



INDIAN
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ERGONOMICS

ISE Newsletter

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INDIAN SOCIETY OF ERGONOMICS (ISE)

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Editorial Board Members

**Dr. Asis Goswami, Sri N. Sadhu, Dr. A. K. Ganguli,
Sri K. N. Sen and Sri D. Ghosh Thakur**

CONTENTS:

- * **Welcome new members**
- * **National Institute of Design**
- * **Announcement – HWWE 2003**
- * **IEA Conference Report**
- * **Forthcoming Conferences**
- * **Acronyms**

Forthcoming National events

- ☞ **ERGONOMICS IN DESIGN**
AICTE Short-term Training Programme
6th – 19th October 2003
TKM College of Engineering,
Kollam, Kerala

Forthcoming International events

- ☞ 1ST International “Health and Safety in Transport” to be held in Paris, France
email: laa@biomedicale.univ-paris5.fr
- ☞ **7th World Conference on Injury Prevention and Safety Promotion** Vienna, Austria,
June 6-9, 2004, www.safety2004.info
- ☞ **7th International Scientific Conference on Work with Computing Systems, WWCS 2004** (formerly WWDU) Kuching, Sarawak, Malaysia, from 29 June to 2 July 2004

More conference details inside

You may send your communications to:

Dr. A. Goswami
Block no. 350/2,
Type – D, Sector 13,
Gandhinagar 382016,
Gujarat.
Email: krisasis@ad.growthnet.net

Dr. A. K. Ganguli
Manager
Occupational Health Service
Bharat Heavy Electricals Ltd.
Tiruchirappalli – 620 014 (TN)
Email: akg@bheltry.co.in

Mr. K. N. Sen (Jt. Sec.)
C/o Larsen & Toubro Limited
ECC Construction Group,
Park Plaza,
71, Park Street,
Calcutta – 700 016
Email: isoe_hq@yahoo.com
knsen@Intecc.com

OR
Sri Debdoot Ghosh Thakur
Email: debthakur@hotmail.com

* From the Editor

Keeping the promise to focus in every issue on one Indian institute, that carry out ergonomics teaching / research / consultancy, this issue starts with National Institute of Design, Ahmedabad. We are thankful for the co-operation received from our Secretary, Prof. G.G. Ray and Dr. Subir Das. We expect that all other institutes will start sending details about their facilities and activities soon (with photographs). The article may be of around 350 words.

* Welcome new members!

ISE Newsletter welcomes the following new Life Members:



- 1) **Mr. Indranil Manna**, F/2, Aurobindanagar, Midnapore-721101, West Bengal, India
- 2) **Dr. Rajvir Yadav**, Associate Professor, College of Agricultural Engg. & Technology, Gujarat Agricultural University, JUNAGADH 362 001

* Academic & Research Institutions



The Institute

National Institute of Design (NID), Ahmedabad was set up by Government of India in 1961 as an autonomous national institution for design education, research, service and training in Industrial Design and Visual Communication to provide a multi-disciplinary approach to design and to satisfy the complex problems of countries changing environment. This multi-disciplinary



design institute has been the recipient of several national and international awards and has been a catalyst for the design consciousness and movement in the country in the past several years. NID has also been recognised as a Scientific and Industrial Research Organisation by the Department of Scientific and Industrial Research, Government of India. The institute runs several academic programmes and Integrated design services. These academic programmes incorporate

ergonomics application through its Ergonomics laboratory.

Ergonomics Laboratory

Prof. Kumar Vyas started Ergonomics curriculum at NID during the year 1966 when Brigadier Pennathur was invited for a one-week course on ergonomics for postgraduate product design students. Slowly, there was an increasing realization of the necessity of ergonomic investigation in the different areas of design and this realization has given rise to the idea of starting an Ergonomics Laboratory at the institute. Prof. S. Balaram started consulting experts of the

National Institute of Occupational Health (NIOH), Ahmedabad for setting up the initial laboratory equipment and for conducting the ergonomics courses. NID invited Prof. John Wood from U. K. under the UNDP programme to visit the institute. During the year 1981 – '82, NID started its Ergonomics Laboratory under the coordination of Prof. S. Sethuraman. Since then, ergonomics has been an integral part of design education, research and client service at the Institute. Later on the Ergonomics activity at NID was coordinated by Prof. Vinay Kumar, Dr. D. Chakrabarti, Dr. S. Ghosal and at present by Dr. Subir Das, Associate Senior Ergonomist under the faculty of Inter Disciplinary Design Studies. The institute has also started activities in the area of Cognitive Ergonomics under the coordination of Dr. Baral.

