



activity report 2008-09

ARAVIND EYE CARE SYSTEM



*A mighty kinship is this daring's cause.  
All we attempt in this imperfect world,  
Looks forward or looks back beyond Time's gloss  
To its pure idea and firm inviolate type  
In an absolute creation's flawless skill.  
To seize the absolute in shapes that pass,  
To fix the eternal's touch in time-made things,  
This is the law of all perfection here.  
A fragment here is caught of heaven's design;  
Else could we never hope for greater life  
And ecstasy and glory could not be.*

*'Savitri' by Sri Aurobindo  
Book II The Book of the Traveller of the Worlds  
Canto II The Kingdom of Subtle Matter*



HARVARD DIVINITY

I remember my professor of anatomy in medical school.  
He used to push all his students to do better and better.  
From him I heard for the first time the word Yoga for perfection.  
Whether it was sharpening a scalpel, studying or dissection he said  
that one should always aspire to “do Yoga”.  
These things helped me, these things became a part of me.  
Discipline became a part of me, hard work became a part of me and  
the aspiration for perfection too became a part of my nature.

*Dr. Venkataswamy*



# Activity Report 2008 - 2009

(From April 1, 2008 to March 31, 2009)

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# Aravind Eye Care System

## Mission:

*To eliminate needless blindness . . .*

*. . . by providing compassionate and high quality eye care for all*

**ARAVIND EYE HOSPITALS**

*. . . through teaching, training, capacity building, advocacy, research and publications*

**LIONS ARAVIND INSTITUTE OF COMMUNITY OPHTHALMOLOGY  
(LAICO)**

*. . . by providing evidence through research and evolving methods to translate existing evidence and knowledge into effective action*

**DR. G. VENKATASWAMY EYE RESEARCH INSTITUTE,  
ARAVIND MEDICAL RESEARCH FOUNDATION**

*. . . by making high quality ophthalmic products affordable and accessible worldwide*

**AUROLAB**

*. . . by reducing corneal blindness through eye banking activities, training, research and public awareness programmes*

**ARAVIND EYE BANKS**

*. . . by working with socially committed partners in underserved areas of India and other developing countries*

**ARAVIND MANAGED EYE CARE SERVICES (AMECS)**



*Dr.P. Namperumalsamy receiving the Gates 2008 Award from Mr.Bill Gates Sr.*

*Mr.R.D. Thulasiraj, Ms. Suzanne Gilbert (Seva Foundation), Mr. Craig Barrett (Intel Corporation), and Mr. David Stileman (Standard Chartered Bank) with Mr. Bill Clinton at the CGI Annual Meeting*



## Highlights 2008-09

### The Model Captures Global Attention: Awards and Accolades

2008-09 was a year of unprecedented global recognition for the Aravind model and a time of intensive foundation building for future scalability. The recognition came by way of the prestigious Bill & Melinda Gates Award for Global Health, and marked the first time ever this award has been presented to an organisation not working in the realm of communicable disease or population control. Another significant acknowledgment came from the Clinton Global Initiative when former US President Bill Clinton personally introduced Aravind's work in the field of Diabetic Retinopathy at the Clinton Global Initiative Annual Meeting held in September 2008. Not long after, the popular magazine "Fast Company" listed Aravind amongst the top 50 World's most innovative companies. These recognitions apart, Aravind has been cited as a successful model addressing a social need by many authors in their books, leading business and popular magazines with many of them carrying exclusive articles on Aravind. It is evident that these marks of recognition are granted to Aravind, not merely as an eye care institute, but as the originator of an influential model, one that delivers a crucial health service to both rich and poor in a sustainable manner, and that has impacted hundreds of eye care programmes worldwide.

### A Hands-on Approach to Partnership: The Creation of AMECS

Closer to home a validation of the model came through the inauguration of two hospitals. One was the Grameen GC eye hospital at Bogra, Bangladesh, designed, staffed and equipped with Aravind's involvement which was inaugurated on 12th May 2008. While Aravind will continue to provide technical and management support, Grameen will run the hospital under the leadership of Prof. Mohammed Yunus. The Indira Gandhi Eye Hospital at Lucknow, inaugurated on the 1st of May,

was established in a similar manner under the Rajiv Gandhi Charitable Trust. However, this hospital is managed by Aravind Eye Care System, and it handled over 60,000 outpatient visits in its first year of operation and performed over 10,000 surgeries. It is the fourth in a growing network of eye hospitals managed by Aravind.

The managed hospital approach becoming a key strategy for providing eye care in underserved areas, called for the creation of a separate organisation to drive the process. The new division dubbed the 'Aravind Managed Eye Care Services' (AMECS) was launched on 6th November. This division is headed by Dr. S Aravind who also holds responsibility as the administrator of Aravind Eye Hospital, Madurai. AMECS during the year spearheaded several activities, including team building and leadership development initiatives to strengthen the network of managed eye hospitals. Project teams from the University of Michigan business school engaged in the development of strategic road maps both for AMECS and its partners.

*Dr.G. Natchiar, Dr. Usha Kim, Ms. Suzanne Gilbert with Prof. Mohamed Yunus at the inauguration ceremony of Grameen GC Eye Hospital, Bogra*







*Dr. M. Srinivasan at the inauguration of Usilampatty Vision Centre*

### Eye Care Close to Home : Camps, Vision Centres and Community Eye Clinics

Due to unfortunate infections across eye camps run by other organisations, outreach activities were temporarily suspended, resulting in a significant drop in surgeries on patients admitted through outreach. These numbers were made up; thanks to intense work at the base hospitals and referrals from the thirty Aravind Vision Centres and five Community Eye Clinics. During the year, across all Aravind Eye Hospitals, including the managed eye hospitals, a total of 2,748,216 outpatient visits were handled and 309,015 surgical and laser procedures were performed.

### Aravind's Construction Projects: Patient Centered

While Aravind's external growth sharply accelerated during the year, it was matched stride for stride, by an intensive internal capacity building process across all dimensions – buildings, equipment and personnel. In Madurai, a pressing need for more space to cater to Aravind's growing patient care services, led to the construction of a new building, which when completed will house all the inpatient services, including the surgical

*The new guest house at Aravind - Tirunelveli*



*The emerging new building for IP and surgical theatres at Aravind-Madurai, adjacent to the newly inaugurated Dr. G. Venkataswamy Eye Research Institute*

theatres, thus freeing up the entire existing hospital for outpatient and administrative services. Aravind Eye Hospital-Madurai opened a City Centre on 13th March for the convenience of the public particularly employees working in commercial and industrial establishments and school students. Situated in the heart of the city, it is well equipped with latest equipment and instruments for comprehensive eye examination and basic out-patient procedures. Patients who need further care or surgery are referred to the main hospital.

Against the backdrop of the increasing number of students coming from all over the world, and the skyrocketing hotel rates, the construction of a students' hostel equipped with all modern amenities is underway to provide high quality affordable housing. Aravind-Tirunelveli inaugurated a new guest house, while at Aravind-Coimbatore, the construction of additional staff quarters is in progress. During this year the community eye centre at Tuticorin moved from a rented space to an owned building. This is the first step towards an eventual upgrade into a surgical facility that will give Tuticorin residents the option of undergoing cataract surgery and other procedures in their hometown.

*Aravind-Madurai's City Centre situated at the Palace Road*





*Dr. P. Namperumalsamy, Dr. Natchiar and Dr. VR. Muthukkaruppan with Dr. APJ. Abdul Kalam at the inauguration of Dr. G. Venkataswamy Eye Research Institute*

### **Bridging an Important Gap: The Research Initiative at Aravind**

Research has been ongoing at Aravind since inception. It is now being given heightened focus with the recent inauguration of a spectacular research facility- Dr. G. Venkataswamy Eye Research Institute. The building which was opened by our Honourable former President Dr. APJ Abdul Kalam, will bring under its umbrella, all research activities - basic, clinical, epidemiological and operations research studies. In addition the new facility will offer workshops, courses and related services to promote cutting edge research.

It's a known fact that developing countries which account for over 90% of the blindness worldwide, contribute to less than 5% of the total research publications. To address this unfortunate situation, Aravind is now making research publications a priority. During this year Aravind's staff published over 60 articles in peer reviewed journals, making it the largest institutional contributor. During the year a total of 164 Aravind staff members participated in various national and international conferences, presenting a total of over 200 papers.

### **Bringing Technology to Eye Care: Aravind's Efforts Inside and Out**

Aravind continues to upgrade its technology both in patient care and training. On the patient care front, state-of-the-art equipment has been incorporated in many areas including current generation Phaco machines and excimer lasers. To refine and accelerate the learning of advanced surgeries like vitrectomy, retinal detachment surgeries and Phacoemulsification, state-of-the art computer aided surgical simulation facilities have been established at Aravind-Coimbatore and Aravind-Madurai. These surgical simulators, considered to be the first of their kind in Asia, use microscopes and special surgical instruments



*Dr. P. Namperumalsamy presenting a memento to Mr. Raj Arjunan, at the launch of the DVD on vitreo retinal surgical techniques*

and offer the learner a real-life feel and experience. For self learning and teaching purposes, an interactive DVD, with animations on Vitreo Retinal surgical techniques, was released on 14th June. This DVD was developed by a team of Aravind's retina surgeons headed by Dr. Kim, Chief of Vitreo Retina, Aravind-Madurai. and created by Mr. Raj Arjunan, a skilled volunteer animator. The content and quality of this DVD, has captured the attention of global academic institutions including the International Council of Ophthalmology and the American Academy of Ophthalmology.

Over the years Aravind has built competence in the application of Information Technology across all aspects of eye care services. A few years ago it was listed amongst the "Top 20 Wired Organisations" in India. Applications have been developed in areas as wide ranging as patient care management, Tele-medicine, Benchmarking, Human Resource Management, Training administration and Project Monitoring. This year at the request of World Health Organization, Mr. Ganesh Babu, Aravind's Senior Manager, IT, was involved in the development of data management software for a WHO study on Presbyopia conducted in seven different countries. Following

*Dr. Leon, Mr. Ganesh Babu and Dr. Pierre Huguet at WHO, Geneva*





Mr. R.D. Thulasiraj, Dr. S. Ramakrishnan, Ms. Suzanne Gilbert, Dr. R.D. Ravindran and Mr. Martin Bortal in Paraguay

customary practice, these IT products are made available to other eye care programmes worldwide. Recognising the potential of IT in eye care and Aravind's own potential to contribute to it, a separate division is currently in the making. Once the physical facilities are in place 'Auro-iTech' will come into formal existence to provide IT services and support to eye care programmes worldwide. Like other Aravind initiatives, this will also pioneer providing low cost affordable IT solutions that enhance the delivery of eye care services.

### Exploring New Territory: Aurolab's Latest Advances

Aurolab made a complete transition to its stunning new facility during the year and quickly recovered any ground lost during the transition process. With the additional space and efficient infrastructure, they are poised for significant growth and diversification. A project that had been in the making for a long while became a reality with the launch of the low cost Frequency doubled YAG Laser for the treatment of Diabetic Retinopathy at the All India Ophthalmological Society's annual meeting at Jaipur. With this launch now under its belt, Aurolab has diversified production into equipment manufacturing as well. Another important milestone was crossed with the registration of its products in several new countries including China.

'Sangamam' at Aravind-Madurai



### An Experiment in Service: Laico Pilots a New Form of Partnership

LAICO in addition to ongoing training and capacity building programmes assisted in the development of the national eye care plan for Eritrea and followed up on the national eye care plan for Rwanda which was developed in the previous year. LAICO gave several presentations at the prestigious General Assembly of International Agency for Prevention of Blindness (IAPB) held at Buenos Aires in August 2008, and is now engaged in an interesting experiment to see how close partnership between an eye hospital and a community based organisation can strengthen each other's mission. LAICO is providing technical support to two organisations in Asunción, Paraguay - Fundación Visión, an eye hospital and Fundación Paraguay, a community based micro-credit and developmental organisation. This initiative is supported by a grant from the Lemellson Foundation.

### Celebration and Remembrance: Staff Activities and Events

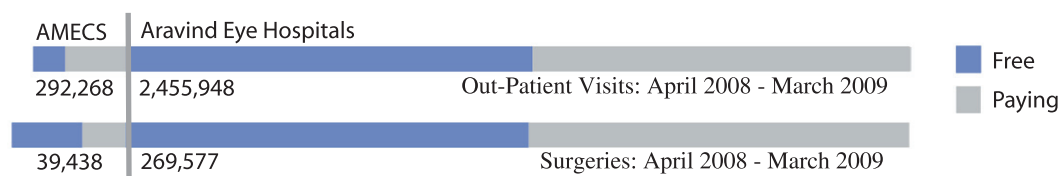
Aravind has always maintained that its core asset is its staff. Several activities were held during the year in recognition of this and to help those who work here, reconnect to the founding mission. Mission Day celebrations were held on the 7th of July as a way of remembering Dr. V on the anniversary of his passing away, and rededicating staff effort towards carrying forward his vision. 'Sangamam', a special gathering of Aravind employees was held on 24th July to celebrate the two prestigious International awards – Champalimaud Vision Award and the Bill & Melinda Gates Award for Global Health. Aravind also has an ongoing employee welfare programme titled 'Aurowel'. Under this programme all employees receive a systematic health check up and several free sessions on healthy living. In addition, several other retreats geared towards supporting the well-being of staff members were organised by Aravind's Human Resources Department.

## Performance: April 2008 - March 2009

### Aravind Eye Hospitals (includes Aravind Managed Eye Care Services - AMECS)\*

	Madurai	Theni	Tirunelveli	Coimbatore	Pondicherry	AMECS*	Total
<b>OUT PATIENTS</b>							
Paying (new + review)	437,906	68,564	201,082	286,624	187,961	188,892	1,371,029
Free (new + review)	137,486	19,803	63,218	97,357	55,778	-	373,642
<b>OUTREACH</b>							
Comprehensive Free Eye Camps	100,767	24,049	45,362	73,927	55,818	83,686	383,609
Diabetic Retinopathy Camps	9,857	4,449	13,456	21,824	2,833	-	52,419
Refraction Camps	8,242	5,805	7,530	14,686	8,351	12,280	56,894
School Eye Screening - Base Hospitals	68,160	15,831	38,182	33,600	46,956	7,410	210,139
School Eye Screening - Vision Centres	11,275	50,962	2,650	2,350	-	-	67,237
Paediatric Eye Screening	1,311	-	334	260	498	-	2,403
Mobile Van DR Screening Camps	-	355	1,985	5,057	-	-	7,397
Vision Centres	36,637	31,105	26,192	13,436	15,828	-	123,198
Community Eye Clinics	35,165	13,770	25,934	25,380	-	-	100,249
<b>TOTAL OUTPATIENT VISITS</b>	<b>846,806</b>	<b>234,693</b>	<b>425,925</b>	<b>574,501</b>	<b>374,023</b>	<b>292,268</b>	<b>2,748,216</b>
<b>SURGERIES</b>							
Paying	57,484	4,541	19,556	33,112	16,602	14,911	146,206
Free (direct + camp)	54,152	4,772	20,450	39,663	19,245	24,527	162,809
<b>TOTAL SURGERIES</b>	<b>111,636</b>	<b>9,313</b>	<b>40,006</b>	<b>72,775</b>	<b>35,847</b>	<b>39,438</b>	<b>309,015</b>
<b>SURGERIES IN DETAIL</b>							
Cataract surgeries	71,011	7,227	26,917	45,091	23,538	30,888	204,672
Trab & combined procedures	2,445	91	1,023	1,861	631	1,048	7,099
Retina & vitreous surgery	2,883	2	532	3,647	727	602	8,393
Squint correction	816	-	230	513	95	39	1,693
Keratoplasty	868	-	109	374	133	97	1,581
Pterygium	1,628	109	191	812	414	411	3,565
Ocular injuries	382	11	72	385	302	12	1,164
Lacrimal surgeries	2,699	126	771	861	550	211	5,218
Other orbit and oculoplasty surgeries	2,966	208	729	1,504	675	254	6,336
<b>OTHER SURGERIES</b>	<b>2,708</b>	<b>99</b>	<b>1,074</b>	<b>1,808</b>	<b>1,854</b>	<b>334</b>	<b>7,877</b>
Laser procedures	21,508	1,440	7,800	15,217	6,451	5,542	57,958
LASIK refractive surgery	1,722	-	558	702	477	-	3,459
<b>TOTAL SURGERIES</b>	<b>111,636</b>	<b>9,313</b>	<b>40,006</b>	<b>72,775</b>	<b>35,847</b>	<b>39,438</b>	<b>309,015</b>

\* AMECS : Priyamvada Birla Aravind Eye Hospital, Kolkata, West Bengal; Indira Gandhi Eye Hospital and Research Centre, Munshiganj, Uttar Pradesh; Sudarshan Netralaya, Amerli, Gujarat; Indira Gandhi Eye Hospital and Research Centre, Quaiserbagh, Lucknow, Uttar Pradesh





*Post-operative eye examination of a group of camp patients at Aravind-Pondicherry*

*Inside the van fitted with V-SAT: Mr. Sathish explaining to a group of students how tele-ophthalmology is used to remotely detect diabetic retinopathy at the 'Kannae Nalama' exhibition at Aravind-Theni*



# Community Outreach

Right from its inception over 30 years ago, the Community Outreach Division of Aravind Eye Hospitals has been rendering an excellent service in providing quality eye care to the unreached and economically backward rural people.

The year ending March 2009 witnessed a growth in the performance and extension of the activities of the division as eight new Vision Centres were opened in Nellikuppam, Manamadurai, Kadamalaigundu, Thevaram, Valliyoor, Batlagundu, Anaimalai and Usilampatti, bringing the total to thirty. These IT linked vision centres provide permanent primary eye care facility to the rural folk. Apart from these, a total of five Community Eye Clinics cater to the eye care needs of the semi-urban and rural population.

