

ANNUAL REPORT
(1st April 2007-31st March2008)

Department Name: School of Telemedicine & Biomedical Informatics

Telemedicine Programme Committee

Prof. A.K. Mahapatra, Director	Chairman
Prof. R.K. Sharma, Dean	Member
Prof. Sita Naik	Member
Prof. Ramnath Misra	Member
Prof. R.K. Gupta	Member
Prof. S.K.Mishra	Member Secretary & Nodal Officer

Project Staff

Name	Designation
Mrs Lily Kapoor	Web Administrator
Mr Repu Daman Chand	Web Developer
Vijay Pal Singh	Web Designer
Indra Pratap Singh	Technical Project Assistant
Swarn Prava Misra	Project Assistant
Rashmi Jain	Project Assistant
Mr Sandeep Singh	Project Assistant
Arvind Kumar	Project Assistant
Ashok Kashyap	Tele-communication Assistant
Arun Kumar	Audio-Visual Assistant
Ashish Verma	Video-Conferencing Assistant
Dhirendra Tripathi	Project Assistant
Manokant Shukla	Project Attendant
Kamla Pokharel	Project Attendant

Departmental Activities

Services

New Telemedicine Network Nodes:

1. RIMS, Imphal
2. CSSMU, Lucknow
3. Oregon Health and Science University, Portland, USA

A total of 376 telemedicine sessions were conducted through out the year out of which the following activities were carried out. Prior to each telemedicine session our technical team conducted trial runs with our network partners.

a. Tele-consultation :

We have been providing tele-consultation using telemedicine technology to SCB medical College, Cuttack and MKCG Medical College, Berhampur in Orissa, two Base Hospitals at Almora and Srinagar in Uttaranchal and District Hospital, Raibareli in UP under Orissa, Uttaranchal and Raibareli Telemedicine Projects respectively . This year we provided tele-consultation to 68 patients in Orissa, 30 patients in

Uttaranchal and 8 patients in Raibareli Telemedicine Projects. The departments which participated were Radiology, Cardiology, Neurosurgery, Endocrine Surgery, Nuclear Medicine, Rheumatology, Neurology, Surgical Gastroenterology and Radiotherapy.

b. Tele-follow up :

Departments of Rheumatology, Endocrine Surgery and Nuclear Medicine have been providing tele-follow up services to the patients of Orissa through telemedicine technology. This year 38 new and 57 old patients of Orissa benefited from this service.

Teaching and Training

a. Tele-education activities:

- Tele-education is a type of distance education in which learners and the teachers are not at the same site. We provide distance education to the postgraduate students of two medical colleges in Orissa (n=44) through VSAT, the doctors of Base Hospitals in Almora and Srinagar (n=24) via ISDN and District Hospital, Raibareli (n=53) through fiber optic cable network. A total of **121 sessions** were held in this year.
- To share the knowledge and experience, the doctors of the departments of Endocrinology (n=6), Endocrine Surgery (n=8), Gastroenterology(n=6) and Surgical Gastroenterology (n=3) were connected to AIMS, Kochi and departments of Endocrine Surgery (n=3) and Rheumatology (n=13) with CMC, Vellore. Department of Urology (n=6) networked with AIIMS Delhi and PGIMER, Chandigarh through point to multipoint connectivity. Departments of Endocrine Surgery (n=3) and Surgical Gastroenterology (n=2) also got connected to Ranguel University, France through ISDN. This year Department of Surgical Gastroenterology (n=3) networked with Oregon Health and Science University, Portland USA for the purpose of research collaboration in the field of Gall Bladder cancer. A total of **53 sessions** were held for such activities. Some of these activities were also shared by our new network partner RIMS, Imphal

c. Tele-CPC sessions :

This year a total of 31 sessions of Clinico-Pathology Conference were received from PGIMER, Chandigarh which we further transmitted to SCB Medical College, Cuttack and MKCG Medical College, Berhampur.

d. Tele-CGR sessions :

The weekly CGR program conducted by various departments of SGPGIMS is being transmitted to Pandit Bhagwat Dayal Sharma Post Graduate Institute of Medical Sciences, Rohtak . We have transmitted **36 CGR** sessions this year.

f. Tele-radiotherapy Network: This year Department of Radiotherapy of SGPGIMS directly linked to the Department of Radiotherapy of Chatarpati Sahuji Maharaj Medical University, Lucknow under UP Tele-radiotherapy Project sponsored by Department of Science & Technology, Govt. of India. A total of 56 tele-education sessions were carried out.

e. Tele-CMEs :

Telemedicine technology was also used to transmit the proceedings of conferences, workshops and continuing medical education program organized by various departments of SGPGIMS, to other medical colleges and institutions in India and to receive lectures from abroad.

