshop, participants will use portable colorimeters fabricated in house, passive samplers and microscale laboratory kits as tools to gain hands-on experience to conduct not less than eight different experiments relating to environmental chemistry.

Date : Dec 5-6, 2002

Venue : Hong Kong Baptist University, Kowloon Tong, Hong Kong.

Capacity of the Workshop : 48 (on a first-come-first-served basis)

Registration Fee :

Early registration on or before 31 October 2002 : 1000 HKD (ca. 125 USD) ;

After 31 October 2002 : 1200 HKD (ca 150 USD)

The registration fee includes light refreshment, lunches, laboratory manuals and laboratory materials.

To promote the event to all member societies of the FACS, the registration fee of the first participant of each of the FACS member societies will be waived by the Organizer.

Accommodation Arrangement : Attendees would lodge at the NTT International House of the Hong Kong Baptist University . The projected daily rate for a share-room is 200 HKD (25 USD).

TENTATIVE PROGRAM

Schedule	4 th Dec (Wed)	5 th Dec (Thur)	6 th Dec (Fri)	7 th Dec (Sat)
9:00-9:10	—	Welcome Address	—	—
9:10-10:10	—	Keynote Lecture I	Keynote Lecture II	Social Events
10:10-10:30	—	Tea Break	Tea Break	
10:30-13:00	—	Hands-on Expts. With LCI	Hands-on Expts. With MC	
13:00 – 14:00	—	Lunch	Lunch	
14:00-17:00	Registration	Hands-on Expts. With LCI	Hands-on Expts. With MC	

Lecture I “Cost Effective Science Education” delivered by Prof. Krishna Sane

Prof. K.V. Sane was a Reader/Professor of Chemistry in Delhi University (1966-95), the Head of

Education Technology Unit and UNESCO-Nehru Professor for Science Capacity Building, J. N. Centre for Advanced Scientific Research, Bangalore (1996-98). He served as the Director for the UNESCO Low-cost Equipment Project (1980-1995) and for the FACS Sub Project Low Cost Instrumentation. He was the recipient for the Albert Silver Medal from UNESCO (1995).

Lecture II “Microscale Experiments – Provide Student Understanding and a Green Chemistry Approach” delivered by Prof. Christer Gruvberg

Christer Gruvberg is a Senior Lecturer in University of Halmstad, Sweden. He contributes greatly in microscale chemistry and has been serving as the Director of the Swedish Microscale Chemistry Center. He also served as keynote speakers in a number of International Workshops. In recognition of his contribution, he was conferred the Gunnar Starck Medal from the Swedish Chemical Society (2002).

List of Proposed Experiments

(I) Low-cost Instrumentation (LCI)

- Analysis of indoor and outdoor air pollutants-nitrogen oxides and airborne formaldehyde
- Analysis of heavy metal(s) in total suspended particulates using a homemade sampler fabricated from an aquarium pump
- Analysis of metal contents in industrial wastewater samples

(II) Microscale Chemistry (MC)

- Electrochemical remediation of the environment: (1)-microscale electrokinetic processing of soils; (2) color removal of simulated wastewater by electrocoagulation-electroflotation
- Air pollution by sulphur dioxide: (1)-uncontrolled emission of sulphur dioxide; (2)-the function of a chimney in dispersing air pollutants and (3) the elimination of emission by absorbing substance
- Design and demonstration of a fuel cell

Registration and Accommodation Reservation

Please fill out the enclosed registration and accommodation reservation form attached with the payment of registration fee and one day hotel deposit, then mail them back to:

Workshop 2002 Secretariat
INTERNATIONAL WORKSHOP ON “LCI-MC”
Department of Chemistry
Hong Kong Baptist University
Kowloon Tong
Hong Kong

Official invitation letter will be issued to individual participant once the registration is accepted by the Orgz
Further enquiry on the Workshop should be addressed to

Prof. W. H. Chan
Director, *Sub Project Low-Cost Instrumentation & Microscale Chemistry*, FACS
Head and Professor
Department of Chemistry
Hong Kong Baptist University
Tel : 852-3411 7076
Fax : 852-3411 7348
E-mail : whchan@hkbu.edu.hk

(A detailed report was presented in CD-ROM)