## Events and Programmes at Vision Centres and Community Eye Clinics

### Anniversary celebrations of vision centres

As a meaningful way of celebrating the first anniversary, the vision centres at Thiruppuvanam, Alanganallur, Gandhigram, Natham, Marakkanam, Surandai and Kinathukadavu conducted Diabetic Retinopathy camps, glaucoma camps and general awareness camps. A study showed that the reach of the eye camps was only 7%

*Eye Care Awareness Exhibition during the first Anniversary celebration of Kinathukadavu Vision Centre*



of those in need of eye care. Whereas, within a year of operation, the Vision Centres were able to reach 54%.

### Training Programme to Self Help Groups and Village Volunteers

To involve community volunteers and increase the community participation in the vision centres a one day training programme was organised for self help groups working around Madurai vision centres. A total of 38 volunteers from Indian Christian Rural Development, Usilampatti, Kurunchi Vataru Kalanjiyam, Alanganallur, and Inba Seva Sangam, Kadavur attended the training programme. Objective of this programme is to make these volunteers to screen and identify people with defective vision in the community and refer them to vision centres.

### Orientation Programme on Low Vision Rehabilitation

An orientation programme on low vision rehabilitation was held for vision centre technicians and CBR field workers at Aravind-Madurai on April 6. The trainees from all the centres participated in the programme through video-conferencing. They discussed various topics like CBR project, low vision assessment and low vision aids, case finding, documentation and interventions.

*Vision Rehabilitation Programme held for CBR field workers*



# Outreach Performance

	Madurai	Theni	Tirunelveli	Coimbatore	Pondicherry	AMECS*	Total
<b>1. Regular Comprehensive Eye Camps</b>							
Camps	335	88	264	342	248	441	1,718
Patients examined	100,767	24,049	45,362	73,927	55,818	83,686	383,609
Glasses advised	18,393	6,436	9,116	12,976	12,327	10,769	70,017
Glasses ordered	15,702	5,877	7,316	10,555	9,662	7,437	56,549
On the spot deliveries	12,264	4,454	5,308	8,852	6,470	333	37,681
Percentage	78%	76%	73%	84%	67%	4%	67%
<b>2. Diabetic Retinopathy Screening Camps</b>							
Camps	40	20	78	135	13	-	286
Patients screened	9,857	4,449	13,456	21,824	2,833	-	52,419
Diabetics identified	4,617	1,234	3,946	4,787	902	-	15,486
DR Patients Identified	659	213	590	1,010	140	-	2,612
<b>3. Refractive Error Camps</b>							
Camps	30	25	38	58	30	88	269
Patients examined	8,242	5,805	7,530	14,686	8,351	12,280	56,894
Glasses prescribed	3,113	1,552	2,204	3,339	3,162	3,179	16,549
Glasses ordered	2,745	1,362	1,894	3,003	2,735	2,528	14,267
On the spot deliveries	1,780	956	1,379	2,565	1,785	887	9,352
Percentage	65%	70%	73%	85%	65%	35%	66%
<b>4. Eye Screening of School Children - Base Hospital</b>							
Schools	58	10	29	27	36	20	180
Teachers trained	397	60	232	54	135	61	939
Children screened	68,160	15,831	38,182	33,600	46,956	7,410	210,139
Children with eye defects	4,771	1,329	2,440	5,142	3,325	1,094	18,101
<b>5. Eye Screening of School Children - Vision Centre</b>							
Schools	13	160	2	3	-	-	178
Teachers trained	49	0	8	6	-	-	63
Children screened	11,275	50,962	2,650	2,350	-	-	67,237
Children with eye defects	603	3,034	148	147	-	-	3,932
<b>6. Paediatric Camps</b>							
Camps	4	0	3	3	2	-	12
Children examined	1,311	0	334	260	498	-	2,403
Refractive error	179	0	35	27	47	-	288
Glasses prescribed	130	0	26	5	41	-	202
Glasses ordered	117	0	20	0	33	-	170
Other defects identified	70	0	21	24	51	-	166
<b>7. Mobile Van DR Screening Camps</b>							
Camps	0	1	12	29	-	-	42
Patients screened	0	355	1985	5057	-	-	7,397
Diabetics identified	0	108	837	1332	-	-	2,277
DR patients identified	0	6	198	302	-	-	506
<b>8. Vision Centres</b>							
Centres	8	8	5	4	5	-	30
New + Review	36,637	31,105	26,192	13,436	15,828	-	123,198
Outpatients / day / vision centre	17	16	19	13	10	-	15
<b>9. Community Eye Clinics</b>							
Centres	2	1	1	1	-	-	5
New + Review	35,165	13,770	25,934	25,380	-	-	100,249
Outpatients / day / community eye clinics	56	44	83	81	-	-	64

### III Batch of Community based Rehabilitation Programme

The III Batch of CBR module-2 training was held from July 2-24. A team of 20 eye health field workers of Aravind Vision Centres from Madurai, Theni, Tirunelveli, Pondicherry and Coimbatore attended the training programme. Eye health field workers were given training in the following aspects: Orientation and Mobility, Daily Living Skills, Educational Rehabilitation, Vocational Rehabilitation and Social Rehabilitation for the Blind and Low vision. It is proposed to rehabilitate 400 blind persons and 2000 persons with low vision through this project in the vision centre service area by May 2009.

### Other Outreach Programmes

A large and comprehensive exhibition 'Kannae Nalama' was held at Aravind-Theni from November 14-16 to create awareness among public about various eye diseases and treatment. Mr. Selvakumar, Chief Educational Officer inaugurated the exhibition, which was viewed by over 3,100 persons including the public and students.

At Aravind-Tirunelveli an 'Awareness programme on Geriatric Eye Diseases for Senior Citizens' was held on July 25. A total of 150 senior citizens attended the programme.

### Sponsors Day-2008

Sponsors Day was organised at Aravind-Madurai, Tirunelveli and Pondicherry. The function is organised every year to honour the camp sponsors whose support is the main source of encouragement in conducting eye camps. The main objective of this occasion is to recognise the sponsors' invaluable contribution to our community eye care service programmes. The opportunity is also utilised to get the sponsor's feedback on how to conduct the camps more effectively.

*A view of the camp sponsors participating at the Sponsors' day programme at Aravind-Tirunelveli*



### DIABETIC RETINOPATHY INITIATIVES

According to WHO, 41.9 million people are affected by diabetes in India. This figure is estimated to rise to 79.4 million by 2030, the largest diabetic population of any nation in the world. Various studies conducted in India show that 15 – 20% of this population develops DR. The working model that Aravind developed to screen diabetes patients for diabetic retinopathy has proved effective in addressing this massive problem. As a Centre of Excellence in Diabetic Retinopathy under TIFAC – CORE, Aravind is becoming a world leader in patient care, research and training related to Diabetic Retinopathy.

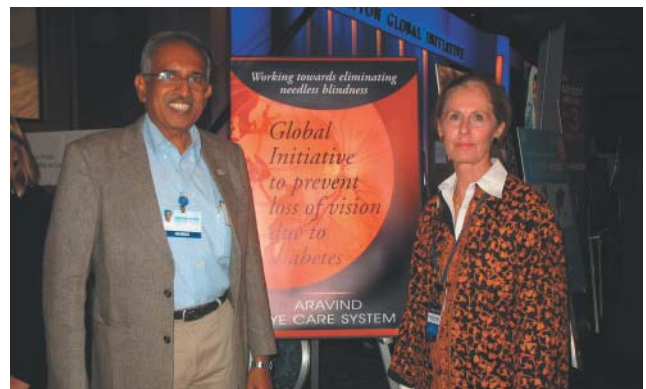
### The Clinton Global Initiative (CGI)

Aravind Eye Care System has joined forces with several international institutions including the World Health Organization to fight needless blindness around the globe. Now Aravind has extended a hand in collaboration with the Clinton Foundation to globally address the rising problem of Diabetic Retinopathy.

At the fourth annual meeting of the Clinton Global Initiative, an internationally represented humanitarian body of Clinton Foundation, former US President Bill Clinton personally introduced Aravind's work in the field of Diabetic Retinopathy. Mr. R.D. Thulasiraj, Executive Director, LAICO represented Aravind at this meeting. Aravind's declaration of Commitment to Action under the Clinton Global Initiative, reads, 'We commit to creating access to comprehensive management of Diabetic Retinopathy services through affordable technological solutions for the underserved population'.

This declaration dated September 26, 2008 was signed by Mr. Bill Clinton, the former President of the United States of America on behalf of the William J. Clinton Foundation and Dr. P. Namperumalsamy, Chairman, AECS, Mr. R.D. Thulasiraj and Dr.R.Kim, Chief, Retina - Vitreous, on behalf of the Aravind Eye Care System.

*Mr. R.D. Thulasiraj and Dr. Christine Melton at the CGI meeting*





## Emerging Diabetic Retinopathy Screening Model

The core objective of this approach is to have a robust IT enabled service delivery model consisting of ophthalmic diagnostic equipment, a trained technician, Web browser based software, ADRES 3.0 (Aravind Diabetic Retinopathy Evaluation Software) and internet connectivity in a diabetes centre and a tertiary centre all working together to effectively manage diabetic retinopathy in developing countries. The advantage of this approach is the opportunity it extends for effective screening by collaborating with other specialists, like diabetologists. Thus, patients are in a better position to receive expert consultation without having to make visits to a tertiary eye hospital.

**Performance:** This model has been extended to two more diabetes centres (Coimbatore in Tamil Nadu and Kolkata in West Bengal) in the year 2008. The table below shows the outcome of the services.

Diabetes Centres	Total Eyes	DR Eyes	% DR
M.V. Diabetes Centre, Madurai, Tamil Nadu (Report from 20.1.07 to 28.2.09)	4,376	924	21%
R.R.V. Diabetic and research centre, Coimbatore, Tamil Nadu (Report from 1.7.08 to 28.02.09)	1,512	321	21%
Neotia Elbit Take care, Kolkata, West Bengal (Report from 8.6.08 to 28.02.09)	102	26	26%
Total	5,990	1,271	21%

## TIFAC-CORE Phase II

The TIFAC-CORE Phase II commenced in July 2007 with the objectives of (1) organising new academic programmes on Molecular Genetic methods in Diabetic Retinopathy, (2) application of confocal microscopy and flow cytometry in eye diseases and (3) research and development on Functional Genomics and Proteomics of Diabetic Retinopathy in collaboration with Joslin Diabetes Centre, Boston, USA. The Phase II activities were all under way in 2008.

## Training Programmes

Training programme was conducted for TIFAC-CORE coordinators on Management of Industry –Academia linkages for Academicians/Scientists organised by Administrative College of India, Bella Vista, Hyderabad and TIFAC, Mission REACH, Department of Science and Technology, New Delhi from November 17 to 21.



Green laser - Aurolase 532 being used to treat DR in the Vitro Retina Service at Aravind-Madurai

## Training Course on “Flow Cytometry and its applications in Ophthalmic Research”

A training course on “Flow Cytometry and its Applications in Ophthalmic Research” was held from February 17-21 at Aravind Medical Research Foundation (AMRF) organised by Dr.G. Venkataswamy Eye Research Institute, Aravind Medical Research Foundation and TIFAC-CORE. PG students, Ph.D scholars and faculty of various colleges and universities participated in the training.

## Product Development

Green laser - Aurolase 532 was launched at the All India Ophthalmology Society (AIOS) meeting, held at Jaipur from February, 5-7. Aurolab’s laser team plans to visit hospitals across India provide laser demo, to help build awareness among doctors of its uses.

## Orientation Programme for Lions Supported Eye Hospitals at Kolkata

The Lions Club International has been supporting Lions Eye Hospitals for promoting diabetic retinopathy projects in West Bengal. As part of this project, in January 2009, the Aravind team was invited to deliver a lecture on

*Dr. Naresh Babu and Mr. Vijayakumar at the Lions Supported Eye Hospital in Kolkata*





*Dr. Naresh Babu and Mr. Vijayakumar with Peking University Eye Centre team*



*At a Diabetic Retinopathy Screening camp*

Diabetic Retinopathy and share Aravind's experiences in the field with the staff of the Lions Eye Hospitals at Kolkata. Around 37 participants attended this workshop, including representatives from the Lions hospitals, Ophthalmologists, Administrators/ District Governors, the International Governor, the Past International Governor, the SightFirst Project Chairman, and the Technical Advisor.

### **Exchange Visit by Peking University Eye Centre (PUEC)**

Eli Lilly Diabetic Eye Disease Centre (ELDEDC), Beijing, China

The Peking University Eli Lilly Diabetic Eye Disease Centre was established on March 20, 2007 at PUEC, Beijing, China to lessen the incidence of avoidable visual impairment and blindness due to diabetes in collaboration with International Council of Ophthalmology (ICO). Recognising the challenge of diabetic eye disease, a multi-year consultation with Aravind and Lions Aravind Institute of Community Ophthalmology (LAICO) was

planned. As part of the consultancy process, a team from Peking University Eye Centre visited Aravind and LAICO as an exchange visit to understand diabetic retinopathy services, facilities, academic programme, community outreach screening and awareness programme.

### **Aravind World Diabetes Foundation DR project**

Aravind Eye Hospital, Coimbatore and Tirunelveli

A total of 26 awareness seminars were conducted across all Aravind Eye Hospitals in the year ending March 2009. 2269 participants including Medical Officers from various NGOs and Primary Health Centres participated in these seminars. 7 exhibitions were also conducted for the general public.

### **World Diabetes Day Observation**

World Diabetes Day was observed on 14th November at Aravind Eye Hospitals to create awareness among the public about diabetes and its complications. The theme of this year's World Diabetes Day campaign is "Diabetes in Children and Adolescents."

*Dr. R. Ramakrishnan with Mr. K. Prakash, District Collector, Tirunelveli at the Awareness Rally on World Diabetes day at Aravind - Tirunelveli*





Sr. Alikutty Vargeese at the CME on Sterilisation and Aseptic Techniques in Eye Surgery

Dr. Marlyn T. Miller, USA, lighting the lamp to inaugurate the Paediatric Ophthalmology Silver Jubilee CME



# Education and Training

Training eye care professionals worldwide has always been a core mandate of AECS. Apart from standard teaching and upgrading activities, customised and need based short term skill development programmes have ensured that a large number of eye care professionals including doctors, technicians, eye care leaders, managers, programme managers and community workers are benefitted every year. As these training and education programmes have won world wide acclaim, there is a constant request from eye care organisations around the world seeking training for their personnel.

## Internal Capacity Building

Dr. Mohideen Abdul Kader, Glaucoma Consultant, Aravind-Tirunelveli underwent training at Moorefields Eye Hospital, London under Dr. Maria Papadopoulou, MD from October 13-17 and had training in Tube-shunt surgeries. He along with Dr. George V Puthuran, Glaucoma Consultant, Aravind-Madurai participated in the III- International innovative Glaucoma surgery meeting at Recklinghausen, Germany, from October 24-26 and also underwent training for non-penetrating filtering surgery (NPFS)-Canaloplasty at Recklinghausen Eye Centre from October 20-29 under Dr. Gabor B. Scharioth.

*Dr. George, Dr. Mohideen with Dr. Gabor at Recklinghausen, Germany*



## MAJOR CONTINUING MEDICAL EDUCATION PROGRAMMES ORGANISED AT ARAVIND

### Paediatric Eye Diseases and Radiology in Paediatrics

Aravind-Tirunelveli, April 20

A total of 45 paediatricians from Tirunelveli, Tuticorin and Kanyakumari Districts participated in the CME. Apart from the Aravind faculty, Dr. Gopinath, Radiologist from Aarthi CT Scan, presented radiology in paediatrics and Dr. S. Raju, Paediatrician from Krishna Nursing Home spoke on the paediatric eye diseases.

### GLUCONS-2008

Aravind-Coimbatore, June 28-29

A total of 180 delegates participated in the CME. The guest faculty were Dr. V. Velayutham, Director RIO, Govt. Ophthalmic Hospital, Chennai, Dr. Tanuj Dada, Associate Professor, AIIMS, New Delhi, Dr. Devindar Sood from Glaucoma Imaging Center, New Delhi, Dr. Ronnie George from Sankara Netralaya and Dr. Murali Ariga from Sundaram Medical Foundation, Chennai. The meeting focused on the topics Basic Course, Imaging and Newer Diagnostic Tools in Glaucoma, Glaucoma Clinical Course, Medical management and Glaucoma practice. On the

*Dr. Sathyan guiding a participant during a Wet Lab session at GLUCONS-2008*



## CANDIDATES TRAINED 2008-2009

Name of the Course	Duration	Total
<b>POST GRADUATE COURSES</b>		
Diploma in Ophthalmology (D.O)	2 years	8
Master of Surgery in Ophthalmology (M.S)	3 years	6
Diplomate of the National Board (Dip.N.B)	3 years	12
Post DO DNB	2 years	7
<b>LONG TERM - OPHTHALMOLOGY FELLOWSHIP</b>		
Retina - Vitreous	2 years	10
Anterior Segment / Intraocular Lens Microsurgery	2 years	17
Glaucoma	2 years	7
Cornea	18 months	12
Paediatric Ophthalmology and Strabismus	18 months	9
Orbit and Oculoplasty	18 months	4
Uvea	18 months	1
General Ophthalmology	18 months	1
Comprehensive General Ophthalmology	2 years	1
<b>SHORT TERM - FELLOWSHIP</b> (Only for International Candidates)		
Orbit and Oculoplasty	6 months	1
Cornea	6 months	1
<b>SHORT TERM - CLINICAL COURSES</b>		
IOL Microsurgery	1 month	48
Small Incision Cataract Surgery	1 month	55
Phacoemulsification	1 month	57
Diagnosis and Management of Glaucoma	2 months	48
Lasers in Diabetic Retinopathy Management	2 months	44
Low Vision	1 month	2
Orientation to Paediatric Ocular Anaesthesia for Anaesthetist	1 month	2
<b>LONG TERM - PARAMEDICAL COURSES</b>		
Diploma in Ophthalmic Techniques	2 years	25
<b>SHORT TERM - PARAMEDICAL COURSES</b>		
Optical Dispensing	3 months	11
OT Techniques	2 months	2
Refraction Techniques	2 months	2
Training for Orthoptist	6 months	4
Training for Paediatric Nurses	3 months	10
Training for Paediatric Counsellors	2 months	3
Training for Ocularist	3 weeks	2
Fundus Angiography and Ultrasonography	2 months	11
<b>MANAGEMENT COURSES</b>		
Management Training for Eye Care Programme Managers	2 weeks	23
Management Priorities in Eye Care Delivery	1 week	26
Management Training and Systems Development for Hospital Administrators or Managers	6 weeks	16
Project Management Training for Eye Care	4 weeks	9
Instruments Maintenance for Technicians	6 weeks	24
Instruments Maintenance for Ophthalmologist	5 days	2
Community Outreach and Social Marketing of Eye Care Services	4 weeks	19
<b>TOTAL</b>		<b>542</b>

surgical front, optimising trabeculectomy outcome, managing cataract and glaucoma, rescuing a failing filter, Ahamed Glaucoma Valve, viscocanalostomy, canaloplasty, intent, express shunt were discussed. Wet lab session was also held during the programme.