SI No	Name of Tele-CME Program	Year	Organizing Departments	Networked node
1.	Tele-Conference of the Mid-Term conference of Indian Society of Gastroenterology	1 st -2 nd September 2007	Dept. of Gastroenterology	AIMS, Kochi
2.	8 th Postgraduate Course in Endocrine Surgery & 8 th Annual Conference of Indian Association of Endocrine Surgeons (IAES)	22 nd -25 th Nov 07	Dept. of Endocrine Surgery	SCB Medical College, Cuttack; MKCG Medical College, Berhampur; AIMS, Kochi & CMC Vellore
3.	39 th Annual Conference of Society of Nuclear Medicine, India & CME International Symposium on Molecular Imaging	6 th -9 th Dec 07	Dept. of Nuclear Medicine	Lecture received from UPENN, Philadelphia
4.	Webcasting lecture on Tetrapeptide medicine used in Osteoporosis	4 th Dec 2007	Rheumatology, Neurosurgery, Endocrinology	Received lecture from Indiana, USA
5.	CME on Issue & Challenges in Disinfection & Sterilisation practices in Hospital	16 th February 2008	Hospital Administration	Received from AIIMS, Delhi
6.	Tele-conference with USA, Canada	27 th February 2008	Dept. of Radiology & Dept. of Cardiology	Audio conferencing with USA
7.	XIV th Surgical Gastroenterology (SGE) Week	28 th -30 th March 08	Dept. of Surgical Gastroenterology	AIMS, Kochi

f. Creation and Maintenance of web portal:

School of Telemedicine and Biomedical Informatics is in the process of creating web portal on telemedicine in India (www.telemedindia.org) an effort to make it a single source of information related to telemedicine in India. In addition to this we also developed websites of various departments of SPGIMS viz dept. of Gastroenterology (www.gastroindia.in), Immunology (www.cytometry2007.com), Pathology (www.isrtp.com) and constantly maintained our telemedicine program website (www.sgpgi-telemedicine.org) and provide assistance in maintaining SGPGIMS website (www.sgpgi.ac.in).

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g. Other services:

School of Telemedicine and Biomedical Informatics digitized the radiological images, book pictures and photograph of various departments of SGPGIMS for their records and academic purpose. A total of 2087 radiological images, 363 book pictures, 325 photographs and 224 other images were scanned. It also provided facilities for video recording of 138 patients' consent statement for renal transplantation for the Dept. of Nephrology and operational procedures of Department of Endocrine Surgery and Surgical Gastroenterology.

Our technical staff in addition to maintain our own hardware assisted various other departments (Clinical Immunology, Neurology, Radiotherapy, Endosurgery, CVTS, Pathology) in maintaining their hard wares.

The auditorium of School of Telemedicine and Biomedical Informatics was used by the institute and various departments for conducting other activities. The technical staff of the school provide technical support in these activities.

Honours and Awards

Faculty Name – Prof S K Mishra

1. Member, National Task Force on Telemedicine, Ministry of Health & FW, Govt. of India: 2005 - continuing
2. Member of the Committee on IT infrastructure for the new six upcoming AIIMS like institutes constituted by Ministry of Health, Govt. of India in the year 2006
3. WHO Consultant for e-Health in Maldives (May, 2007)
4. Invited Speaker as e-health expert in the Expert Group Meeting on “Regional trends in health services and their impacts on health system performance in the Asia and Pacific region” organized by UNESCAP at Bangkok on 9-11, September 2007
5. WHO Consultant for e-Health in DPR Korea (November, 2007)

Research Projects

Completed Projects:

Faculty Name – Prof S K Mishra

1. Name of the Project : Uttaranchal Telemedicine Network Project (pilot phase 2004-07 completed in March, the same is extended for one more year)
Funding : Uttaranchal State Government
2. Raibareli Telemedicine Network Project
Funding : Gas Authority India Limited under CSR (Pilot phase of one year completed)

Ongoing Projects

Faculty Name- Prof S K Mishra

1. Orissa Telemedicine Network Project
Funding : Indian Space Research Organisation
2. Uttaranchal Telemedicine Network Project (extension phase of pilot)
Funding : Uttaranchal State Government

3. UP Tele-radiotherapy Project
Funding : Department of Science Technology, Govt. of India
4. National Resource Center for Telemedicine & Biomedical Informatics
Funding : Department of Information Technology, Ministry of Communication & IT, Govt. of India
5. Development and Maintenance of e - Seminar Web Portal on “National Knowledge base on Telemedicine & e Health
Funding: Sony, Japan