List of Participants

	Name	Affiliation
1	AWA, Kalika	Khwopa College, Nepal
2	CALDERON, Edna Jamorra	Mapua Institute of Technology, Philippines
3	CHAN, Chin Wing	The Open University of Hong Kong, Hong Kong
4	CHEN, Liu Ping	School of Chemistry and Chemical Engineering, Sun Yat-Sen University, China
5	CHEN, Yun Ling	Guangzhou Peizheng High School, China
6	GRUVBERG, Christer	Swedish Microscale Chemistry Center, Sweden
7	LIN, Jia Ming	Guangdong Experimental Middle School, China
8	LIU, Han Biao	School of Chemistry and Chemical Engineering, Sun Yat-Sen University, China
9	LOZANO, Luz Lopez	Mapua Institute of Technology, Philippines
10	MAO, Zong Wan	School of Chemistry and Chemical Engineering, Sun Yat-Sen University, China
11	NG, Wan Lai	, China
12	SALUDES, Jonel Penaranda	University of San Agustin, Philippines
13	SANE, Krishna Vishnu	Education Technology Unit, Khalsa College (Delhi University), India
14	SANE, Shalini	
15	SHUANG, Shao Min	Shanxi University, China
16	ZHONG, Zeng Pei	Department of Applied Chemistry, Sun Yat-Sen University, China
17	ZHOU, Ning Huai	Chinese Microscale Chemistry Center, Hangzhou, China

Low-cost Educational Publications Project

Report for 2001-2002

Krishna V. Sane
sitah@bol.net.in

The Low-cost Educational Publications Programme has made steady progress as a part of Project SITA sponsored by InfoDev/World Bank. (SITA is training socially disabled women in computer skills like DTP who are then processing useful educational manuscripts at low cost. For details, please visit www.sitaa.org



List of Low-cost educational publications

Sl. No	Editor/Author	Title
1.	<i>K.V. Sane & D.C. West</i>	Locally Produced low-cost equipment for teaching of C
2.	<i>V.M. Khanna K.V. Sane & C.K. Seth</i>	Experiments for Introductory Chemistry
3.	<i>H.A. Neidig & W.J. Stratton</i>	Modern Experiments for Introductory Chemistry
4.	<i>R.B. Bucat & P.J. Fensham</i>	Selected readings in Chemical Education Research
5.	<i>G.B. Kauffman</i>	Classics in Coordination Chemistry
6.	<i>P.J. Towse</i>	Chemistry: The key to the future
7.	<i>R. Blume & H.J. Bader</i>	Environmental Chemistry in Classroom Experiments
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11.	<i>S. Yamana</i>	Stereochemical Models From Folded Envelopes

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1	D.A.V Centenary Public School, NOIDA, UP
2	Navyug School, Gole Market, Delhi
3	Guru Tegh Bahadur Public School, Delhi
4	Guru Nanak Public School Pushpanjali, Delhi
5	SLS DAV Public School Mausum Vihar, Delhi
6	DAV Vasant Kunj, Delhi
7	DAV Rohini, Delhi
8	Bal Bharti, Brij Vihar, Delhi
9	Bharatiya Vidya Bhavan, Delhi
10	DAV Shreshta Vihar, Delhi
11	Guru Harkishan Public School Vasant Vihar, Delhi
12	Springdales School, Delhi
13	DAV Pushpanjali, Delhi
14	Upras Vidyalaya, Delhi
15	Sh. Thomas Sr. School See.8, Faridabad
16	DAV, Dayanand Vihar, Delhi

Report on “Bioactive Discovery in the New Millennium” February 5-9 2003, the Cumberland, Lorne

The conference was an international meeting which focused on cutting edge methods of discovering and developing bioactive agents. It was held at the Cumberland resort in the seaside town of Lorne, Victoria, Australia. The conference abstract book and program are available as an Adobe PDF file which accompanies this report.



The conference was a joint meeting of:

- the Biomolecular Chemistry Division of the Royal Australian Chemical Institute
- the European Chapters of the Molecular Graphics and Modelling Society (MGMS)
- the Australian Molecular Modelling Workshop (MM2003)
- the Medicinal Chemistry project of the Federation of Asian Chemical Societies

The symposium aimed to facilitate dialog on multidisciplinary approaches to the design and development, not only of pharmaceuticals but also veterinary drugs, agrochemicals and other bioactive agents. Given the involvement of several specialist modelling societies, and the overlap with the structural biology conference, there was a focus on the use of computational methods and molecular modelling to design new bioactive agents using protein structure information. The conference attracted 175 participants and 11 trade exhibitors. Approximately 50 oral papers and 50 posters were presented.