### Essential Trends in Orbit, Oculoplasty and Oncology

Aravind-Tirunelveli, August 30-31

The main purpose of this CME was to get the participants familiarised with the latest developments in the field.

Experts such as Radiologists, Plastic Surgeons, Neuro Surgeons, and ENT Specialists were invited as Faculty to discuss the recent advances and developments in detail.

### Paediatric Ophthalmology and Strabismus

Aravind-Coimbatore, September 21

This CME was organised for practising paediatricians and paediatric residents. The Programme was specifically designed to refresh knowledge in common paediatric ophthalmic problems.

### I - Neurons 2008

Aravind-Coimbatore, October 11-12

The conference was attended by 174 delegates. The guest faculty were Dr. Joseph Rizzo, Consultant Neurologist and Ophthalmologist from Mass Eye and Ear Infirmary, Boston, Dr.V.Jayakumar, Consultant Neurologist from JK Institute of Neurology, Madurai, Dr.Navin Jayakumar, Director, Dharshan Eye Clinic, Chennai, Dr. Mathew Cherian, Interventional Radiologist, Dr. Vijayan, Consultant Neurologist, Dr.Rupa, Consultant Radiologist from KMCH, Coimbatore and Dr. Gopi Krishnan, Professor of Neurosurgery, PSG Hospital, Coimbatore. The programme covered various topics such as Recurrent Optic Neuritis, Multifarious Etiology of Disc Edema, Presentation and Management of Intracranial Vascular Lesions, Evaluation of Transient visual loss and Diplopia, Localising value of field defects, Nystagmus, Supranuclear gaze palsies,

*Dr. Kalpana at the CME on "Paediatric Ophthalmology & Strabismus" at Aravind-Coimbatore*





Dr. R.D. Ravindran at "I-Neurons" at Aravind-Coimbatore

Investigative procedures in Neuro-ophthalmology and Interventional Radiological procedures in Neuro-ophthalmology.

### Update in Ophthalmology

October 13-17 at LAICO

Aravind-Tirunelveli, March 22

This provided practical and applicable information through didactic lectures and interactive case presentations, videos and discussions. It helped the participants to augment their basic theoretical knowledge, enhance their practical examination, and improve their understanding of various investigative and diagnostic tools.

### Cornea CME

Aravind-Tirunelveli, November 22-23

A total of 99 delegates attended the CME Programme. The main purpose of this CME was to get familiarised with the recent trends. The guest faculty were Dr.Pulin Shah, Director, Ochsner Laser vision centre, New Orleans, USA, Dr.J.K.Reddy, Sankara Eye Hospital, Coimbatore, Dr.Bhaskar Srinivasan, Sankara Netralaya, Chennai, and Dr.Srinivas K.Rao, Dharshan Eye Clinic, Chennai.

*Cornea Faculty with Dr. R. Ramakrishnan at the Cornea CME at Aravind-Tirunelveli*



Dr. Thiruvengadkrishnan at the PHACOEXCEL 2008 Workshop

### Phacoexcel CME

Aravind-Madurai, December 13-14

About 120 delegates from various parts of the country participated in this CME.

The guest faculty were Dr.David Lubeck, Senior Cataract and refractive surgeon from Illinois, USA; Dr.Jeevan Titiyal, Additional Professor in Cornea and Refractive Surgery, R.P. Centre, New Delhi; Dr.Prashanth Garg, Consultant Ophthalmologist and Director of Education at L V Prasad Eye Institute, Hyderabad; Dr.Mathew Kurian, Consultant from Narayana Nethralaya, Bangalore and Dr.Minu Mathen, Senior Consultant from Chaitanya Eye Hospital and Research Institute, Trivandrum. The entire programme was transmitted live to the AMECS centers, Kolkota and Lucknow through video conferencing and the doctors at those hospitals had the opportunity to interact real-time with the faculty.

### CME Programme on Instruments Maintenance

Aravind-Madurai, January 10-11

Bio-Medical engineers and technicians and trainees from all the hospitals attended the CME programme. Prof. V. Srinivasan explained the scope of the programme. Dr. P. Balakrishnan, Managing Director, Aurolab spoke on

*CME Programme on Instrument Maintenance at Aravind-Madurai*





Dr. P. Vijayalakshmi at the Paediatric Ophthalmology Silver Jubilee CME

the role of Instruments Maintenance, what it is and what it should be. Dr. G. Natchiar, Vice-Chairman, AECS and Mrs. Preethi Pradhan, Senior HR Manager addressed the participants. Ms. Susila, Ms. Ganga, Ms. Poomari, Ms. Alaguseelvi, Mr. Sekar, Mr. Siva Krishnamenon delivered lectures on various topics.

### Paediatric Ophthalmology Silver Jubilee CME

Aravind-Madurai, January 10-11

A total of 90 participants attended the CME programme. Guest faculty were Dr. Marlyn T. Miller, USA, Dr. Robert Peterson, USA, Dr. Clare Gilbert, UK, Dr. Stephen Kraft, Canada, Dr. Kim Curnyn, USA, Prof. Jill Keffe, Australia, Dr. Andrew R. Webster, UK, Dr. James N. Ver Hoeve, USA, Dr. Ken K. Nischal, UK, Dr. Pradeep Sharma, AIIMS, Delhi, Dr. Surendran, Dr. Meenakshi and Dr. Sumitha Agarkar from Sankara Nethralaya, Chennai, and Dr. Ramesh Kekuniya, LVPEI, Hyderabad.

Another important milestone achieved was the launch of a CD on 'Evaluation of Strabismus – A step by step approach' developed by Department of Paediatric Ophthalmology and Adult Strabismus. A meeting was organised for Aravind Paediatric Ophthalmology Alumni on January 12. The participants shared their experiences in the field. There was also discussion with the experts on a variety of difficult-to-manage cases.

### CME for Ophthalmic Assistants

#### Sterilisation and Aseptic Techniques in Eye Surgery

LAICO, January 3-4

A total of 185 participants from Tamilnadu, Karnataka, Kerala and Andhra Pradesh attended the workshop. Operation Theatre Nurses and OT managers participated in the workshop. The topics covered in the workshop were Importance of Sterilisation, Sources of Infection, Sterilisation Procedures, Infection Control Committee, Waste Management Practices, Theatre Administration.

## CONFERENCES ATTENDED ELSEWHERE

### Joint INDO-US workshop

Bangalore, January 4-5

DR. R. KIM

- *Ophthalmology: present, future, and beyond*

presented a paper on Diabetic Macular Edema at Narayana Nethralaya.

### SCUT (Steroids in Corneal Ulcer Trial) DSMC Meeting

USA, January 12

Dr. M Srinivasan participated in SCUT DSMC meeting at Proctor Foundation, USA.

### Asia Cornea Society

Hyderabad, January 14

DR. N.V. PRAJNA

- *Mycotic ulcer treatment trial comparing topical voriconazole and natamycin: preliminary result*

### Asia ARVO Meeting

Hyderabad, January 15-18

DR. P. NAMPERUMALSAMY

- *Chairman of the symposium on "Diabetic Retinopathy – The new epidemic"*

Chairman of the keynote Session 3

DR. R. KIM

- *Telemedicine for Diabetic Retinopathy Screening*

DR. HARIPRIYA ARAVIND

- *Challenging case in Phaco video Symposium.*

DR. USHA KIM

- *Overview of Eye lid Tumours*

- *The hot orbit – moderator*

- *Lid session – moderator*

- *Lid Injury finger on the pulse*

- *Endonasal DCR – performance and precision*

DR. P. VIJAYALAKSHMI

- *The prevalence and management of childhood hyperopia*

- *Techniques in paediatric cataract surgery*

- *Management of aphakia in children*

DR. VR. MUTHUKARUPPAN

- *Ex vivo expansion of human corneal epithelial stem cells and transplantation for ocular surface reconstruction*

DR. P. SUNDARESAN

- *Genetic studies of corneal endothelial dystrophy*

- *Genetic and functional analysis of myocilin, a protein associated with primary open angle glaucoma*

MS. B. HEMA DEVI

- *COL8A2 and SLC4A11 gene variants in Indian patients with Fuch's endothelial corneal dystrophy*

MS. S. ANANTHI

- *Development of an Effective Sample Preparation Method for the Tear Proteomic Analysis Using 2-D Gel Electrophoresis*

MS. K. RENUGA DEVI

- *Genetic Analysis of Indian Oculocutaneous Albinism Patients*

Ms. S. JEYALAKSHMI

- Characterisation of human epithelial cells and epithelial mesenchymal transition cells in relation to PCO formation in culture. This received the "Best Scientific Paper Presentation Award" at ASIA ARVO.

Ms. B. SUGANTHALAKSHMI

- Lack of EPO Gene Promotor SNP rs1617640 and association of RAGE gene 3 SNP rs2070600 with type 2 diabetic retinopathy in South Indian population

Ms. S. VAISHALI

- Evaluation of adult human limbal fibroblasts as a feeder layer for Ex Vivo expansion of buccal mucosal epithelial cells

Ms. P. NARMATHADEVI

- Proteomic analysis of secretome of aspergillus flavus isolated from fungal keratitis patients

Mr. P. PRABHU

- Ex vivo Expansion of human corneal epithelial stem cells in limbal explants culture

Dr. C. GOWRI PRIYA

- A New method to identify human corneal epithelial stem cells on the basis of ABCG2 expression combined with a large N/C ratio

Dr. S. SENTHIL KUMARI

- Demonstrating the effect of P-glycoprotein (P-gp) modulation at blood ocular barriers using Gamma Scintigraphy

Dr. NARENDRAN

- Vitrectomy in Endophthalmitis

Dr. RATHINAM

- Tuberculosis and Uveitis
- Etiology of Uveitis: expect the unexpected

Dr. M. SRINIVASAN

- Role of Anti Inflammatory Therapy in the Treatment of Microbial Keratitis
- The Clinical utilities of Genetic testing in the Diagnosis & management of inherited disorders
- What are High Risk Grafts
- Screening the Eye donors for communicable diseases – challenges & solutions

Dr. N. V. PRAJNA

- 'Training the Trainers – An International Perspective' in the session 'Transcending the Borders in Ophthalmic Education'

Moderator for the session - Scientific Paper Session 4

- Refractive Surgery
- Newer antifungal in the treatment of fungal Keratitis

Dr. LALITHA PRAJNA

- In-vitro susceptibility of antifungal and co-relation of clinical outcome in fungal Keratitis

Dr.R.D.Ravindran, Dr.Thiruvengada Krishnan, Chief of Cornea, Aravind-Pondicherry Dr.Badrinath Talwar, Dr. Parag. K.Shah attended the meeting.

Dr. SENGUPTA SABYASACHI

- Safety and efficiency of single site manual Small Incision Cataract Surgery Combined with Trabeculectomy

Joint meeting of the Hyderabad Ophthalmologists Association (HOA) and Pre-conference meeting of the Uveitis Society of India - Uveitis and Ocular trauma  
Hyderabad, January 20

Dr. RATHINAM

- Infectious Uveitis: a mixed bag of surprises

Delhi Ophthalmological Society conference

New Delhi, March 19-21

Dr. SHUKLA

- Brilliant Blue G: A new stain for ILM peel in Vitreomacular surgeries

Dr. KAMAL PREET

- Orbital mass lesions due to Paranasal sinus malignancy.

American Society for Cataract and Refractive Surgery (ASCRS)

Chicago, April 4-9

Dr.R.Venkatesh conducted an instruction course on Manual Small Incision Cataract Surgery and spoke on

- Torsional phaco for small pupil in a course on torsional phaco for challenging cases.

Interactive symposium on Glaucoma and Diabetic Retinopathy

SS Institute of Medical Sciences, Karnataka, June 8

Dr.R.KIM

- Pharmacotherapy- Anti-VEGF
- Surgical management of diabetic retinopathy and setting up vitreo retina services

Philippines Society of Cataract and Refractive Society Meeting

Philippines, Manila, June 25

Dr. S. Aravind, Administrator, AEH participated in the Philippines Society of Cataract and Refractive Society meeting and did live surgery in the meeting. The surgeons along with Dr. S. Aravind were Dr. Charith Fonseka (Sri Lanka), Dr. Robert Cioni (USA), Dr. Ces Espiritu (Philippines) and Dr. Samuel Masket (USA).

World Ophthalmology Congress

Hong Kong, June 26-28

Dr. P. NAMPERUMALSAMY

- "WHO collaborating centre in Madurai: current activities and educational programmes"

Retina Society - Update in Diabetic Retinopathy

Dr. S. Aravind at the Philippines Society of Cataract and Refractive Society Meeting







Dr. Kalpana Narendran, Dr. P. Vijayalakshmi, Dr. M. Srinivasan, and Dr. V. Narendran at the World Ophthalmology Congress

- Talk on "New approaches to diabetic retinopathy screening and disease monitoring in large populations"
  - Using the internet and technology to extend eye care
- and he participated as the Chairman for the session on
- Low cost, long distance tele-ophthalmology network in rural India.

**DR. USHA KIM**

Participated as the guest speaker for

- How allied personnel should be trained and assessed, most effectively?
- Development of course and assessment of knowledge

**DR. P. VIJAYALAKSHMI**

- Setting up a school screening programme
- How to conduct training programme in surgical management of paediatric cataract
- Update on infantile cataract

**DR. M. SRINIVASAN**

- Corneal Blindness - Impact of community based preventive strategies - Will the dream of elimination of blindness due to corneal Infection realise some day?

**DR. KALPANA NARENDRAN**

- Establishing tertiary children eye care service

Mr. R. D. Thulasiraj and Dr. P. Namperumalsamy along with ICO conducted a joint review of the Eli Lilly funded project at Peking University Eye Centre, Beijing for establishing a community oriented diabetic retinopathy services.

Dr. K. Ilango presented a poster at the IX International Low Vision Conference



Dr. P. Namperumalsamy, Dr. N. Venkatesh Prajna, Chief of Cornea, Aravind-Madurai, Dr. R. D. Ravindran, Chief Medical Officer, Aravind-Pondicherry, Mr. R. D. Thulasiraj and Ms. Chitra participated in a discussion on collaboration between AECS and AAO on ONE network.

**IX International low vision conference**

Montreal, Canada, July 7-11

Dr. K. Ilango, attended the IX International conference on low vision named as Vision 2008 at the palais des congress de Montreal, Canada and presented a paper on the "Importance of low vision service among developing countries". He also presented a poster on "Effectiveness of vision stimulation in congenitally blind children". Dr. Ilango also visited the Montreal University.

**IX Biennial Conference of SAARC Academy of Ophthalmology and II Indian AMD Conference**

New Delhi, August 22-24

**DR. P. NAMPERUMALSAMY**

South Asian Academy Oration Award 2008 was presented to him for his presentation on diabetic retinopathy:

- An emerging epidemic of blindness in the session on "Management of diabetic retinopathy".
- Keynote speaker for the practice management symposium and talk on "Aravind Model"

**DR. M. SRINIVASAN**

participated as the Convenor of the session

- Keratitis... diagnosis and management
- also as the Co-Chairman of the session
- Corneal blindness... the task ahead
  - The problems and remedies

**DR. RAMAKRISHNAN**

- Keynote address on recent advances in glaucoma surgery

**DR. KRISHNADAS**

- Keynote address on principles of glaucoma medical therapy

**DR. SATHYAN**

- Talks on early glaucoma diagnosis by OCT and manual small incision cataract surgery and trabeculectomy

**DR. ANAND RAJENDRAN**

- Role of steroids in management of diabetic macular edema
- Diagnosis and management of PCV in SAARC Context
- Avastin - place in AMD management

**Diabetic Retinopathy Symposium**

Lions Clubs International, LV Prasad Eye Institute, Hyderabad, October 4-5

**DR. KIM**

- Awareness of diabetic retinopathy - KAP

**DR. P. SUNDARESAN**

- Genetics on diabetic retinopathy

**17th Annual Conference of Ophthalmologists**

Sri Lanka, October 9-12

**DR. KALPANA NARENDRAN**

- Recent advances in paediatric cataract management
- Visual acuity estimation in children

Instruction Course:

- *Management of syndromes in strabismus*
- *III and IV nerve palsy management*

### International AMD Congress

Italy, October 17-19

Dr.V.Narendran, Chief Medical Officer, Aravind-Coimbatore participated in the International AMD Congress at Italy.