In 1984, NID organized an ergonomics workshop under the leadership of Prof. R. N. Sen. Leading ergonomists of India took part in this workshop. This workshop gave fresh impetus for establishing a society for ergonomics in India. The logo of Indian Society of Ergonomics was designed in NID, by Mr. Anil Sinha.

Education

The laboratory has made significant contributions to ensure that human compatibility factors in the Indian context, features in the design of products and systems developed at NID. At present ergonomics inputs are given at both the graduate and post-graduate levels in different disciplines like Product Design, Furniture & Interior Design, Ceramic & Glass Design, Toy Design & Development, Graphic Design, Apparel Design, Lifestyle Accessory Design and User Interface Design. Different modules in ergonomics are Introductory Ergonomics (for all the disciplines mentioned above), Cognitive Ergonomics, Space and Interior Design, Ergonomics of Seating, Design for Special Needs, Design for Functional Work Wear and Display-Control.

Research and Client Projects

As a part of its research activity, six years of intensive fieldwork by a group of experts headed by Dr. Debkumar Chakrabarti, have provided basic Indian Anthropometric data as a ready reference for multipurpose design use fundamental to Indian industry. Research studies were also carried out jointly with the Self Employment Women Association (SEWA) on the female workers manufacturing garment, bidi and agarbatti. "Ergonomics of the Escort Tractor" was one of the pioneer studies carried out at that time.

Indian industries are becoming more conscious regarding the application of ergonomics in designing product as well as system. In most of the design projects Indian Railways and DRDO are giving more stress on ergonomics inputs. NID has successfully completed "Ergonomic Design Development of the Driver's Cab of the WDM2C Locomotive" for DLW, Varanasi and "Redesign and Development of Railway Track Maintenance Tools on Ergonomics Principles" under Dr. Das for CAMTECH, Gwalior. Some of the ongoing DRDO projects are "Interior Design of MCP Shelter" for DRDL, Hyderabad and "Interior Design of Troops Compartment" for VRDE, Ahmednagar. The lab has also completed a project for UNIDO entitled "Ergonomic Study of the Hand Block Printers at Jaipur" involving design and development of a triangular and rotating printing table fitted with a colour tray and also four detachable modular block handles.





At present NID is conducting an ergonomics study “Design Intervention for the Coal Miners” for the Singareni Collieries Company Limited, Andhra Pradesh, for redesigning coal tub, drill machine, shovel, coal basket, toolkits and safety helmets for the underground coalminers to improve their work performance, occupational safety, health and productivity.

For further details, please contact:

Dr. Subir Das, Associate Senior Ergonomist
In-Charge, Ergonomics Laboratory
Faculty of Inter Disciplinary Design Studies (IDDS)
National Institute of Design
Paldi, Ahmedabad 380 007
Gujarat, India

e-mail- subirdas38@yahoo.com

subirdas@nid.edu

website: <http://nid.edu/>

* **Announcement – HWWE’2003 Rescheduled**

Due to unavoidable circumstances the HWWE-2003, National Conference of the Indian Society of Ergonomics, to be held on 11th and 12th December 2003 at NITIE, has been rescheduled. The new date will be announced as soon as it is finalized.

* **IEA 2003 – a report**

The XVth Triennial Congress of the International Ergonomics Association held from the 24th to the 29th of August in Seoul, Korea. There were about 1,200 delegates from all over the globe.



Dr.Min K.Chung

The conference was organised by the Ergonomics Society of Korea, and aided by the Japanese Ergonomics Society, which broke with tradition by holding their 7th annual joint conference in Korea in conjunction with the congress.

From India, we had eight delegates out of which seven presented nine papers. Altogether there were eight Plenary Sessions covering sixteen Keynote addresses, and seventeen Technical Sessions covering 19 different facets of

ergonomics, representing participants from more than 50 different countries. Parallel to the technical sessions there were poster sessions and also an exhibition during the four days of the congress. Thanks to IEA for partly sponsoring all the Indian delegates.



Dr. W. Karwowski

The opening ceremony on August 25 started with demonstration of Korean traditional painting. This was followed by the inaugural address by Dr. M. K.Chung (Congress Chair), Mr. L. M. Bak (Mayor of Seoul), Dr. W. Karwowski (IEA Presidential Address), and Dr. M. S. Lee (Keynote). The IEA awards presentation followed after this.