Faculty Name – Prof. Sita Naik

- 1 Establishment of Bio-informatics infrastructure facility (BIF) for the promotion of biology teaching through bioinformatics (BTBI) under BTIS net program
Funding: Department of Biotechnology, Govt. of India
- 1 Biomedical Informatics Center of ICMR
Funding: Indian Council of Medical Research

Publications

Book Chapter

1. **Mishra SK**, Mishra A, Pradeep PV, Telementoring in Endocrine Surgery, Chapter 11, Telesurgery Book, Edited by Kumar S/ Marescaux J Springer-Verlag GmbH, Heidelberg/Germany. ISBN no. 978-3-540-72998-3
2. Kapoor Lily, Chand Repu Daman, Singh Indra Pratap, Mishra S K, Telemedicine in Developing World: Experience at SGPGIMS, Lucknow -a tertiary care academic medical center, *ICFAI University Press*

Original Articles

1. Kapoor Lily, Basnet Rajesh, Chand Repu Daman, Singh Sandeep, Pradhan Varad, Joshi Pankaj, Semwal Maneesh, Durgapal, Negi KS, Shah Ragesh, **Mishra SK**, “Analysis of Telemedicine Project deployed in Sub-Himalayan Region in the Indian state of Uttaranchal. Journal of eHealth Technology and Application. 2007 June;5(2):169-73
2. Mahapatra AK, **Mishra SK**, “Bridging the Knowledge and Skill Gap in Healthcare: SGPGIMS, Lucknow, India Initiatives” Journal of eHealth Technology and Application. 2007 June;5(2):67-69
3. Pradeep PV, Mishra Anjali, Kapoor Lily, Daman Repu, Mishra SK, “Application of Tele-health technology in Endocrine Surgery: Indian Experience”, Proceeding : International Association of Science and Technology for Development (IASTED), ISBN:987-0-88986-667-6, P13-16, 31st May-1st June, 2007, Montreal, Quebec, Canada
4. Kapoor Lily, Basnet Rajesh, Chand Repu Daman, Singh Sandeep, Mishra SK, “An Audit of Problems in Implementation of Telemedicine Programme”, Proceeding: 9th International Conference on e-Health Networking, Application & Services, Healthcom2007, ISBN: 1-4244-0942-X © 2007 IEEE, P87-89, 19th-22nd June 2007, Taipei, Taiwan

5. Mahapatra AK, Mishra S K, “National Resource Center for Telemedicine and Biomedical Informatics”: Proceeding: 9th International Conference on e-Health Networking, Application & Services, Healthcom2007, ISBN: 1-4244-0942-X © 2007 IEEE, 19th-22nd June 2007, Taipei, Taiwan
6. Mishra SK, Gupta Deepak, Kaur Jagdish, “Telemedicine in India : Initiatives and Vision”: Proceeding: 9th International Conference on e-Health Networking, Application & Services, Healthcom2007, ISBN: 1-4244-0942-X © 2007 IEEE, P81-83, 19th-22nd June 2007, Taipei, Taiwan
7. Archna Gupta, “Tele-radiology - Building bridges of knowledge” : Proceeding:9th International Conference on e-Health Networking, Application & Services, Healthcom2007, ISBN: 1-4244-0942-X © 2007 IEEE, P260, 19th-22nd June 2007, Taipei, Taiwan
8. Pradeep PV, Mishra A, Mohanty BN, Mohapatra KC, Agarwal G, Mishra SK, “Reinforcement of Endocrine Surgery Training: Impact of Telemedicine Technology in a Developing Country Context”, World J Surg , DOI 10.1007/s00268-007-9108-1