### Workshop on Manual and Wall charts on ROP

New Delhi, October 22

DR. PARAG K. SHAH

- *Management of ROP*

### Annual Meeting of Glaucoma Society of India

Chandigarh, November 1-2

DR. RAMAKRISHNAN

Lecture on optimising success in Glaucoma filtering surgery

DR. KRISHNADAS

- *Talk on over functioning blebs, panel chair on medical management of glaucoma*

DR. SATHYAN

- *Optic disc damage in glaucoma, video lecture on small incision trabeculectomy & MSICS*

DR. VENKATESH

- *Video lecture on non penetrating glaucoma surgery*

DR. MANJU

- *Combating glaucoma blindness in third world- video on glaucoma training*

DR. PRATEEK AGARWAL

- *Correlation of CCT and retinal nerve fiber thickness by OCT.*

### Indian Council of Medical Research

Delhi, November 6

DR. USHA KIM

- *Retinoblastoma registry*

### 27th Conference of Karnataka State Ophthalmic Society

Shimoga, November 7-8

Dr. Kalpana Narendran, Senior Medical Officer, Aravind-Coimbatore delivered a talk on Intermittent Exotropia.

### IVth National Conference of Telemedicine Society of India

Chandigarh, November 15-16

MR. VIJAYAKUMAR

- *Primary Eye Care Services through IT enabled vision centres in rural areas*

MR. SANTHANAKRISHNAN

- *Screening for Diabetic Retinopathy - Affordable Technological solutions*

Mr. T. Santhanakrishnan received the best paper award for oral presentation.

### TIFAC-CORE Meeting

New Delhi, November 17-20

Dr.R.Kim attended the training programme for TIFAC-CORE coordinators in Management of Industry -Academia linkages for Academicians / Scientists.

### CME on Ocular Sports Trauma

Gwalior, November 23

Dr. Shukla, Consultant, Retina-Vitreous Service attended the CME on ocular sports trauma at Gwalior.

### Diabetes Summit for East Asia

Chennai, November 28-30

Dr. P.Namperumalsamy, Dr. R.Kim and Mr.V.Vijayakumar attended the summit. The summit was organised by the World Diabetes Foundation (WDF) in collaboration with the WHO Regional Office for South-East Asia (WHO SEARO), the International Diabetes Federation (IDF) and the World Bank.

DR.P. NAMPERUMALSAMY

- *Preventing blindness related to diabetes*

DR. R. KIM

- *The Aravind experience in WDF diabetic retinopathy projects*

### Vitreo Retinal Society of India (VRSI)

Raichak, Kolkatta, December 4-6

DR. D. SHUKLA

- *Brilliant Blue G: A new dye for staining of internal limiting membrane during vitrectomy for macular hole*

DR. NARESH BABU

- *23 gauge Trans Scleral Sutureless silicone oil removal*

DR. ANAND RAJENDRAN

- *Ranbizumab (Lucentis): Clinical implications on posology development and efficacy of dosing strategies*

DR. SOMNATH CHAKRABORTY

- *A case of chronic central serous retinopathy with anterior segment neovascularisation*

### Annual meet of the Philippines Academy of Ophthalmology

Philippines, Manila, November 26-29

DR. SHIVAKUMAR

- *"Aravind eye hospital MSICS Training Course"*

The course was aimed at presenting MSICS as an affordable and viable alternative to phacoemulsification.

### Vitreo Retina Society of India Conference

Kolkatta, December 4-6

DR. PARAG K. SHAH

- *Dosimetry and treatment planning for ophthalmic brachytherapy using indigenous iodine -125 seeds for choroidal melanomas*

Dr. George Manayath received Best Poster Award for the poster presented on

- *Sub threshold TTT for Chronic CSR*

Dr. V Narendran, Dr. V.R. Saravanan, Dr. Rodney J. Morris, Dr. Rama Subba Reddy, and Dr. Thomas K. Chacko participated in the conference.

## VISION 2020 Conference

Kathmandu, Nepal, December 5-9

Dr. P.Vijayalakshmi, Chief of Paediatric ophthalmology and adult strabismus and Dr. Anil Kumar, Assistant prof. of Paediatric, Aravind-Madurai attended this conference and highlighted the challenges faced in paediatric cataract followed by evaluation, surgical management and post operative management to an audience of local ophthalmologists and practising paediatric ophthalmology and eye care managers.

A similar session along with an interactive programme was conducted on December 6 at Biratnagar eye hospital, Biratnagar, Nepal. The following day Dr.P.Vijayalakshmi, interacted with ophthalmologists, and conducted a session on practical approach to a child with eye problems. This included strabismus, amblyopia and low vision. She examined children in the OPD and gave suggestions.

On 9th December she spoke on recent advances in paediatric cataract surgery in the Tribhuvan teaching eye hospital, (Kathmandu – Nepal) followed by discussion on development of a paediatric ophthalmology unit at National Children Hospital, Kathmandu, Nepal and gave valuable inputs.

## Annual Conference of Oculoplasty Association of India

Hyderabad, December 5-7

The best poster award was given to Dr. Akash D Shah, Dr. Usha Kim, Chief of Orbit and Oculoplasty, Aravind-Madurai, Dr. Vipul Arora, and Dr.M.G.Raginanth for the paper presented on

- *A study of clinical, histopathological profile and outcome of sino-orbital aspergillus in immunocompetent and immunocompromised individuals*

Dr. Gagan Dudeja, Dr. Usha Kim, and Dr. Krishna Kumar received best poster award for the paper on

- *Efficacy, surgical outcome and complications of frontalis sling suspension surgery using silicon rod (Auro sling) Ehibond materials.*

Dr. Akash D.Shah and Dr. Akang participated in the meeting.

## ARTICLES PUBLISHED IN PEER REVIEWED JOURNALS

### International Journals

#### ARCHIVES OF OPHTHALMOLOGY

VOL: 126 (5) 2008 MAY P.700-708

HEMADEVI, BOOMIRAJ VEITIA, R A; SRINIVASAN, M; ARUNKUMAR, J; PRAJNA, V; LESAFFRE, C; SUNDARESAN, P

- *Identification of Mutations in the SLC4A11 Gene in Patients with Recessive Congenital Hereditary Endothelial Dystrophy*

2008 OCT; 126 (10):1448-54.

LEE BW, SATHYAN P, JOHN RK, SINGH K, ROBIN AL.

- *Predictors of and Barriers Associated with Poor Follow-Up in Patients with Glaucoma in South India.*

#### ASIAN JOURNAL OF OPHTHALMOLOGY

VOL: 10 (10) 2008 P.221-229

MITTAL, SAURABH; MITTAL, APOORVA AND RAMAKRISHNAN, R

- *Safety and Efficacy of manual Small-Incision Cataract Surgery Combined with Trabeculectomy: Comparison with Phacotrabeculectomy*

#### BRITISH JOURNAL OF OPHTHALMOLOGY

2008 OCT 1. [EPUB AHEAD OF PRINT]

SRINIVASAN M, LALITHA P, MAHALAKSHMI R, PRAJNA NV, MASCARENHAS J CHIDAMBARAM JD, LEE S, HONG KC, ZEGANS ME, GLIDDEN DV, MCLEOD S, WHITCHER JP, LIETMAN TM, ACHARYA NR.

- *Corticosteroids for Bacterial Corneal Ulcers*

VOL: 93 (1) 2009 JAN. P.116-119

DAY, S LALITHA, P; HAUG, S; FOTHERGILL, A W; CEVALLOS, G; VIJAYAKUMAR, R; PRAJNA, N V; ACHARYA, N R; MCLEAD, S D; LIETMAN, T M

- *Activity of Antibiotics against Fusarium and Aspergillus*

#### CLINICAL VACCINE & IMMUNOLOGY

VOL: 15 (6) 2008 JUN. P.1017-1023

VERMA, ASHUTOSH; RATHINAM, R; GOWRI PRIYA, C; MUTHUKKARUPPAN, V R; STEVENSON, BRIAN; TIMONEY, JOHN F. T

- *LruA and LruB Antibodies in Sera of Humans with Leptospirosis Uveitis*

#### CORNEA

VOL: 27 (10) 2008 DEC. P.1164-1170

ARPITHA, PARTHASARATHY PRAJNA, NAMPERUMALSAMY V; SRINIVASAN, MUTHIAH; MUTHUKKARUPPAN, VEERAPPAN

- *A Subset of Human Limbal Epithelial Cells with Greater Nucleus-to-Cytoplasm Ratio Expressing High Levels of p63 Possesses Slow-Cycling Property*

## EYE

VOL: 22 (4) 2008 APR. P.592-596

SHUKLA, D AIELLO, L P; KOLLURU, C; BADDELA, S; JAGER, R D; KIM, R

- *Relation of Optical Coherence Tomography and Unusual Angiographic Leakage Patterns in Central Serous Chorioretinopathy*

VOL: 22 (4) 2008 APR. P.600-602

SHUKLA, D; CHAKRABORTY, S AND RAJENDRAN, A

- *Combined Pharmacotherapy and Thermo-therapy for Chronic Central Serous Chorioretinopathy with Anterior Segment Neovascularisation*

VOL: 22 (9) 2008 SEP. P.1198-1200 TYPE: LETTER

SHUKLA, D; CHAKRABORTY, S

- *Pre-Macular Nematode in Diffuse Unilateral Subacute Neuroretinitis*

2008 JUL 11. [EPUB AHEAD OF PRINT]

SHUKLA D, AGRAWAL D, DHAWAN A, RAMCHANDANI B.

- *Posterior Scleritis Presenting with Simultaneous Branch Retinal Artery Occlusion and Exudative Retinal Detachment.*

2008 APR 25. [EPUB AHEAD OF PRINT]

SHUKLA D, MURALY P.

- *Myopic Tractional Maculopathy Associated with Rhegmatogenous Retinal Detachment.*

VOL: 22(7) 2008 JUL P.900-4. EPUB 2007 MAR 30.

SHUKLA D, KANUNGO S, PRASAD NM, KIM R.

- *Surgical Outcomes for Vitrectomy in Eales' Disease*

2008 TYPE: E-PUB

KRISHNAN, T SENGUPTA, S; REDDY, P R; RAVINDRAN, R D

- *Secondary Pseudomonas Infection of Fungal Keratitis following Use of Contaminated Natamycin Eye Drops: a case series*

2008 JUN 20. [EPUB AHEAD OF PRINT]

VENKATESH R, TAN CS, SINGH GP, VEENA K, KRISHNAN KT, RAVINDRAN RD

- *Safety and Efficacy of Manual Small Incision Cataract Surgery for Brunescant and Black Cataracts.*

JUL 2008. [EPB AHEAD OF PRINT]

RAMAKRISHNAN R, BHARATHI MJ, SHIVKUMAR C, MITTAL S, MEENAKSHI R, KHADER MA, AVASTHI A.

- *Microbiological profile of culture-proven cases of exogenous and endogenous endophthalmitis: a 10-year retrospective study.*

VOL: 22 (7) JUL 2008 P.953-60. EPUB 2007 JUN 29

BHARATHI MJ, RAMAKRISHNAN R, MANEKSHA V, SHIVAKUMAR C, NITHYA V, MITTAL S.

- *Comparative bacteriology of acute and chronic dacryocystitis.*

2009 JAN 16. [EPUB AHEAD OF PRINT]

SHUKLA D, DHAWAN A.

- *Foveoschisis after vitrectomy for myopic macular hole with secondary retinal detachment.*

VOL: 23 (1) 2009 JAN. P.176-180

SHAH, P K; NARENDRAN, V; KALPANA, N; TAWANSY, K A

- *Anatomical and Visual Outcome of Stages 4 and 5 Retinopathy of Prematurity*

VOL: 23 (2) 2009 FEB. P.477-479 TYPE: CASE REPORT

KRISHNAN, T; SENGUPTA, S; REDDY, P R; RAVINDRAN, R D

- *Secondary Pseudomonas Infection of Fungal Keratitis following Use of Contaminated Natamycin Eye Drops: a case series*

## HEALTH AFFAIRS

VOL: 27 (4) 2008 MAR. P.964-976

BHANDARI, AMAN; DRATLER, SANDRA; RAUBE, KRISTIANA; THULASIRAJ, R D

- *Specialty Care Systems: a Pioneering Vision for Global Health*

## HUMAN MOLECULAR GENETICS

VOL: 18 (6) 2009 MAR 15; P. 1110-21. EPUB 2009 JAN

ASAI-COAKWELL M, FRENCH CR, YE M, GARCHA K, BIGOT K, PERERA AG, STAEHLING-HAMPTON K, MEMA SC, CHANDA B, MUSHEGIAN A, BAMFORTH S, DOSCHAK MR, LI G, DOBBS MB, GIAMPIETRO PF, BROOKS BP, VIJAYALAKSHMI P, SAUVÉ Y, ABITBOL M, SUNDARESAN P, VAN HEYNINGEN V, POURQUIÉ O, UNDERHILL TM, WASKIEWICZ AJ, LEHMANN OJ.

- *Incomplete penetrance and phenotypic variability characterize Gdf6-attributable oculo-skeletal phenotypes*

## INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE

VOL: 24 (8) 2008 JUL. P.E PUB

CHIDAMBARANATHAN, GOWRI PRIYA; RATHINAM, AND MUTHUKKARUPPAN, V

- *Evidences for Endotoxin as a Causative Factor for Leptospiral Uveitis in Human*

## JAAPOS

VOL: 12 (2) 2008 APR. P.163-165

SUNDARESH, KANNAN; JETHANI, JITENDRA AND VIJAYALAKSHMI, PERUMALSAMY

- *Optical Iridectomy in Children with Corneal Opacities*

VOL: 12 (5) 2008 OCT. P.531-533

VIJAYALAKSHMI, PERUMALSAMY; MURALIDHAR, RAJAMANI; SHETTY, SHASHIKANT; SANE, MONA

- *Resolution of Anterior Segment Ischemia after the Removal of Lateral Fixation Sutures*

## JOURNAL OF COMMUNITY EYE HEALTH

VOL: 21 (67) 2008 SEP. P.40-42

NATCHIAR, G; THULASIRAJ, R D AND MEENAKSHI SUNDARAM, R

- *Cataract Surgery at Aravind Eye Hospitals: 1988-2008*

## JOURNAL OF GLAUCOMA

VOL:17 ( 8 ) 2008 DEC P. 605-610

NITIN DESHPANDE; PRAJNA LALITHA; S. R. KRISHNA DAS; JITENDRA JETHANI; R. MANJU PILLAI; ALAN ROBIN; KARTHIK

- *Helicobacter pylori IgG Antibodies in Aqueous Humor and Serum of Subjects with Primary Open Angle and Pseudo-exfoliation Glaucoma in a South Indian Population.*

## JOURNAL OF NUTRITION

138: 787-792, 2008

JAMES M. TIELSCH; LAKSHMI RAHMATHULLAH; JOANNE KATZ; R. D THULASIRAJ; CHRISTIAN COLES; S. SHEELADEVI AND KARTIK PRAKASH

- *Maternal Night Blindness during Pregnancy is Associated with Low Birth weight, Morbidity, and Poor Growth in South India*

## JOURNAL OF CLINICAL MICROBIOLOGY

VOL: 46 (10) 2008 OCT. P.3477-3478

LALITHA, P; VIJAYKUMAR, R; PRAJNA, N V; FOTHERGILL, A W

- *In-vitro Natamycin Susceptibility of Ocular Isolates of Fusarium and Aspergillus Species: comparison of commercially formulated Natamycin Eye drops to pharmaceutical grade Powder*

## MEDICAL MYCOLOGY

VOL: 46 (3) 2008 MAY P. 279-84

MANIKANDAN P, VISMER HF, KREDICS L, DOCZI I, MARASAS WF, BHASKAR M, ANITA R, REVATHI R, NARENDHAN V

- *Corneal Ulcer Due To Neocosmospora Vasinfecta in an Immunocompetent Patient.*

## MICROSCOPIC RESEARCH TECHNIQUES

VOL: 71 (6) 2008 JUN. P.469-476

ARPITHA, PARTHASARATHY; PRAJNA, NAMPERUMALSAMY; SRINIVASAN, MUTHIAH; MUTHUKKARUPPAN, VEERAPPAN

- *A Method to Isolate Human Limbal cells Enriched for a Subset of Epithelial Cells with a large Nucleus/Cytoplasm ratio Expressing High Levels of p63*

## MOLECULAR VISION

VOL: 9 2008 NOV. P.500-507

ANANTHI, SIVAGNAM; CHITRA THANGAVEL; BINI, RAMACHANDRAN; PRAJNA, VENKATESH; LALITHA, PRAJNA; DHARMALINGAM, KUPPAMUTHU

- *Comparative analysis of the tear Protein Profile in Mycotic Keratitis Patients*

VOL: 14 2008 P.1157-1169

RAMAYA DEVI, R; YAO, WENLIANG; VIJAYALAKSHMI, P; SERGEEV, YARI V; SUNDARESAN, P; HEIJTMAN, F

- *Crystallin Gene Mutations in Indian Families with Inherited Pediatric Cataract*

## MOLECULAR AND CELLULAR ENDOCRINOLOGY

VOL: 282 2008 P.2-11

MOUMNE, L; BATISTA, F; BENAYOUN, B A; NALLATHAMBI, J; FELLOUS, M; SUNDARESAN, P; VEITIA, R A

- *The Mutations and Potential Targets of the forehead Transcription Factor FOXL2*

## OPHTHALMIC SURGERY LASERS & IMAGING

VOL: 39 (3) 2008 MAY.-JUN. P.239-401

SHUKLA, DHANAJAY; CHAKRABORTHY, SOMANATH; BEHERA, UMESH C; KIM, R

- *Vitrectomy for Epimacular Membrane Secondary to Adult-Onset Coats' Disease*

VOL: 39 (3) 2008 MAY.-JUN. P.228-229 TYPE: CASE REPORT

VENKATESH, RENGARAJ; TAN, C S H; VEENA, KANNUSAMY; RAVINDRAN, R D

- *Severe Anterior Capsular Phimosis following Acrylic Intraocular Lens Implantations in a Patient with Pseudoexfoliation*

VOL: 39 (6) 2008 NOV.-DEC.