Multidisciplinary aims. Conference topics included: natural bioactive compounds; de novo design; molecular docking methods; novel organic and biomimetic synthesis, chemistry driven lead generation and optimization; quantitative structure-activity relationships (QSAR); soft computing methods and complex systems; measurement and modelling of ADME properties; informatics; quantum chemical methods and applications; high throughput structural biology, NMR studies of ligand-receptor interactions, molecular mechanics and dynamics; pharmacology; toxicology

The conference provided a very strong line up of plenary speakers.

Dr. Frank Blaney (Glaxo) **7TM Models and Drug Design - The Second Decade**

Smithkline)

Prof. Mark von Itzstein *Probing sialic acid-recognising proteins as targets for drug*
(Federation Fellow,
Australia Prize, Griffith
University)

Dr. John Tallarico *A one bead, one stock solution approach to the use of small*
(Harvard Medical School) *molecules for chemical genetic studies; building up to*
ChEMBL

Dr. Richard Cramer (CSO *Virtual screening with topomeric CoMFA.*
Tripos Associates)

Prof Paul Alewood *Controlling the cysteine frameworks of cyclic conotoxins*
(Adrien Albert lecturer,
IMB)

Prof. Martyn Ford *Selecting compounds for high throughput screening using*
(Portsmouth) *artificial neural networks*

Dr. Linda Brinen (Stanford *High-Throughput structural genomics applied to a small*
Synchrotron) *proteome*

Prof. Graham Richards *Pattern recognition and the use of grid computing*
(Oxford)

Prof. Glen Kellogg *Getting it right. Modelling of pH, solvent and “nearly”*
(Virginia Commonwealth) *everything*

Dr. Jill Gready (ANU) *Questions and opportunities in using MD simulations with*
QM/MM potentials to study enzyme reactions

Prof. Paul Wender *The chemistry-medicine continuum: New leads, new drug*
(Stanford) *delivery systems, and the virtual medicinal chemist*

Dr. Bob Clark (**Senior** *Potential pitfalls in structure-based modeling of DM-PK*
Director, **Tripos** *properties*
Associates)

Dr. David Manallack *Application of Quasi2 for Drug Discovery: An Extended*
(Denovo) *Pharmacophore Generation and Database Searching*
Program

Dr. C.M. Venkatachalam *Advances in structure-based pharmacophore design*
(Accelrys)

Prof. Peter Doherty (Nobel *Hierarchies and Specificity Characteristics of the Virus-*
Laureate, Melbourne and St *Specific CD8+ T Cell Response*
Jude’s Children’s Hospital)

Dr. Regine Bohacek *AlleGrow and FLO+: new tools for drug design*
(Boston Denovo)

Dr. Ajay Royyaru (IBM *What’s so good about real proteins? 45min*
Blue Gene Project)

Dr. Dan Stevens (SGI) *High-Performance Computing Technologies and Trends*

Dr. Tim Clark (Erlangen) *New Trends in Activity and Property Prediction*

The conference also held a “Startups and Spinoffs” workshop exploring the path between scientific discovery, invention and ultimate spinoff company. The panelists included: Prof. Paul Wender, (CellGate, Libraria); Prof. Graham Richards, (Oxford Molecular); Prof. Glen Kellogg, (EduSoft); Prof. Paul Alewood, (Auspep, Xenome); Dr. Seb Marcuccio, (Boron Molecular). The speaker presentations were followed by a panel and floor discussion and questions.

International outreach. The conference had delegates from 18 countries. There was a strong representation from the Pacific region: Australia, New Zealand, China, Japan, Korea, Turkey, Iran, and India. It was a joint meeting with two

international societies, and provided opportunities to strengthen ties with them. Discussions were held on starting a Pacific Chapter of the MGMS.

Student participation. The Project believes strongly that every effort needs to be made to help students participate in conferences. Using the conference budget, we provided four \$250 or \$500 bursaries to students and academic staff from member countries who presented talks or posters at the meeting. We also had three student prizes comprising \$200 for Aust. J. Chem. subscription for the best oral presentation, and two prizes of \$150 plus subscription for the best posters. To the conference being designed to maximize interactions between delegates, students were able to talk to and mix with some of the 'legends' of their field over meals or at social functions. This provided a very valuable inspirational component for students.

10ACC support. The conference provided an opportunity to approach potential speakers and sponsors for the Medicinal Chemistry symposium at the 10ACC in Hanoi. One company, Accelrys, has offered to support an eminent speaker and possibly provide sponsorship or a trade exhibit in Hanoi. Other selected speakers will also be approached in the following weeks at the conference to obtain a strong line up for the medicinal symposium. There were also offers of speakers from India.