Prof. S.K.Mishra’s Conference Presentation

International

1. Short term analysis of impact of telemedicine technology enabled follow-up of surgical patients, **S K Mishra**; 5th APT, 6-9th February 2007, Chiangmai, Thailand.
2. Application of Tele-health technology in Endocrine Surgery: Indian Experience, PV Pradeep, Anjali Mishra, Lily Kapoor, Repu Daman, S K Mishra; 3rd International Association of Science and Technology for Development (IASTED), International Conference on Telehealth, 31st May-1st June, Montreal, Quebec, Canada
3. Analysis of Telemedicine Project deployed in Sub-Himalayan Region in the Indian state of Uttaranchal, Lily Kapoor, Rajesh Basnet, Repu Daman Chand, Sandeep Singh, Varad Pradhan, Pankaj Joshi, Maneesh Semwal, Durgapal, K S Negi, Ragesh Shah, **S K Mishra**; 21st Pacific Science Congress (PSC/APT) Workshop, 2-7-13, Okinawa, 12-18, June 2007, Okinawa, JAPAN
4. Bridging the Knowledge and Skill Gap in Healthcare: SGPGIMS, Lucknow, India Initiatives, A K Mahapatra, **S K Mishra**; ; 21st Pacific Science Congress (PSC/APT) Workshop, 2-7-13, Okinawa, 12-18, June 2007, Okinawa, JAPAN
5. Current Telemedicine Infrastructure, Network, Applications in India, S K Mishra; ITU Rapporteur’s Meeting, 17-18 June 2007, Okinawa, Japan
6. An Audit of Problems in Implementation of Telemedicine Programme, Lily Kapoor, Rajesh Basnet, Repu Daman Chand, Sandeep Singh, S K Mishra; 9th International Conference on e-Health Networking, Application & Services, Healthcom2007, 19th-22nd June 2007, Taipei, Taiwan
7. National Resource Center for Telemedicine and Biomedical Informatics, A K Mahapatra, S K. Mishra; 9th International Conference on e-Health Networking, Application & Services, Healthcom2007, 19th-22nd June 2007, Taipei, Taiwan

8. Telemedicine in India : Initiatives and vision, **S K Mishra**, Deepak Gupta, Jagdish Kaur; 9th International Conference on e-Health Networking, Application & Services, Healthcom2007, 19th-22nd June 2007, Taipai, Taiwan
9. E health Initiatives in India, **S K Mishra**, United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), 9-11th October 2007, Bangkok, Thailand

National

1. Practical Guidelines on Design Implementation of Telemedicine Network, S K Mishra, Telemedicine Workshop, C-DAC, Mohali, 29th September 2007
2. Telemedicine in India Current Scenario, S K Mishra, Telemedicine Workshop 2007, 14th October 2007, Ahmedabad
3. Fiber Optic Based Telemedicine Network – A Study of Technical and Clinical Outcome, Lily Kapoor, Indra Pratap Singh, Dharendra Tripathi, Repu Daman Chand, Altaf Hussain , S K Mishra, 3rd National Conference of Telemedicine Society of India, 12th ISfTeH International Conference, 2nd –3rd November 2007, Chennai
4. Telemedicine Project in Maldives: An evaluation study, S K Mishra, Aminath Shenalin, Hassan Mohamed, JorgeLuna, 3rd National Conference of Telemedicine Society of India, 12th ISfTeH International Conference, 2nd – 3rd November 2007, Chennai
5. Organization and Management of Telemedicine Program, 3rd National Conference of Telemedicine Society of India, 12th ISfTeH International Conference, 2nd –3rd November 2007
6. SGPGIMS Telemedicine Program-Road Ahead, A K Mahapatra, S K Mishra, 3rd National Conference of Telemedicine Society of India, 12th ISfTeH International Conference, 2nd–3rd November 2007, Chennai
8. Comparative technical evaluation of Telemedical video-conference using various Communication media: Indra Pratap Singh, Repu Daman Chand, Sandeep Singh, S K Mishra, 3rd National Conference of Telemedicine Society of India, 12th ISfTeH International Conference, 2nd–3rd November 2007, Chennai
9. Tele Education: Impact of Tele-education and Tele-Consultations in clinical Immunology: Vikash agrawal, Ramnath Misra, Amita aggrawal, Able Lawrence, Bidyut Das, Patel D, Lily Kapoor, Mishra S.K.; 3rd National Conference of Telemedicine Society of India, 12th ISfTeH International Conference, 2nd –3rd November 2007, Chennai
10. Teleradiology: Opportunities, Problems, Implementation: Archna Gupta; 3rd National Conference of Telemedicine Society of India, 12th ISfTeH International Conference, 2nd –3rd November 2007, Chennai
11. An Alternative way of Follow up of Thyroid cancer patient through Telemedicine: Prasanta P.K., Kumar V., Mohanty B.N., Das B.K., Gambhir S., Shukla A.K., Mishra S.K.; 3rd National Conference of Telemedicine Society of India, 12th ISfTeH International Conference, 2nd –3rd November 2007, Chennai

Future Plans

1. Starting Structured training programme in the School of Telemedicine Biomedical Informatics.
2. Starting various resource laboratories for Research and Development programme in the National Resource Center for Telemedicine & Biomedical Informatics.
3. Industry collaboration.