SHUKLA, DHANANJAY; RAJENDRAN, ANAND; CHAKRABORTY, SOMNATH; MAHESHWARI, RAJKUMAR

- *Chronic Retinal Pigment Epithelial Detachments with Unusual Clinical, Angiographic and Tomographic Presentations*

VOL: 40 (2) 2009 MAR-APR; P.115-119

SHUKLA D, BEHERA UC, CHAKRABORTY S, MAHALAKSHMI R, PRASAD NM.

- *Serous macular detachment as a predictor of resolution of macular edema with intravitreal triamcinolone injection.*

## OPHTHALMOLOGY

VOL: 115(11) 2008 NOV. P. 2094

Venkatesh R, Ravindran RD, Bharathi B, Sengupta S  
Optic Nerve Cysticercosis

## RETINA

VOL: 28 (6) 2008 JUN. P.817-824

RETINAL CASES AND BRIEF REPORTS

MRUGESWARI, PONNALAGU SHUKLA, DHANANJAY; RAJENDREN, ANAND; KIM, RAMASAMY; NAMPERUMALSAMY, P; MUTHUKARUPPAN, VEERAPPAN

- *Proinflammatory Cytokines and Angiogenic and Anti-Angiogenic Factors In Vitreous of Patients with Proliferative Diabetic Retinopathy and Eales' Disease*

VOL: 2 (1) 2008. P.55-60

RETINAL CASES AND BRIEF REPORTS

SHEIN, JEAN; SHUKLA, DHANANJAY. REDDY, SHANTHAN; YANNUZZI, LAWRENCE A; CUNNINGHAM, EMMETT T

- *Macular Infraction AS A Presenting Sign of Systemic Lupus Erythematosus*

## RETINA TODAY

2008 SEP.-OCT. P.44-47

NAMPERUMALSAMY, P

- *Guidelines for Diabetic Retinopathy Screening in a Large Population Rationale for Diabetic Retinopathy Services in India.*

## WORLD JOURNAL OF MICROBIOLOGY & BIOTECHNOLOGY

VOL: 24 2008 P.903

PANDARANAYAKA, ESWARI, P J; KANAGAVALLI, J; KRISHNADAS, S R; SUNDARESAN, P; KRISHNASAMY, S

- *Over Expression and Purification of Recombinant Human Myocilin*

## National Journals

### CHAKSHU

2008

RATHINAM, S R

- *Chikungunya*

2008

RATHINAM S.R

- *Leptospirosis*

### ORBIT

2008; 27(4):267-77.-

MADGE SN, PRABHAKARAN VC, SHOME D, KIM USHA, HONAVAR S, SELVA D.

- *Orbital tuberculosis: a review of the literature.*

### CLINICAL RHINOLOGY

SEPTEMBER-2008

RAJINIGANTH, USHA KIM, VIPUL ARORA

- *Xanthoma in the supraorbital ethmoid cell: An unusual lesion at unusual site*

### DOS TIMES

VOL: 14 (6) DEC. 2008

ASHISH JAIN, RITA SINGH, AMIT SOLANKI, RAMAKRISHNAN, R

- *Non Penetrating Glaucoma Surgeries (NPGS): An Overview*

VOL: 14 (5) NOV. 2008 P.41-42

HARIPRIYA ARAVIND

- *Phacoemulsification in Brown Cataract*

VOL: 14 (5) NOV. 2008 P.45-47

RAMAKRISHNAN, R; DEVENDRA MAHESWARI

- *Phacoemulsification in Phacomorphic Glaucoma*

### INDIAN JOURNAL OF OPHTHALMOLOGY

VOL: 56 (3) 2008 MAY P.179-188

SINGH, RAMANDEEP; RAMASAMY KIM; ABRAHAM, CHANDRAN; GUPTA, VISHALI; GUPTA, AMOD

- *Diabetic Retinopathy: An Update*

VOL: 56 (3) 2008 MAY P.203-207

SRINIVASAN, M; MASCARENHAS, JEENA AND PRASHANTH, C N

- *Distinguishing Infective Versus Noninfective Keratitis*

VOL: 56 (3) 2008 JUL. P.307-312

VENKATARAMAN, ARVIND; RATHINAM, S R

- *A Pre- and Post-Treatment Evaluation of Vision-Related Quality of Life in Uveitis*

VOL: 56 (3) 2008 JUL. P.319-322 TYPE: CASE REPORT

MITTAL, SAURABH; MITTAL, APOORVA AND RAMAKRISHNAN, R

- *Ocular Manifestations in Bidi Industry Workers: Possible Consequences of Occupational Exposure To Tobacco Dust*

VOL: 56 (4) 2008 AUG. P.417-419

RATHINAM, S R; KHAZAEI, HADI

- *Histopathological Study of Ocular Erythema Nodosum Leprosum and Post-Therapeutic Scleral Perforation: a case Report*

VOL: 56 (6) 2008 NOV. P.504-507

TYPE: CASE REPORT

JETHANI, JITENDRA; DAGAR, ABHISHEK AND VIJAYALAKSHMI, P

- *Anterior Plagiocephaly with Contralateral Superior Oblique Overaction*

VOL: 57 (1) 2009 JAN. P.15-18

VENKATESH, RENGARAJ; VEENA, KANNUSAMY AND RAVINDRAN, RAVILLA D

- *Capsulotomy and Hydroprocedures for Nucleus Prolapse in Manual Small Incision Cataract Surgery*

VOL: 57 (1) 2009 JAN. P.19-21

SRINIVASAN, ARAVIND

- *Nucleus Management with Irrigating Vectis*

VOL: 57 (1) 2009 JAN. P.63-68 TYPE: CASE REPORT

SLEATH, BETSY L KRISHNADAS, R; CHO, MINHEE; ROBIN, ALAN L; MEHTA, RAKHI; COVERT, DAVID; TUDOR, GAIL

- *Patient-Reported Barriers to Glaucoma Medication Access, Use, and Adherence in Southern India*

### PEDIATRIC CLINICS OF INDIA

VOL: 43 (2) 2008 APR. P.151-164

PARAG K.SHAH, DR.V.NARENDRAN, N.KALPANA

- *Retinopathy of Prematurity*

### BOOK CHAPTERS

RATHINAM S.R

- *Applied Anatomy of uveitis in Imaging in Eds*

A. GUPTA, V. GUPTA, CP HERBERT

- *Imaging and Investigational Techniques in Uveitis*

HENNAI: JAYPEE PUBLISHERS, 2008. 145

LALITHA PRAJNA; VIJAYAKUMAR ; VENKATESH PRAJNA ;

SRINIVASAN, M

- *Aravind's Atlas of Fungal Corneal Ulcers Clinical Features and laboratory Identification Methods*



*Staff around the rotunda in the centre of LAICO (Photo: Jacques Vekemans)*

*Mr. R. D. Thulasiraj with participants of the Vision Building Workshop from South Africa and Paraguay*



# Lions Aravind Institute of Community Ophthalmology (LAICO)

With a mission to contribute to the prevention and control of global blindness through teaching, training, consultancy, advocacy and research in eye care delivery, LAICO plays a major role in developing and training ophthalmic human resources across the globe. Successfully completing its 15th year of service in 2008, LAICO is now equipped with various divisions to serve the administrative and managerial training and consultancy needs of eye care institutions in the developing countries. Being Asia's first international institute for blindness control programmes, its global impact on the quality and efficiency of eye care delivery is steadily growing.

## Consultancy and Capacity Building Services

A major part of LAICO's activities centres around enhancing the capacity of existing and new eye hospitals worldwide for comprehensive organisational development through sharing the best practices in eye care. It works in collaboration with international voluntary organisations such as the Lions Clubs International Foundation, Sightsavers International, Christoffel Blinden Mission, International Eye Foundation, Right to Sight, Seva Foundation, ORBIS International, Lavelle Fund for the Blind, International Council for Ophthalmology and the World Health Organisation.

Consultancy is carried out in phases - Needs Assessment Visits, Vision Building Workshops, Follow up Visits and Monitoring followed by a final situation analysis visit. LAICO has provided this service to 252 eye hospitals spread across the country and in other developing nations.

## Needs Assessment Visits

From April 2008 to March 2009, Needs Assessment Visits were made to the following hospitals:

- Lions Ranchi East Niramaya Hospital, Kokar Industrial Area, Ranchi, Jharkand, India
- Sushil Eye Hospital, Nasik, Maharashtra, India
- Kota Eye Hospital & Research Foundation, Kota, Rajasthan, India
- Lion Asansol East, ADDA and B.S. Gopalka, Asansol, West Bengal, India
- Lions Charitable Eye Hospital, Chittagong, Bangladesh
- Sri Sadguru Sankalp Netra Chikitsalaya, Anandpur, Madhya Pradesh, India
- Ebonyi State Teaching Hospital, Abakaliki, Ebonyi, Nigeria
- St. Mary's Catholic Eye Hospital, Ago-Iwoye, Nigeria (also visited: Eleta Eye Institute, Eleta, Ibadan; Atupa Eye Clinic, Our Lady Hospital, Iseyin; AM Eye Clinic, Eruwa)
- M.M. Joshi Eye Institute, Hubli, Karnataka, India
- The Tenton Family Vision Foundation (An Unit of Bhakti Vedanta Hospital), Thane, Maharashtra, India

*Mr. Prasanth, Ms. Sasipriya and Dr. Sri Shankar with the Ebonyi Deputy Governor, Senior State Officials, Dr. Chimdia and her team*





- Fundación Visión (also Fundación Paraguaya - Micro-financing), Asuncion, Paraguay
- Krishi Gram Vikas Kendra (CSR Wing of Usha Martin Ltd), Ranchi, Jharkand, India
- Dhaka Shariatpur Central Lions Eye Hospital, Shariatpur, Bangladesh

### Vision Building and Strategic Planning Workshops

Six workshops were conducted during the year ending March 2009.

May 19-24: 24 senior members from the following organisations supported by ORBIS International, and Right to Sight participated:

- Mbingo Baptist Hospital, Bamenda, Cameroon
- Presbyterian Health Services Eye Clinic, Bafoussam, Cameroon
- Centre Hospitalier Universitaire De Kigali, Kigali, Rwanda
- Garbet Tehadiso Mahber, Butajira, Ethiopia
- Fitsum Birhan Hospital, Mekele, Tigray Region, Ethiopia
- Regional Institute of Ophthalmology, Kolkata, West Bengal, India

July 14-19: 12 participants from the following hospitals:

- Lions Ranchi East Niramaya Hospital, Ranchi, India
- Sushil Eye Hospital, Nasik, India
- Lions Charitable Eye Hospital, Chittagong, Bangladesh

August 11-16: 24 participants from following Right to Sight supported organizations:

- Yaounde Central Hospital, Yaounde, Cameroon
- University Teaching Hospital, Yaounde, Cameroon
- Yaounde Gynaeco Obstetric Pediatric Hospital, Yaounde, Cameroon
- General Hospital, Douala, Cameroon
- Kota Eye Hospital and Research Foundation, S.S. Shaktinagar, Kota, Rajasthan, India

*Dr. R.D. Ravindran, Dr. S. Ramakrishnan, Mr. R.D. Thulasiraj, Ms. Kannamma and Ms. Sashipriya with Mr. Luis Fernando and his team from Fundacion Paraguay during the Needs Assessment Visit*



- Lions Asansol East, ADDA & B. S. Gopalka, Asansol, West Bengal, India
- Siliguri Lions Netralaya, Siliguri, West Bengal, India

October 20-25: 23 participants from the following hospitals participated:

Eertse River Hospital, Cape Town and Mahatma Gandhi Memorial Hospital, Durban, South Africa supported by Right to Sight and Fundación Visión & Fundación Paraguaya- Asuncion, Paraguay funded by Leapfrog.

March 2 - 7: A total of 15 participants were from the following organisations participated.

St. Mary's Catholic Eye Hospital, Ayo – Iwoye, Nigeria, supported by ICO, Ebonyi State University Teaching Hospital, Abakaliki, Ebonyi, Nigeria and the Tenton Family Vision Foundation (A unit of Bhakti Vedanta Hospital), Thane, Maharashtra, India.

March 14-16: A workshop was conducted exclusively for Grameen Eye Hospital, Barisal. A total of 26 members from Grameen Eye Hospital along with the staff deputed from Aravind Eye Hospital participated in the workshop.

### Onsite Strategic Planning Workshop

#### Lions SightFirst Eye Hospital, Nairobi, Kenya

September 3 – 5

Aravind Team consisting of Dr. Veena, Chief, Paediatric Ophthalmology, Aravind - Pondicherry. Ms. Preethi Pradhan, Senior Manager, HR and Ms. G.K.Veni, Administrator, LAICO along with Right to Sight team visited Lions SightFirst Eye Hospital, Nairobi, Kenya to carry out training readiness assessment for developing this hospital as a regional training center in Africa. The main objective of this visit was to assess the current capacity of the hospital with reference to training and identify all strategic inputs towards developing it as a training centre of excellence. The visit identified the needs in terms of infrastructure, staff, training technology, systems and

*Mr. Mohammed Gowth with Vision Building Workshop participants from India and Bangladesh visiting Aundipatty Vision Centre*





*Ms. Preethi Pradhan, Dr. Abdirisak Dalmar, Ms. Veni, Dr. Veena, Dr. Annapoorna and Mr. Asit Banerjee at Lions SightFirst Eye Hospital, Kenya*

training of staff. This was done recognising the country's policy in terms of rules and regulations for becoming a training centre. At the end of this visit, a comprehensive plan with a three year time frame towards establishing the regional training center and detailed action plan for one year road map has been worked out and submitted.

### Onsite Support

#### Grameen GC Eye Hospital, Bogra, Bangladesh

Aravind team comprising Dr. P.M. Aravind, MO, Cataract & IOL clinic, Aravind-Madurai, Mr. Prasanth, Faculty Associate, LAICO, Ms. Priya, OT, Ms. Sangeetha, OP, Ms. Prabhavathi, Refraction, Ms. Samuthirakani, MRD and Ms. Kalyani, OT visited Grameen GC Eye Hospital (GGCEH), Bogra for a period of three months from April to June 2008. The purpose of the visit was to streamline its system and procedures and also to strengthen the local leadership of the hospital.

From March 7-April 10, Dr. Marie Fredrick, MO, Paediatric Ophthalmology Department, Aravind- Madurai visited Grameen GC Eye Hospital to enhance the surgical skills of ophthalmologists in Phaco techniques and also to support the CMO in the overall management.

### Follow-up visits

#### Shalina Hospital, Congo, July 7-12

Dr. Venkatesh, Aravind-Pondicherry and Mr. Ganesh Babu, Senior Manager, IT & Systems along with the Right to Sight team visited Shalina Eye Clinic, DR Congo to review the progress and also discuss further strategies for overall improvements and support required. During the visit, Dr. Venkatesh met with several government officials to discuss on strengthening outreach activities, enhancing referrals and establish good relationship. Mr. Ganesh Babu reviewed the utilization of IHMS, fixed some key issues



*Mr. Prasanth, Ms. Priya, Ms. Sangeetha, Ms. Prabhavathi, Ms. Samuthirakani and Ms. Kalyani at Grameen GC eye hospital, Bogra*

and demonstrated various features and how the report generation from the software could be used for better management.

#### Grameen Eye Hospital, Bogra & Barisal

Bangladesh, March 18-24

Mr. R.D. Thulasiraj, Executive Director, LAICO, Mr. R. Suresh Kumar, Faculty, LAICO, Dr. Suzanne Gilbert and Mr. Nagarajan representing Seva Foundation, and Dr. Asim Kumar Sil from NNN, Chaitanyapur, West Bengal visited Grameen Eye Hospital, Bogra to understand the status, and to have a strategic level discussion with Prof. Mohammed Yunus and Mr. Imamus Sultan regarding establishing a chain of Grameen hospitals. They also visited the construction site of Grameen GC Eye Hospital, Barisal.

Apart from this, to get a perspective of eye care in Bangladesh, the team also visited a few other reputed institutes such as Christian Mission Hospital in Bogra and Islamia Eye Hospital and National Institute of Ophthalmology in Dhaka.

#### Nkhoma Eye Hospital, Nkhoma, Malawi

February 23 – 27

Dr. R. Venkatesh and Mr. Ganesh Babu along with the Right to Sight representatives visited Nkhoma Eye Hospital in Malawi for a follow up visit. During their visit, they met with Dr. Nick Metcalfe, Dr. Will Dean and the hospital team with main objectives of reviewing the current status on the strategies that were developed by the team at LAICO in February 2008; understand various challenges faced; discuss on the improvements that could be made. During this visit, a simple MIS tool was demonstrated which would help in generating key information; introduced manual system to capture the data for the tool and also trained the target users in using this tool.



*Dr. Thiruvengatakrishnan and Mr. Suresh Kumar with the Cambodia team during the Programme Evaluation visit*

### Feasibility Study Visit

Tripura, August 20-27

Dr. Datta, CMO, Aravind-Theni, and Mr. Suresh Kumar, visited Tripura from August 20-27. The main objective of the visit was to understand the eye care burden in Tripura, the available eye care infrastructure and professionals, so as to study the feasibility for establishing an advanced eye care centre in the State of Tripura.