David Winkler

10 February 2003

Report on Medicinal Chemistry Project Activities 2001-2003

Dr. Dave Winkler
Director, Medicinal Chemistry Project
CSIRO Molecular Science, Private Bag 10, Clayton South MDC 3169, Australia

World Chemistry Congress/AIMEC01/9ACC Brisbane, Australia, July 2001

The ChIN project participated in this international congress, holding a symposium on QSAR and informatics, and interacting with the medicinal chemistry component of the WCC, the AIMECS01 symposium. There were almost 200 participants in this biomolecular/informatics part of the WCC, and a very interesting range of papers presented. Co-directors of ChIN participated in the planning of the biomolecular sections of the 9ACC and the AIMECS symposia. At the WCC, Dr. Winkler stepped down as co-director of ChIN. He became the director of a new medicinal chemistry project instigated by Prof. Noller. His role in ChIN was filled by Prof. Yoshimasa Takahashi, from Toyohashi University.

New Medicinal Chemistry Project

The new project amalgamates the biomolecular interests of ChIN with the Natural Products project. Dr. Winkler's co-director in the new project is Dr. Sung-eun Yoo from Korea.

"Bioactive Discovery in the New Millennium", Lorne, Australia, February 2003

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Student participation. The Project believes strongly that every effort needs to be made to help students participate in these conferences. Using the conference budget, we provided five \$250 or \$500 bursaries to students and academic staff from FACS member countries who presented talks or posters at the meeting. We also had three student prizes comprising \$200 plus an Aust. J. Chem. subscription for the best oral presentation, and two prizes of \$150 plus subscription for the best posters. Due to the conference being designed to maximize interactions between delegates, students were able to talk to and mix with some of the 'legends' of their field over meals or at social functions. This provided a very valuable inspirational component for the students.

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10ACC, Hanoi, Vietnam, October 2003

The Medicinal Chemistry Project will run a symposium on one day of the 10ACC. The following eminent speakers have agreed at present invited papers (subject to local expenses being negotiated):-

1. Dr. Frank Blaney (Glaxo-Smithkline) – an authority on modelling GPCRs and CNS drugs
2. Prof. Tim Clark (University of Erlangen) - expert in quantum mechanics in drug discovery
3. Prof. Frank Burden (Monash University) - renown molecular descriptor and QSAR expert
4. Dr. Osman Guner (Accelrys) - an expert drug modeller and ADMET prediction expert.

Dr. Winkler will present papers on his work on neural networks and complexity theory in drug design.

If there are a good number of contributed papers the Project will run a full day symposium with an invited speaker at the start of each session (4 invited and 8-12 contributed papers). If there are few contributed papers the Project will run a half-day symposium with two invited speakers per session and one contributed paper in each (4 invited and 2-4 contributed papers).

ASIAN NETWORK OF RESEARCH ON ANTIDIABETIC PLANTS (ANRAP)

Activity Report for January-December 2001

ANRAP activities in 2001 were mainly focused on strengthening of regional collaboration through exchange of Fellows and organization of a Seminar in Nepal and a Workshop in Pakistan. Although the Fellowship program became quite successful, the Seminar/Workshop programs had to be postponed due to unforeseen problems in the proposed host countries.

Regional Collaboration

a. Fellowship Program

Under the ANRAP Fellowship program 6 Fellows were selected in 2001 to conduct collaborating studies in various Institutes of the region.

Ms Sadhana Amatya, who started to work in BIRDEM and DU at the end of 2000, continued her studies on the Nepalese Plants which had not been previously explored for biological activities. She worked with the BAN01 Group in DU for chemical works and then learned biological experiments with BAN01 Group in BIRDEM. She worked with the plant 'Rododendrom setosum' to screen the hypoglycemic properties.

Dr Selestin D Sokeng also continued his work started at the end of 2000 for additional five months. He worked now on the following plants from Cameroon: (1) *Anacardium occidentale*; 2) *Cassia siberiana*; 3) *Piliostigme thonningii*; 4) *Bridelia ndelensis*; 5) *Harungana madagascariensis*; 6) *Hibiscus canalunus* and; 7) *Nauclea latifolia*. He first worked at the Dept of Chemistry to freeze-dry his extracts, then he worked at the Research Division of BIRDEM for antidiabetic activities.

Mr Mohammad Mostafa, a PhD student from the Dept of Chemistry, Dhaka University (BAN01 Group) went to Karachi for 6 months from Sept 2001 to work under the supervision of Prof M Iqbal Choudhary and Prof Atta-ur-Rahman in the HEJ Research Institute of Karachi. He was working there on *Leucus indica* and *B Ndllensis*.