Prof. R. N. Sen (Ex-Secretary and founder of ISE), Dr. K. Kogi (Member, ISE) and Dr. S. Kumar (Member, ISE) received the IEA Fellowship awards. Our heartfelt congratulations to them.



Prof. R.N.Sen (L)



Dr. S. Kumar (L)



Dr. K. Kogi



Prof. G. G. Ray



Dr. P. K. Nag

The Technical Sessions started from August 25 afternoon. Indian delegates presented their papers in the respective sessions.



Dr. Rina Maiti



Dr. Sudesh Gandhi



Dr. Suman Singh



Dr. Ruplekha Bora



Mr.A.K.Tripathi

* **Forthcoming conferences:**

1st International Meeting of Science and Technology of Design, Senses and Sensibility – Linking Tradition to Innovation Through Design, is going to be held on 25-26 September 2003 at the IADE – Visual Arts, Design and Marketing Institute in Lisbon, Portugal.

The organizing committee is calling for papers in theoretical, development and practical implementation in all areas involving design. Please see the information in the official site: <http://www.iade.pt/sst/>. All papers will be included in conference proceedings – made available to delegates attending the conference.

7th World Conference on Injury Prevention and Safety Promotion

Where: Vienna, Austria, Europe

When: June 6-9, 2004

This Conference is intended for professionals and organisations involved in all aspects of the prevention, control and research related to violence, suicide, unintentional injury and safety, security. A special invitation is extended to participants from developing countries.

Conference sessions:

The conference will include plenary sessions on topics of concern to all professions (e.g., the influence of the media on the safety of populations; the role of policies and laws) and state-of-the-art presentations focusing on their respective fields. Additionally, parallel sessions which will be organized around the following conference themes: Violence Prevention, Suicide Prevention, Road Safety, Work Safety and Health, Child and Elder Safety, Safety in the Home and Institutions, Sports, Leisure Time Safety, Product Safety, Trauma Management, Disaster and Terrorism Preparedness, Civil Protection Safe Communities

A call for abstracts and fees is provided on the website: <http://www.safety2004.info/>
Conference Team Vienna: Kuratorium für Schutz und Sicherheit/Institut Sicher Leben
Ölzeltgasse 3 / Postfach 190, A-1031 Vienna, Austria, Europe
Tel: +43 1 715 66 44 0 /Fax: +43 1 715 66 44 30
Email: safety2004@sicherleben.at

The 7th International Scientific Conference on Work with Computing Systems, WWCS 2004 (formerly known as Work With Display Units, WWDU) will be held in Kuching, Sarawak, Malaysia, from 29 June to 2 July 2004. The theme of the conference is "Bridging Diversity at Work". Kuching (= cat) on the island of Borneo is an excellent escapade for your 2004 vacation.

Halimahtun Mohd Khalid, Ph.D., Professor and Director, Institute of Design and Ergonomics Application, Universiti Malaysia Sarawak, 94300 Kota Samarahan, Sarawak, MALAYSIA
Tel +6082 671790, Fax +6082 672094, email mkmahtun@idea.unimas.my

*** Ergonomic Acronyms:**

Acronyms are intended to be effective, productive ways of conveying greater meanings through minimal effort – truly ergonomic concepts, if only the abridged words came naturally to everyone. But for the people who need a subtle reminder of what all of those initials mean, the following list of ergonomics-related abbreviations and acronyms may be helpful:

- **AEP** – Associate Ergonomics Professional
- **AHFP** – Associate Human Factors Professional
- **CEA** – Certified Ergonomics Associate
- **CHFP** – Certified Human Factors Professional
- **CPE** – Certified Professional Ergonomist
- **CTD** – Cumulative Trauma Disorder
- **CTS** – Carpal Tunnel Syndrome
- **HAV** – Hand-Arm Vibration
- **MSD** – Musculoskeletal Disorders
- **NIOSH** – National Institute of Occupational Safety and Health
- **OSHA** – Occupational Safety and Health Administration
- **RMI** – Repetitive Motion Injury
- **RSI** – Repetitive Strain Injury or Repetitive Stress Injury
- **UECTD** – Upper Extremity Cumulative Trauma Disorders
- **WBV** – Whole Body Vibration
- **WMSD, WRMSD** – Work Related Musculoskeletal Disorders
- **WRULD** – Work Related Upper Limb Disorder