### Programme Evaluation

#### IRIS supported Eye Clinics, Cambodia

Dr. K. Tiruvengadakrishnan, Aravind-Pondicherry and Mr. S. Suresh Kumar visited Cambodia from June 10-25 for Programme Evaluation of Eye Clinics supported by IRIS (International Resources for the Improvement of Sight) ASIA. The main objective of the visit was to understand and learn from current performances, challenges etc., assess the needs and finally provide recommendations/suggestions for the future course of action.

Dr. Tiruvengadakrishnan, made a second visit to Cambodia on December 2, to present the findings and recommendations of LAICO based on the evaluation made earlier. Representatives from National sub-committee for

*Mr. R.D. Thulasiraj, Ms. Preethi Pradhan and Mr. Ganesh Babu with the CBM SARO team at Bangalore*



Prevention of Blindness, Cambodia, representatives from various INGO's working in Cambodia, ophthalmologists and other eye care professionals participated.

### Other Consultancy Visits

#### Christoffel Blinden Mission, CBM SARO (N)

June 19-20

Organisationally CBM has changed its paradigm to partner enablement and increased its range to consider all disability and using community based rehabilitation as a strong approach.

At the request from Ms. Silvanma Mehra at the helm, Mr. R D Thulasiraj, Mr. Ganesh Babu, and Ms. Preethi Pradhan conducted the workshop on "Partner Enablement for CBM-SARO N" to provide training to the 12 staff from the CBM SARO (N). The objectives of the workshop were:

- To develop a deeper and comprehensive understanding of different aspects of partner enablement and sustainability
- To have tools and strategies to assess, influence, set targets and monitor partner development
- To develop individual capacity to be able to do partner development

#### National Plan Validation workshop

Rwanda, July 31

Ms. Sasipriya KM, Faculty, LAICO visited Rwanda to take part in the National Plan Validation workshop held on July 31. This initiative is supported by Right to Sight. Other members of the visiting team included Mr. Keerti Pradhan and Mr. Raja Bollineni from Right to Sight and Dr. Rohit Khanna, ICARE – LVPEI. This workshop was conducted as continuation of the 1st planning workshop to develop Five Year National Plan for Eye Care in Rwanda held in March 10 - 12. Representatives from INGOs and eye hospitals in Rwanda took part in the workshop to finalise programme strategies and the

*Mr. R. Vasantha Kumar, Dr. Guldeep, Dr. Aloy Majumdar and Mr. Diljo with the Sitapur Eye Hospital team*





Mr. Sanil Joseph, at Lumbini Eye Institute, Nepal

budget. The team also had discussions with Mr. Mzaymana Bonaventure, Coordinator, Taskforce - Health Care, Ministry of Health.

### Sitapur Eye Hospital,

Sitapur, Uttar Pradesh, September 16-19

Mr. R.Vasantha Kumar, Manager New projects, AMECS, and Dr. Aloy Majumdar, Deputy CMO, IGEHRC, Amethi visited Sitapur Eye Hospital in Uttar Pradesh from September 16-19, to prepare a case study on the institution.

### Diabetic Retinopathy Programme

Bengal Chamber of Commerce & Industry, Kolkata, January 29

Dr. Naresh Babu, Retina Consultant, Aravind-Madurai and Mr. V. Vijayakumar, Project Coordinator, LAICO shared Aravind experiences in conducting the Diabetic Retinopathy Programme, with Lions Eye Hospitals at the Bengal Chamber of Commerce and Industry at Kolkata. Around 37 persons including representatives from Lions Eye Hospitals, SightFirst Project Chairman, Technical Advisor and dignitaries from the Lions Clubs participated in the workshop.

### LAICO – Seva CCO Initiatives

Lumbini Eye Institute, Bhairava, Nepal, September 18-19

Mr. Sanil Joseph, Faculty-LAICO visited Lumbini Eye Institute along with Mr. David Naylor from W<sup>2</sup> Consulting, UK. The purpose of the visit was to conduct onsite review of the Consultancy Skills Workshop for the SEVA CCO partners held at LAICO in October 2007.

### Centre for Community Ophthalmology (CCO) meeting

Aravind-Pondicherry, October 15

A CCO meeting was held at Aravind-Pondicherry on October 15 to discuss the current progress in various CCOs and future plans. The meeting was attended by



Mr. Kirubanithi with the SNC hospital team in Chitrakoot

several representatives from all 7 CCOs, LVPEI, SEVA Foundation, SEVA Canada & Dr.Pararajasegaram

### Visit to Nirmay Nethra Niketan Hospital (NNN) Hospital Chaitanyapur, West Bengal, July 16-18

Mr. Kirubanithi, Senior Librarian, LAICO visited NNN Hospital to plan for the library infrastructure to suit the available space, to install and train on GSDL (Green Stone Digital Library) and to train and orient the librarian to accessing online journals, the concept of CCOs specific to Resource centre & AVSL membership

### Visit to Sadguru Netra Chikitsalaya (SNC)

Chitrakoot, Madhya Pradesh, August 11-13

Mr. Kirubanithi and Mr Ganesh Babu visited SNC, Chitrakoot. Mr Kirubanithi installed GSDL and trained the staff to use it. He also showed ways to use resources available in Aravind database.

Mr. Ganesh Babu studied their present IT structure, discussed with individual users their problems and requirement and finally developed a plan of action and presented to the management.

### Teaching and Training Division

#### Induction Training on Eye Hospital Operations

LAICO, September 1

Inaugural function of the Induction Training on Eye Hospital Operations for the third batch was held at LAICO on September 1. A total of five members joined the course.

#### Community Outreach and Social Marketing of Eye Care Services at LAICO

23rd course: June 16 – July 14

A total of 11 members from the following hospitals participated:



Mr. Meenakshi Sundaram with the participants of the 24th course on Community Outreach & Social Marketing of Eye Care Services

- Raj Eye Hospital Pvt. Ltd, Gorakhpur, Uttar Pradesh, India
- Vivekananda Mission Ashram, Chaitanyapur, West Bengal, India
- Premananda Memorial Leprosy Hospital, Kolkata, West Bengal, India
- Shri Sadguru Seva Sangh Trust, Anandapur, Madhya Pradesh, India
- Mahatma Gandhi Eye Hospital, Mayurbhanj, Orissa, India
- Regional Institute of Ophthalmology, Kolkata, West Bengal, India
- Kalinga Eye Hospital and Research Centre, Dhenkanal, Orissa, India
- Venu Eye Institute, New Delhi, India
- Aditya Jyot Eye Hospital, Mumbai, India
- MGM Eye Institute, Raipur, Chattisgarh, India
- Indira Gandhi Eye Hospital, Lucknow, India

24th Course : November 15 – December 14

The participants were from the following Hospitals:

- Hospital Central Da Beira and Light for the World, Sofala, Mozambique
- Sri Jagdamba Charitable Eye Hospital, Rajasthan, India
- Health Care Development Project (HCDP), Dhaka, Bangladesh

Primary Eye Care Services Workshop participants with the LAICO team



- Rural Development Institute (HIHT), Uttarakhand, India
- H.V.Desai Eye Hospital, Pune, Maharashtra, India
- Suraj Eye Institute, Nagpur, Maharashtra, India
- Grameen Health Care Services Ltd, Dhaka, Bangladesh
- Tilganga Eye Centre, Kathmandu, Nepal
- Himalaya Eye Hospital, Kathmandu, Nepal
- Lions SightFirst Eye Hospital, Nairobi, Kenya
- Aravind Eye Hospital, Coimbatore, India

#### Workshop on Primary Eye Care Services

LAICO, August 26-28

A total of 10 members from Urban Primary Health Care Project, Bangladesh attended the workshop. The main objectives of the workshop were to stress the importance of primary eye care, to orient the participants to the Aravind model. The importance of community participation, awareness creation, referral network, monitoring and evaluation, and sustainability were focal points for the discussions.

#### Workshop on Primary Eye Care Management for Project Managers

LAICO, December 18-20

Supported by ORBIS Bangladesh, a total of 10 participants from Second Urban Primary Health Care Project attended the workshop.

#### Certificate Course in Project Management for Eye Care

LAICO, September 1-27

A total of seven members attended the course. The main objectives of the course are to understand the structure of the project management module, to learn the elements of the project proposal, and to internalize the content of the project proposal.

#### Orientation to Aravind model

LAICO, November 30-December 2

The fourth batch of this course for Islamia Eye Hospital team, Bangladesh was held with support from ORBIS

Management Training and Systems Development Course participants with the LAICO team



International, Bangladesh. A total of 5 members attended the course. The main purpose of this course was to understand the Aravind model and how a secondary eye hospital (such as Aravind - Theni) incorporates the outreach component successfully.

### Management Training and Systems Development for Hospital Administrators

LAICO, April 14 - May 24

A total of seven members participated in the course. The participants were from the following organisation

- Blind Peoples Association, Ahmadabad, Gujarat, India
- Ambohibao Lutheran Church Hospital Eye Services, Antananarivo, Madagascar
- Presbyterian Eye Clinic Acha, Bafoussam, Cameroon
- KCCO (Kilimanjaro Center for Community Ophthalmology), Moshi, Tanzania
- Fundación Cristiana para la Salud (FUNCRISA), Ecuador, South America
- Cuttack Diabetes Research foundation, Orissa, India

October 1-November 10

The participants were from the following organisations

- Purnima Netralaya, Jamshedpur, India
- Mbingo Baptist Hospital, Mbingo, Cameroon
- Ophthalmology Centre, Lao. P.D.R, Thailand
- Victory Nursing Home, Madurai, India
- ECOS Eye Hospital, Orissa, India
- M. Ram Reddy Lions Eye Hospital, Andhra Pradesh, India
- Shroff Eye Hospital, Mumbai, India
- Quiha Zonal Hospital, Tigray, Ethiopia
- Grameen Health Care Services, Dhaka, Bangladesh

### Management Priorities in Eye Care Delivery

LAICO, January 4-10

A total of 26 members participated from the following organisations.

- Yigalem Hospital Secondary Eye Unit, Ethiopia

*Mr. R.D. Thulasiraj with the participants of the Management Training for Eye Care Programme Managers course*



- Jogla Hospital, Harari, Ethiopia
- Jimma University, Jimma, Ethiopia
- Sewa Sadan Eye Hospital, Madhya Pradesh, India
- The Leprosy Mission, Kolkata, India
- Global Hospital Institute of Ophthalmology Talhetti, Rajasthan, India
- Sewa Sadan Eye Hospital, Madhya Pradesh, India
- Shroff's Charity Eye Hospital, New Delhi, India
- KK Eye Institute, Maharashtra, India
- Yugrishi Shriram Sharma Acharya Charitable Trust Unit, Kolkata, India
- Yugrishi Shriram Sharma Acharya Charitable Trust Unit, Maharashtra, India
- Fatima Hospital, Uttar Pradesh, India
- Sagarmatha Choudhary Eye Hospital, Lahan, Nepal
- Lumbini Eye Institute, Kathmandu, Nepal
- Ophthalmological Foundation of the Phillippines, Pasis City, Phillippines
- Tagum Doctors Hospital, Tagum City, Phillippines
- Fred Hollows Foundation, Middle Drift, South Africa
- Nghe An Eye Centre, Nghe an Province, Vietnam

### Management Training for Eye Care Programme Managers

LAICO, February 16-27

A total of 23 members from the following organizations participated in the course

- Dr. Shroff Charity Eye Hospital, New Delhi
- SightSavers International, India
- Fred Hollows Foundation, Bangladesh
- VISION 2020 India, India
- Islamia Eye Hospital, Bangladesh
- SightSavers International, Bangladesh
- Trachoma & Prevention of blindness programme, Myanmar
- Fred Hollows Foundation, Cambodia
- CBM International, China
- Fred Hollows Foundation, Australia
- He Eye Hospital, China
- International Resources for the Improvement of Sight (IRIS)

### Fellowship Retreat - 2008

LAICO, July 23

For the first time a retreat was organised for the current and previous batches of Fellows in Eye Hospital Management to refresh the roles they play at their respective jobs in the organisation and discuss how to channelise their individual works towards Aravind's Mission.



*During the fellowship retreat held at LAICO*

The Retreat focused on two major areas, one being, how to spot the areas of work and secondly how to become self-driven. During the Retreat, the senior fellows who play vital roles in the five Aravind Eye Hospitals and the Aravind Managed Eye Care hospitals shared their success and failure stories and also the individual learnings from it. At the end of the retreat follow up activities that should be taken at individual level to carry forward the learning were planned and agreed upon.

**Fourth batch of Fellowship in Eye Hospital Management**  
Inaugurated on August 6, LAICO

A total of 12 fellows have joined this batch.

The ultimate aim of the programme is to select potential young health management professionals, and train them to meet the requirement in Aravind's own system as well as in the network of Managed Hospitals. These Fellows on completion of the one-year training will be employed as Managers in various areas according to their aptitude, skills and the requirement in the system.

**PRISM 2009 "Excellence in Hospital & Healthcare Administration"**

LAICO, February 14-15, 2009

PRISM is an annual national meet organised at LAICO by

*Fourth batch of Fellows in Eye Hospital Management*



*Mr. R.D. Thulasiraj, Dr. Suzanne Gilbert, Mr. R. Basil, Mr. Sudeep at the inauguration of PRISM-2009 at LAICO*

the Fellows in Eye Hospital Management and the Aravind Administrative Team. PRISM aims to enhance new insights into hospital management for professionals and students in this sector through sharing of rich experiences by professionals from diverse fields of management. PRISM provides a forum for hospital administrative professionals to keep themselves updated with the latest happenings in the hospital management sector.

Mr. R. Basil, Director & CEO, Manipal Health System, Bangalore, Mr. Venkat Changavalli, CEO, Emergency Management Research Institute (EMRI), Secunderabad, Dr. S. Ramesh Babu, Medical Superintendent, Global Hospital and Health City, Chennai, Mr. Sathya Shankar, Vice President, Eagle Software India Private Limited, Chennai, Ms. Kshititi Nagarkar, HOSMAC, India Pvt. Ltd., Mr. Sudeep, Registrar, Centre for Earth Science, Trivandrum, Mr. Srinivasan H, Assistant Vice President, Star Health Insurance, Chennai, Mr. Raj Pandyan, Team Leader, Health Programme, Dhan Foundation, Madurai, Mr. Vijendra Katre, Project Officer, Rashtiya Swasthya Bima Yojana, Govt. of Gujarat and Dr. Suzanne Gilbert, Co-ordinator-IAPB, Director-Centre for Innovation in Eye Care, Seva Foundation, USA were the leading speakers who handled the various sessions in the conference.

*Mr. Poornachandran conducting the Instrument Maintenance Course at Al Noor Magrabi Eye Hospital, Cairo, Egypt*





Mbingo, Cameroon

### Al Noor Magrabhi Hospital, Cairo, Egypt

July 23-August 12

Mr. Poornachandran, Mr. K. Sekar and Prof. V. Srinivasan, visited Egypt to conduct the Instruments Maintenance course. A total of 21 technicians from Egypt, Sudan and Yemen participated in the course. An important feature of this course was repairing and sharpening of surgical instruments.

### Mbingo, Cameroon

March 16-28

The second visit by Mr. Poornachandran and Prof. V. Srinivasan to Cameroon was to conduct the course in Ophthalmic Instruments Maintenance at Baptist Mission Hospital. The course was jointly sponsored by “gtz” (a German Government aid organization), EPOS (health consultants in Cameroon), Ministry of Health of Government of Cameroon and the international NGO Right to Sight. Fifteen technicians attended the course, which included training in care, maintenance and repair of all instruments in a secondary level eye hospital.

### Projects Division

LAICO Projects Division contributes to the elimination of needless blindness through

- Effective provision of end to end project management systems and processes
- Development of project management capability through sharing of best practices, systems and training

The main areas of work under this division are promoting the right approaches to project development, its implementation and evaluation. The developments in the year ending March 2009 in the major projects are discussed here.

### Primary Eye Care through Vision Centres

Lavelle Fund, USA is supporting establishment of 20 Vision Centres, now onwards known as ‘Primary Eye

Examination Centres’ in rural parts of Tamilnadu and Pondicherry. Eight Vision Centres were established in phase one and eleven more in phase two. Based on the experience gained on an earlier initiative, Aravind is incorporating Community Based Rehabilitation coupled with systematic community based activities, thus providing comprehensive coverage and services - preventive, curative and rehabilitative. On the rehabilitation front, 113 incurably blind people and 69 persons with low vision have been identified. CBR services were provided for 37 persons. Each of these centres is staffed by a team consisting of a Technician, a Patient Counsellor and an Eye Health Community Worker.

### Seeing is Believing – Standard Chartered Bank supported Vision Centre project.

Seeing is Believing Project is supported by Standard Chartered Bank, UK through International Agency for Prevention of Blindness (IAPB)) for setting up of forty vision centres across four States in the country as part of a strategy of providing comprehensive sustainable eye care to under-served populations in India. The implementing agencies are

- Aravind Eye Hospital - Theni and Madurai, Tamil Nadu
- Venu Charitable Society, Tapal, Aligarh
- Sadguru Netra Chikitsalaya, Chitrakoot, Madhya Pradesh
- Dr. Shroff Charitable Eye Hospital, Delhi

### Aravind WDF Diabetic Retinopathy Management Projects - Phase III (Aravind-Coimbatore, Tirunelveli)

Aravind has developed a sustainable service delivery model for Diabetic Retinopathy with the support from Lions Clubs International and World Diabetes Foundation. With the successful implementation of Diabetic Retinopathy (DR) Programme at Aravind Eye Hospitals at Madurai, Theni, Tirunelveli and Pondicherry, WDF is now extending support to further expand this programme to Aravind- Coimbatore covering three districts-Coimbatore, Salem and Erode and has extended the support to Tirunelveli region also. Key strategies of the DR programme are continuous awareness creation campaigns, aggressive community outreach, providing required diagnostic and treatment services. This project (Phase III) was commenced in 2006 and will be concluded in April 2009. Experience and insights gained through this programme are being shared with other eye care programmes through publications, seminars and participation in expert committees.