Mr Balmukunda Regmi, Lecturer from Department of Clinical Pharmacology, Maharajgunj Campus & TU Teaching Hospital, Institute of Medicine, Tribhuvan University Kathmandu, Nepal came to Dhaka in June 2001 for a 3-month Fellowship. He worked with some Nepalese plants (*Dimeria dianthus*; *Castanopsis indica*; *Swertia chirata*; Leaf *Rubus ellipticus*; Flower bud *Rubus ellipticus* and *Ficus bengalensis*) for screening their antidiabetic activities in different animal models.

Ms Shrabana Chakrabarti from S.N. Pradhan Centre for Neurosciences, University College of Medicine, Calcutta, India came to Dhaka in July 2001 with a 3-month Fellowship program. She worked on *Cesalpinia bonducella* shells from Andaman Islands.

Mr Nur-e-Alam, a Research Officer from BIRDEM (originally an MSc from Dept of Chemistry, DU) was awarded with the PhD degree on 6th August 2001 from the University of Karachi under the supervision of Prof M Atta-ur-Rahman and Prof M Iqbal Choudhary of HEJ Research Institute, Karachi. The title of his Thesis was 'Phytochemical Studies on Three Medicinal Plants, *Iris bungei*, *Carduus crispus* and *Withania coagulans*'. During his PhD studies he was directly supported by a 6-month Fellowship program of ANRAP (during August 1999 to Feb 2000). More importantly, he is a product of the regional collaboration philosophy initiated through ANRAP. Based on his thesis works he has published 7 papers in reputed international journals.

b. Exchange visits

Prof M Mosihuzzaman visited Calcutta during December to discuss collaborative research programs and planning of the 4th International Seminar on "Plant Materials as a Source of Antidiabetic Agents".

Attendance in Seminars/Conferences

1. Prof M Mosihuzzaman visited Brisbane, Australia on 01-07 July 2001, to attend the General

Assembly of the Federation of Asian Chemical Societies (FACS) and to present papers in the World Chemistry Congress and the 9th Asian Chemical Congress.

2. Prof M Mosihuzzaman attended the Indian Science Congress in New Delhi, India on 1-6 January 2001.

IV. Organization of scientific meetings

- A two day Seminar on 'Antidiabetic Plant Materials' was planned in Kathmandu, Nepal during the 4th quarter of 2001. The unfortunate events in Nepal led to cancellation of the program.
- A Workshop on 'Phytochemistry of Natural Products' was planned in Karachi, Pakistan during October 2001. Again, the program had to be cancelled due to the unfortunate events in September 2001 and later.
- A two day Seminar on 'Antidiabetic Plant Materials: Separation techniques and biological testing' was held in BCSIR, Chittagong, Bangladesh, on 10-11 Feb 2002 (Announcement enclosed).
- The ANRAP Board Meeting in 2002 was held on 11 Feb in Chittagong.

ASIAN NETWORK OF RESEARCH ON ANTIDIABETIC PLANTS (ANRAP)
Plan of Activities for 2002

A. Overall Plan

Item Approx cost (BDT)

a. Fellowship programs

1. One Fellow from Pakistan to Dhaka (3 months)	140250.00
2. One Fellow from Bangladesh to Pakistan (6 months)	160000.00
3. One Fellow from India to Bangladesh (3 months)	102000.00
4. One Fellow from Nepal to Bangladesh (3 months)	110750.00

Subtotal for a 513000.00

b. Exchange visits of Senior Scientists 57000.00

c. Organization of Seminars/Workshops

1. One Day ANRAP Seminar	150000.00
2. One week Workshop	80000.00
3. 4th International Seminar	295654.00

Subtotal for c 525654.00

d. Attendance to Seminars & Conferences

1. EASD 2002	160000.00
2. Attendance to other International, regional meetings	68000.00

Subtotal for d 228000.00

e. Literatures, Database & Web Page

1. Collection of Literatures	22000.00
2. Partial cost of Chemical/Biological Abstracts on CD Rom	22000.00
3. Home page (Design, Domain registration, hosting for one year)	70000.00

Subtotal for e 114000.00

f. Publication of Newsletter (2 issues) 30000.00

g. Other costs 329100.00

Total 1796754.00

B. Expected Financial support from FACS (US \$1000.00) 57500.00

This amount has been budgeted for meeting part of the expenditures of the following events

1. One Day ANRAP Seminar (planned in Nov 2002 in Dhaka)	30000.00
2. Partial support to One Week Workshop (planned in September 2002 in Karachi)	27500.00