### TIFAC-CORE in Diabetic Retinopathy Project – Phase II

Aravind Eye Hospital has established TIFAC-CORE in Diabetic Retinopathy in February 2003 with the support



from Mission REACH, TIFAC. The Phase II of this project commenced in July 2007 with the objective of undertaking new academic programmes, research and development. The main focus is given to research on “Functional Genomics and Proteomics of Diabetic Retinopathy”. The research and academic programmes are under progress.

#### **A2Z Child Blindness Project, Aravind-Madurai**

A2Z, The USAID Micronutrient and Child Blindness Project managed by Academy for Educational Development (AED) is supporting Paediatric Department of Aravind Eye Hospital, Madurai in the eye care programmes on school based screening for refractive error, paediatric cataract surgery and Retinopathy of Prematurity (ROP) screening at Neo-natal Intensive Care Units. A2Z supports this programme for twenty two months starting from October 08. The expected result of the project is to increase the knowledge on paediatric eye diseases and make the community realise the importance of checking visual acuity in all children in the age group 0–14 years.

#### **ORBIS – Aravind Paediatric Ophthalmology Learning and Training Centre (POLTC)**

Paediatric Ophthalmology Learning and Training centre is functioning in Paediatric department at Aravind Eye Hospital, Madurai with the support of ORBIS - India from January 2007. Training of human resource for paediatric ophthalmology service is the main focus of this centre. This centre is conducting training courses on long-term fellowship for Ophthalmologists and short term for paediatric anaesthetists, MLOPs, community outreach workers and instruments’ maintenance workers. This centre has developed a training manual exclusively for this training course.

#### **Research Division**

LAICO’s Research Division was established primarily to build the organisations’ research capacity to conduct scientifically rigorous and relevant research, and to engage in epidemiologic, and population based studies and health systems research to generate evidence to guide global policy in the elimination of avoidable blindness.

The Biostatistics Department provides vital support in data entry, management and analysis for all ongoing clinical, epidemiological and health systems research conducted at Aravind. Additionally, statistical inputs are provided whenever needed for planning research studies and for reviewing articles by various reviewers within Aravind and to research projects elsewhere on request.

The major operations research undertaken by LAICO in the year ending March 2009 are

- Investigating Gender Equity in the Utilisation of Cataract Surgical Services in Aravind Eye Hospitals, Madurai - Seva Canada
- Uptake of Spectacles for Refractive Errors across different Delivery Systems
- Assess the prevalence and socio-economic burden of near visual impairment caused by uncorrected presbyopia
- HR practices which influence employee satisfaction and patient satisfaction

#### **Workshop on Research Methodology**

LAICO, October 2-5

This basic level workshop was designed to enhance the research culture among health care service providers and structured to facilitate the participants get oriented to both research methodology and statistical methods. This included didactic lectures, problem solving sessions, hands-on-training, group work and participants’ presentations. The main objectives of the workshop were to

- Understand the relevance of clinical and operational research, identify a research question
- Design and conduct a study on their own; acquire better understanding of various sampling procedures and sample size calculation
- Manage databases, perform appropriate statistical analysis and meaningfully interpret the findings.

A total of 32 participants attended the workshop on Research Methodology.

#### **Developmental Initiatives at LAICO**

##### **LAICO Retreat**

Pondicherry, April 9-12

A total of 22 members consisting of LAICO division members, Central office LAICO facilitators, Leadership team, and Potential LAICO contributors participated in the retreat. The retreat focused on reflections to move

*Participants of Research Methodology Workshop held at LAICO*





Mr. Sanil Joseph with Mr. Viv Miles at W<sup>2</sup> Consulting, UK

forward, not intended as problem solving, but more for setting the broader directions.

### Secondment in the UK

UK, May 24-June 14

Mr. Sanil Joseph underwent a three week secondment with W<sup>2</sup> Consulting, UK starting from 26th May 2008. W<sup>2</sup> (W squared) is a UK based organisation specialised in developing consultancy skills in order to improve the effectiveness of organization and individuals and has got many years of association with Aravind. This secondment was in continuation of the 'Consultancy Skills Development Workshop' hosted by LAICO for the SEVA Centres for Community Ophthalmology (CCO) in October, 2007 facilitated by W<sup>2</sup>, Consulting.

### Case Writing Workshop

LAICO, January 28-29

Case Writing Workshop was held at LAICO from January 28-29. The main objective of the workshop was to learn how to use the case study as part of teaching in the class, and to prepare the teaching guide of the case study, to understand the factors which make a good case study, to understand the process of writing up a case study and to understand the different ways of a case study.

Ms. Preethi Pradhan with the participants of the Eye Excel Workshop



### October Summit

#### Eye Excel - Expanding Global Eye Care Workforce through Excellence in Training

LAICO, October 9-11

A total of 42 members attended this training programme. This workshop aims at developing an organisation which can deliver quality training programmes and have the capacity to provide training programmes on a regular basis.

#### Global Consultation on Sustainability in Eye Care

Aravind-Pondicherry, October 13-14

A total of 62 members participated in the workshop. The main objectives of the workshop were to deliver the best practices of sustainability and its applications in health care sector, develop appropriate strategies that could be employed in eye care, and changing the perceptions and decoding the concept of sustainability for eye care among INGOs and the eye care providers. This workshop was sponsored by WHO - Aravind - Seva and co-sponsored by SBM, RTS, IEF.

#### Advocacy in Eye Care Services

Aravind-Pondicherry, October 16-18

Advocacy is defined as "creating an enabling environment so that eye care services reach all those in need". A total of 42 members participated in the workshop which was held as a VISION 2020 SEAR workshop in collaboration with IAPB-SEAR, ICEH and LAICO. It was conducted with the funding support of CBM, SSI, OEU, ORBIS, and ICEH.

The main objectives of this workshop were

- To identify the major issues in eye care which are limiting the provision of efficient, high quality and comprehensive eye care
- To identify the major issues countrywise for the South East Asia Region
- To identify advocacy mechanisms in order to address these issues.

### Training at University of North Carolina-Chapel Hill

Ms. Nithya Neelakantan, Biostatistician, LAICO visited United States to attend a short term training programme on 'Data Management Techniques and Statistical Analytic Methods' at the Department of Biostatistics - Collaborative Studies Coordinating Center (CSCC), School of Public Health, University of North Carolina, Chapel Hill, USA from March 15 to April 30.

The main purpose of the visit was to improve her statistical analytic and data management skills through individualised readings with Dr. Shrikant I Bangdiwala, Senior Professor and visiting CSCC - a center that coordinates major large collaborative clinical studies.

### CONFERENCES & WORKSHOPS ATTENDED ELSEWHERE-LAICO

#### Guest Lecture

International Centre for Eye Health, London, May 7-11

Mr. R.D. Thulasiraj visited ICEH, London from May 7-11, to deliver lecture for the M.Sc students.

#### Guest Lecture

International Centre for Advancement of Rural Eye Care, LVPEI, Hyderabad, June 3-4

Mr. Suresh Kumar handled the session on Planning and Management for Eye Care Service Delivery for the students of Diploma in Community Eye Health.

#### World Ophthalmology Congress

Hong Kong, June 26-28

Mr. R.D. Thulasiraj participated in the Refractive Errors Committee Task force meeting of Indian Council of Ophthalmology (ICO). He attended the IAPB's Human Resource Programme Committee meeting and he also participated as the speaker in four scientific sessions on

- Sustainable eye care programmes
- Add the challenges of cataract blindness
- Tele-ophthalmology
- Moving beyond cataract

Mr. R.D. Thulasiraj at the 8th General Assembly of International Agency for Prevention of Blindness Meet



### VISION 2020 Board Meeting

Rajasthan, Jodhpur, July 10-11

Mr. R.D. Thulasiraj participated in the VISION 2020 Board Meeting held at Jodhpur on July 10 and 11.

### 8th General Assembly of International Agency for Prevention of Blindness

Buenos Aires, Argentina, South America, August 22-29

#### MR. R. D. THULASIRAJ

- Community Mobilization
- Critical components for Financial Sustainability
- Vision Centres
- Human Resource Development
- Reaching the Unreached
- Sustainability case study: Vision Centres

#### DR. R. D. RAVINDRAN

- Diabetic retinopathy - the way forward
- Tele-ophthalmology
- CRO Meeting: Update on Indian Performance
- Conversion from ECCE to SICS
- Role of District Level Managers

#### MR. R. MEENAKSHI SUNDARAM

- Capacity Development: setting up of sustainable primary eye care centres

#### MR. GANESH BABU

- IT enabled Aravind Primary Eye Care Centres in rural areas: Outcome oriented Model
- Refractive Error Services in Primary Eye Care Centre: Aravind model for sustainable eye care in rural areas

#### MS. SASIPRIYA

- Young Achievers: LAICO's Capacity building experience

#### MS. SANTHA

- EYE-Q, Demonstration

### Christoffel Blinden Mission (SARO-N) Meeting

Delhi, September 17-18

Mr. R.D. Thulasiraj made a presentation about AECS at a meeting with the senior management team of India Medtronic Pvt. Ltd at Delhi.

### American Academy of Ophthalmology Meeting

Atlanta, November 8-10

Mr. R. D. Thulasiraj presented the Aravind Training

Mr. R.D. Thulasiraj with Mr. Paul Coelho at the World Economic Forum





Mr. Sanil Joseph with the team members of IGEHRC Amethi and Lucknow

Model at the ICO meeting. He participated as Instructor in the course on Sustainable Eye Care.

- International Forum: debate on user fee

### Annual Meeting of the World Economic Forum

Davos, Switzerland, January 28-February 1

Mr. R. D. Thulasiraj, Executive Director, LAICO participated and had a discussion at Annual Meeting of World Economic Forum which was held at Davos, Switzerland from January 28 to February 1.

### Visit to Manipal Academy of Higher Education

Mr. Sanil Joseph, Faculty, LAICO visited Manipal Academy of Higher Education, Manipal, Karnataka from July 28 to 31, as Examiner for Viva voce for the students of Master of Health and Hospital Information Administration (MHHIA).

### Visit to IGEHRC Amethi and Lucknow

Mr. Sanil Joseph, Faculty-LAICO visited AMECS hospitals- Indra Gandhi Eye Hospital & Research Centre at Amethi on September 22 and Lucknow on September 23 and conducted mini workshops titled "Together we can make a difference".

## INFORMATION TECHNOLOGY AND SYSTEMS

With a vision of becoming a Centre of Excellence in IT Applications for Eye Care, the IT & Systems division of AECS takes care of the overall implementation, maintenance and support of all applications and technologies. It helps in exploring new and alternative technologies and also in the development of new solutions.

During the year 2007 - 2008, the department undertook a revamping exercise to improve the performance and features of all its existing applications and also initiated several new projects.

### Integrated Hospital Management software (IHMS)

This software is constantly being enhanced to improve the performance as well as to address new requirements. During this year, an exercise was undertaken to completely revamp the database and its related programmes to improve the overall performance. It helped to improve the reports processing, hurdle free concurrent usage of data, and also curtailed the transaction processing time.

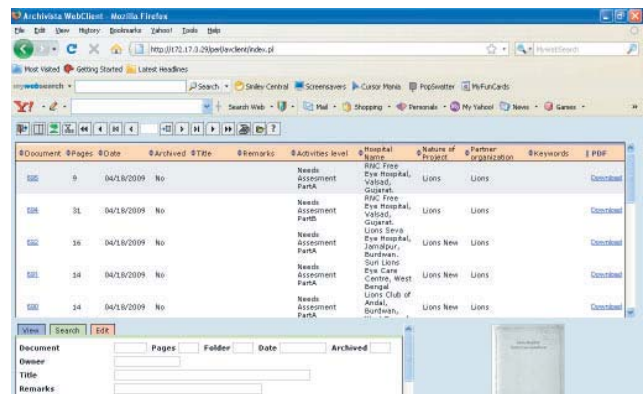
A simplified version of IHMS was implemented in the newly opened "City centre" at Mahal-Madurai, and the Community Eye Centre at Cumbum -Theni.

### Vision Centre Management System (VCMS)

The Vision Centre Management System was developed with specific features and facilities to meet the requirements for running the vision centres more efficiently. The software covers registration, billing, electronic medical records, optical sales, medicine sales, referral tracking etc. It was implemented in 8 vision centres and also in various other organisations. It will be extended to the remaining centres in the coming year.

### Inventory Management Software

Significant changes and improvements were introduced in the Inventory Management software. Facilities to send



materials requested by the user through the intranet, sub-store and lot level stock to track expiry details were included as new features.

### SMS Services for Patient Care

This service was initiated for patients with chronic problems like Glaucoma to constantly remind them of the importance of medications, follow-up and treatment. It was implemented in Glaucoma Clinic of Aravind - Coimbatore and will be extended to other areas in the coming year

### Document Management System

An open source product to archive documents for future retrieval was implemented during 2008 – 2009. All the documents of the “WHO Presbyopia study” were archived using this tool and it was very useful during the data cleaning process. This will be further extended to other areas like office documents, patient records and so on.

### Upgrade of IT facilities

#### Major Activities

A lot of improvements were made to wireless network during the year 2008 particularly regarding the number of users, relocation, redirecting, increasing the range and capacity etc. Apart from these, various initiatives were also undertaken like:

1. Structured cabling work for the new research building
2. Expansion of Wireless network to new areas to set up vision centres
3. Centralised email services for all our hospitals

#### Major Projects

##### Data Management software for WHO Study

WHO conducted a Presbyopia study in 7 countries for which the department developed Data management software and distributed it to all the study centres.

Mr. Ganesh Babu, Senior Manager, IT & Systems visited World Health Organisation at Geneva, Switzerland from May 4-10 to work with Dr. Leon and Dr. Pierre Huguet for Presbyopia study data management software. They reviewed the forms and data entry screens and discussed the issues faced during the pilot testing of the forms. At the end, the team produced WHO Presbyopia study kit containing Protocol, Forms, Epi-info software, and software for data entry and cleaning, code book and installation guide. During this visit, he met Dr. Jacob Robert for discussion on ICD codes and Dr. Serge Reskinoff for getting an overview on WHO Infobase.

### MSSRF (MS Swaminathan Research Foundation) – Rural Innovation Fund Award

AECS received fund from Microsoft through MSSRF to enhance Aravind’s vision centre promotional activities and to design and develop MIS for vision centre activities. Using this project, the department developed a comprehensive information system and its flow and access from remote areas.

### Promys-Project Management System

This software development initiative was supported by Seva and was completed and implemented internally for all Aravind projects.

### VISION 2020 e-resource

The www.v2020 eresource.org was revamped with several user friendly features.

### Residency MIS

This software was recently implemented internally to assess the residency programme at Aravind Eye Hospitals.

### Upcoming Projects

#### Electronic Medical Record

This project has remained pending for a very long time due to non – availability of appropriate technology solutions. With the availability of several new technology options to maintain and use this system, the project has been reinitiated during the last year. The department has set a target to implement it at one of the Aravind Eye Hospitals by the end of 2009.

#### RFID : Radio Frequency Identification Technology

This software system will help in managing patient flow more efficiently with proper tracking; ensuring right patients are in a given location, it will help track patients and resources distribution at any given point of time.



## Transport Management System

This system will keep track of transport management activities like requesting a vehicle, maintenance scheduling, expenditures, utilization etc.

## THE ARAVIND TELE-OPHTHALMOLOGY NETWORK

The Aravind Tele-ophthalmology Network (ATN) was launched in the year 2002. Since then, Telemedicine link has been established between all the satellite hospitals of Aravind. Where ever possible, Aravind uses this technology to overcome the issues of transportation and inadequate specialist availability.

Through this videoconferencing facility doctors, paramedical personnel and administrative staff at Aravind can interact and share their experiences with the experts for Continuing Medical Education (CME), Grand rounds, Journal Clubs, research and management meetings.

Educational interactions include grand rounds (cases of academic interest), journal clubs (Clinical research and management articles), clinical meetings, special lectures and regular class sessions, Research Committee Meeting, Post Graduates classes, CMEs, projects review meetings and classes for Mid Level Ophthalmic Personnel and Paramedics.

Around 435 videoconferencing sessions were conducted during the last academic year (April 2008 to March 2009). The average time taken per session was around 1 hour 30 minutes. A total of approximately 630 hours have been spent for video conferencing sessions during the last year.

## ARAVIND COMMUNICATIONS

Consisting of the publications and audio visual departments, Aravind Communications Division plays a major role towards fulfilling the publication, communication, health education and publicity material needs of Aravind Eye Care System. The department is fully equipped with the state – of – the – art desktop publishing facilities, digital photography, videography, video - editing and projection facilities.

For self learning and teaching purposes an interactive animated DVD on Vitreo Retinal surgical techniques was released on 14th June 2008. Developed by a team of Aravind's retina surgeons headed by Dr. Kim and created by Mr. Raj Arjunan, a skilled volunteer animator, the DVD has captured the attention of global academic institutions.

A Tamil book titled “Kannae Nalamaa” written by Dr. R. Ramakrishnan, Chief Medical Officer, Aravind Eye Hospital – Tirunelveli was also brought out during the last year. The book contains a number of articles on various eye diseases and the need for protecting eyes.

Another notable contribution of the Communications Division is the large number of posters it brought out for the eye exhibition held at Aravind – Theni in the month of November. These posters on eye diseases were well appreciated by the visitors to the exhibition.

Equipped with Panasonic DVX 102 A, and Avid express Pro, the Videography Department develops instructional videos and awareness films. The Department has developed a video on Glaucoma to create awareness among the public. Interesting videos on Alanganallur Vision Centre, Camp Hospital and clinical surgeries were also produced by the audio visual department.

The Spanish version of DVDs on Instruments Maintenance has been produced with the assistance of Mr. Ismael Cordero, Health Care Technology Specialist, ORBIS International, New York. The Spanish text was recorded in his voice at Aravind's audio visual department. Later the audio and video were integrated and some improvements made in the animations by Aravind's videographers.

## Websites Developed and launched in 2008-09

A website for v2020eresource:

[www.v2020eresource.org](http://www.v2020eresource.org) was revamped with several user friendly features.

## Auroserve

A website which details about the volunteering opportunities at Aravind.



'Aurowel' programme held at Aravind - Tirunelveli

## HUMAN RESOURCE

With a view to standardising the HR activities across all the Aravind Hospitals, HR Department, during the last year introduced an HR calendar and a personnel calendar. This helps to streamline all the activities across the system and serves as a reminder of what needs to be done. Initiatives were taken to streamline the parameter process and a major step forward has been the introduction of the parameter external audits. A team was formed which visited the different Aravind and AMECS hospitals to help set the parameter system in place and to conduct the audit. Many new programmes were undertaken to enhance the employee participation in the organisation and to make them aware of the latent potentials in them. Several retreats were organized during the last year which not only helped in planning but also served to promote the spirit of teamwork and cooperation among the employees. An HR retreat was also conducted in which HR theme for the year 2009 was "Standardising Measurement Systems for the Growth of Organisation and Employees".

### Employees Welfare Activities

Aurowel-2008

Aurowel-2008 Programme was held at all Aravind Eye Hospitals. Various activities were held to create awareness among the staff members regarding 'Aurowel' programme

*Yoga class held at Aravind-Coimbatore for MLOP staff*



and also on 'Health and healthy living'. In addition to various health check ups conducted by doctors, awareness week and Aurowel exhibition were also held.

Various guest lectures on cardiac care, Gynaecology, Dentistry, Dermatology, Dietetics etc were also held as part of the programme.

- As part of Employee welfare programme "Auroneechal", swimming pool was inaugurated in Aurowfarm in September 2008.
- 'Take a minute exercise' was arranged for the staff members of Aravind Eye care system, Madurai from January 21-22 under the guidance of Ms.Zuleika from California.
- As part of Aurowel health programme-2009 the 40 plus age group employees of Aravind Eye Hospital, Madurai, went on a heritage walk to Samanar Caves on March 1, 2009. They headed for a place which is just a 30-minute travel from the city to a mountain cave inhabited by Jain monks 1500 years ago at Nagamalai Pudukottai.
- A four day Yoga class was held at Aravind-Coimbatore from March 10-13, for the MLOP staff who have completed five years. Yoga experts (Trainers) Mrs. Erika Weber and Mr. Loganathan from Integral Yoga Institute handled the session.
- Art of living sessions were held at Aravind-Coimbatore and Tirunelveli from June 12-15 for and from September 30-October 3 respectively for the newly joined MLOPs and women staff members, to bring about a transformation showing the complete potential of each individual.

### Guest Lectures and Training Programmes

- A Guest Lecture on Transactional Analysis was held at Aravind-Tirunelveli on August 7 and November 29. Mr.R. Ganesan, DCW spoke on the theory of psychology, psychotherapy, human well being, best in treating people and personality development.
- Mr.Shylas Raja, a hotel manager was invited as guest at Aravind-Tirunelveli on September 6, to share few serving and table etiquettes with the Housekeepers.

*Guest Lecture on 'Free Ambulance Service' was held at Aravind-Tirunelveli*



This class was arranged for the housekeepers who perform the dual role of housekeeping and catering at the time of CMEs, conferences, meetings.

- Newly recruited staff of Catering Department from Aravind-Coimbatore visited Nilgiris on September 26 for observation and training programme. They observed the areas of bakery division, hotel-dining area, kitchen recipes, super market and so on.
- In order to create awareness among MLOPs regarding health insurance, a session was held at Aravind – Tirunelveli and Madurai on November 18 and January 9 respectively.
- Mr. Krishnamurthy from Vivekananda Kendra, Kanyakumari gave a guest lecture titled “By serving others you serve yourselves” on January 17. Dr. Girija Sathiyasankar delivered a lecture to all the supervisors and tutors in Aravind –Madurai on “Self Discipline” on January 29.
- Mr. Nagarajan, Board Member, Seva Foundation, US and Consultant - Aravind Eye Care System gave a guest lecture to the Administrative staff of Aravind-Madurai on “Open Source in Information Technology” on February 12.
- Mrs.Saraswathi Ramanathan, an eminent academician delivered lecture entitled “Uyirum Uyarvum”, on women empowerment explaining it with 12 letters of Tamil alphabets on March 6 at Aravind-Madurai. She also addressed the supervisors and tutors on the topic of “Leadership and role model”.
- Mr.Sainath, Sri Akshaya Catering Service of Coimbatore shared many North Indian recipes and also gave very useful tips.
- Housekeepers at Aravind-Tirunelveli visited Hotel Sri Janakiram on February 17 to get an idea about ‘linen management’, bed making and also housekeeping practices.
- Guest Lecture on ‘Free Ambulance Service’ was held at Aravind-Tirunelveli on February 20. Mr. Manikandan, Operations Executive of Emergency Management and Research Institute (EMRI) delivered a Lecture and



Participants of Medical Records Department CME programme

showed the audience a live demonstration regarding Free Ambulance Service.

- A Guest Lecture was arranged for Electricians and Instruments Technicians on March 11 at Aravind-Tirunelveli. Mr.D. Vijay Amirdharaj, Senior Service Engineer of Numeric Power Systems Limited gave a talk on “Power Saving Audit”.

## CME Programmes

### CME for MLOPs

CMEs for MLOPs were held at all Aravind Eye Hospitals during the months of October and January. The CMEs stressed the importance of knowledge, skill and attitude in providing patient centred care.

There has been a constant emphasis within the organisation to continually improve specific clinical skills along with soft skills in order to provide the best service for the patients.

### CME for MRD staff

Aravind-Madurai, August 2-3

A total of 16 staff members from all Aravind Eye Hospitals attended the training Programme. The main objective of the workshop was to upgrade and standardise the teaching methodology of all the senior staff of Medical Records with the guidance of Medical Records Manual.

### III CME for Training Coordinators

Aravind-Coimbatore, February 7-8

Training coordinators CME held at Aravind - Coimbatore





A total of 17 participants from all Aravind Eye Hospitals attended the workshop. The main purpose of the CME was to strengthen the training administration by standardising the process through developing the capacity of the training coordinators in the area of communication, documentation, report generation, and adopting the systems and procedures.

### Employee Recreational Activities

Melody Friday-a monthly event for the employees to relax and rejoice is observed at Aravind-Madurai and Tirunelveli. This event provides a platform for the staff to display their talents. Festive Friday is celebrated at Aravind – Coimbatore for the employees to bring out their latent potential through singing, dancing and other performing arts.

### Moments of Relaxation

Staff members from various cadres like MLOPs, Admin staff, cleaners etc were taken on a trip to different places which provided them entertainment as well as repose in the midst of their hectic schedule.

### Other Events

Mission Day, the memorial day of Dr. V, was observed on July 7 at all Aravind Eye Hospitals. All the senior staff shared their experience of working with Dr. V. They remembered their association with the Chief and pledged to carry forward his mission.

October 1 is the birthday of our beloved founder chairman Dr. Govindappa Venkataswamy and this special day was celebrated as “Founder’s Day” at all Aravind Eye Hospitals.

Hospital Day was celebrated at all Aravind Eye Hospitals at Theni (September 30), Coimbatore (January 24), Tirunelveli (February 14) and Pondicherry (February 21).

International Women’s day was celebrated at all Aravind Eye Hospitals. As part of one week programme various competitions, guest lectures and debates were held from March 6-13.

*Graduation Day celebrations held at Aravind-Madurai*



*Hospital Day celebrations at Aravind - Coimbatore*

### Service Award Function-2008

Service Award function was held at all Aravind Eye Hospitals in December 2008. Awards were distributed to the employees who served for more than 5, 10, 15 and 20 years at Aravind.

### Graduation Day celebrations at Aravind

Graduation Day was celebrated for the tiny tots of Janakiamma Child Care Centre at Aravind-Madurai, Tirunelveli, and Coimbatore on March 23, 25, and 28. The Kids showed their talents by dancing and singing nursery rhymes. “Ready to School” certificates were distributed to the kids.

### Marathon by Dhan Foundation

A total of 63 staff members of Aravind Eye Care System, Madurai participated in the 6km marathon conducted by Dhan Foundation for the cause of spreading awareness about anemia on January 22.

### HR Review Workshop

The HR team members from Aravind- Madurai, Coimbatore, Tirunelveli, Pondicherry, AMECS and Aurolab participated in the workshop held at LAICO from November 13-14. The HR activities of 2009 were planned in the workshop via coming up with the HR calendar.

*HR retreat held at Aravind - Tirunelveli*





Medical Records Exhibition at Aravind - Madurai



Counselling Exhibition at Aravind - Tirunelveli

### Supervisors and Tutors Meeting

Every year as part of leadership enhancement programme, the MLOPs who have completed five years are eligible to apply for the post of Supervisor and Tutor. In December the IV batch of supervisors and tutors was selected from all the Aravind Eye Hospitals and they had a formal three day orientation programme at Madurai from January 29-31

### Retina Retreat

Kodaikanal, January 10-11

Retina Department of Aravind Eye Care System organised a retreat at Kodaikanal. It was attended by medical officers and fellows from Aravind-Madurai, Coimbatore, Tirunelveli and Puducherry hospitals. The main objective of the meet was to discuss various amendments, financial administration and academic schedule. Decisions pertaining to the above were taken with active participation of all for further improvement in services of retina department.

### HR Retreat 2009-“Standardising Measurement System for Growth of Organisation and Employees”

HR Retreat was held at Aravind-Tirunelveli from February 5-6. The objective of the retreat was to operationalise the theme “standardising measurement system for growth of organisation and employees”.

The retreat began with each hospital presenting a report of their activities in January 2009. The main areas of discussion in the retreat were

- Planning the HR activities on the HR calendar-2009
- Standardising the manpower planning for MLOPs
- Enhancing the employee development system ‘Sigarathai Nokki’
- Effective utilisation of Human Resource Information System
- Streamlining and standardising the current personnel policies

### Patient Centered Care Workshop for OT Staff

Patient Centered Care Workshop for OT staff was held in Aravind-Madurai from March 14-19. The workshop was addressed in the form of role plays, group discussion and film clippings.

### Exhibitions held at Aravind

In order to create awareness among patients and public various exhibitions were held at the Aravind Eye Hospitals. Exhibitions were held by the departments of Outpatient, Counselling, Housekeeping, Inpatient, Refraction, Ward, Medical Records, Paediatric and Optical. Various charts, equipment, models, layouts models made out of thermacol and photos were displayed in the Exhibition.



*Participants of AMECS leadership development workshop held at Aurolab*

*Dr. Guldeep Srivastava, Dr. S. Aravind and Mr. Manoj Muttu at the inauguration of Out-patient department at Indira Gandhi Eye Hospital & Research Centre, Lucknow*



# Aravind Managed Eye Care Services (AMECS)

Aravind launched “Managed Eye Care” as a strategic approach to dramatically scale up the reach and uptake of services in underserved parts of India and other developing countries. The goal is to perform 500,000 surgeries annually by the year 2015 through a network of Managed Eye Hospitals.

AMECS is currently working with four socially conscious organizations in the States of West Bengal- MP Birla group, Uttar Pradesh- Rajiv Gandhi Charitable Trust, Gujarat- Sun Pharma Group and Rajasthan- Narotam Sekhsaria Foundation. AMECS has currently four such managed hospitals in places like Kolkatta (WB), Amethi (UP), Amreli (Gujarat) and Lucknow (UP).

## Inauguration of AMECS office

New office space for Aravind Managed Eye Care Service (AMECS) was inaugurated at the 3rd floor of LAICO on 6th November by Dr. P. Namperumalsamy, Chairman, AECS. Traditional lamp was lit by the senior leadership team and Dr. S.Aravind, Director, AMECS.

## AMECS leadership development workshop

AMECS leadership development workshop was a two day event from December 19-20 held at Aurolab.

*Inauguration of AMECS office at LAICO*



Participants of this workshop were representatives from partner organisations (Trustee), CMO, Deputy CMO and Administrators from all the four managed hospitals. The aim of this workshop was to create a platform in which different dimensions of leadership were brought to the fore by the experts. The workshop strived at bringing forth leadership transformation of the operational team working in the managed hospitals through discussions, presentations and team building exercises.

## Events at Indira Gandhi Eye Hospital & Research Centre, Amethi

### Inauguration of New Operation Theatre

New Operation theatre with the capacity of four surgeons operating at a time was inaugurated on 30th January 2009. This new OT will help to increase the surgical volume of the hospital to perform 20,000 surgeries a year which was performing only 12,000 surgeries till last year.

### Inauguration of glaucoma clinic

Dr. S.R. Krishnadas, Chief Medical officer, Aravind – Madurai inaugurated the Glaucoma Clinic on February 21.

*At the AMECS Leadership Development Workshop held at Aurolab*





*Dr. S.R. Krishnadas at the inauguration of Glaucoma Clinic in IGEHRC at Amethi*

### Eye Exhibition

A two day eye exhibition was held from February 6 – 7. The exhibition was visited by patients, patient attendants, staff from Sanjay Gandhi Hospital, staff and students from Indira Gandhi School of Nursing.

### Best performance award

Refraction department at IGEHRC – Amethi was given the Best Performance Award for their continuous achievement.

### Events at Sudarshan Netralaya, Amreli

#### Hospital Day Celebrations

Hospital day was celebrated on 20th July with a cultural programme.

#### Team Building Workshop

This workshop (outbound learning exercise) was held on 30th November as part of improving team work, communication and co ordination among the members and to develop leadership skills.

*Hospital day celebrations at Sudarshan Netralaya, Amreli*



*During the team building workshop held at Sudarshan Netralaya, Amreli*

### World Glaucoma Day Celebrations

World Glaucoma day was celebrated from March 12-14 with a variety of activities. Free eye screening was held on March 14. Notices and pamphlets were distributed to the patients and public through newspapers, camp sponsors, club members etc.

### Graduation Day of MLOPs

The first batch of MLOPs celebrated their Graduation day after completing their two years of successful training programme.

### Events at Indira Gandhi Eye Hospital and Research Centre, Lucknow

#### Inauguration of the Outpatient Department

Indira Gandhi Eye Hospital and Research Centre, Amethi, after making a remarkable mark in the rural Uttar Pradesh has set up its tertiary hospital at Lucknow, the capital city. The Outpatient Department was opened on May 1, 2008. Rajiv Gandhi Charitable Trust-Trustee, Wing Commander (Retd) Manoj Muttu, AMECS Director Dr. Aravind Srinivasan, Dr. Kuldeep, CMO, IGEHRC and

*Dr. S. Aravind with the IGEHRC, Lucknow team*





Participants of Glaucoma CME held at IGEHRC, Lucknow

a few representatives of RGCT and the staff of IGEHRC and Aravind Eye Hospital attended the function.

Apart from general ophthalmology they have specialty clinics like paediatric, glaucoma and retina and also supportive services like pharmacy and optical shop.

### CMEs

A one day CME programme on Glaucoma was held on January 17 which was attended by a total of 31 ophthalmologists. The Retina & Vitreous Services department organised a Retina CME on January 24 on the topic "Think Globally, Act Locally" in which the city Diabetologists and General Physicians participated.

### Graduation Day Celebration

The second batch of MLOPs celebrated their Graduation day after completing three years of training programme.

### Teachers Training Programme

In the Teachers Training Programme held on February 7, training was given in the area of detecting refractive errors in school children. Following this screening was done in the school premises.

Participants of Retina CME held at IGEHRC, Lucknow



### Motivational Talk

Motivational talk was given by Dr. Krishnadas from Aravind-Madurai for the MLOPs. He spent time with MLOPs discussing their individual problems and issues related to work.

### Conferences Attended Elsewhere

#### ASIA - ARVO 2009

Hyderabad, January 15-18

DR. KULDEEP SRIVASTAVA

Poster presentation

- *Surgical correction of Blepharophimosis syndromes: Objective analysis of surgical outcome*

Paper presentation

- *Augmented full tendon vertical rectus muscle transposition for complex sixth nerve palsy*

#### Hospital Based Programme

Children Hospital, Guangzhou, China, July 13-18

DR. KULDEEP SRIVASTAVA, CMO, IGEHRC,

delivered lecture on

- *Surgical procedures and supervised surgeries.*

#### Feasibility Study

Rajkot, Baroda, Surat, June 8 - July 3 - Mr. R.Vasantha

Kumar and Mr. Kanagaraj visited Rajkot, Baroda & Surat to understand the magnitude of eye diseases and availability of eye care infrastructure in these districts.

Based on the observation made during the study a detailed conceptual framework and roll out plan will be prepared for setting up another managed care hospital in Gujarat.

HOSMAC, Mumbai, September 15

Mr. R. Vasantha Kumar, visited HOSMAC, Mumbai to prepare feasibility report on developing comprehensive eye care programme for Rajasthan.

Dr. Kuldeep Srivastava at the Children Hospital in Guangzhou, China



# Rotary Aravind International Eye Bank

Set up in 1998 with an aim to provide a sustainable solution to the problem of corneal blindness, Rotary Aravind International Eye Bank has completed a decade of its commendable service. It is one of the four eye banks in the country affiliated to the International Federation of Eye and Tissue Banks, Baltimore, USA which stipulates stringent standards of quality for corneas to be used in transplants.

Eye banks located at Aravind Eye Hospitals in Madurai, Tirunelveli, Coimbatore and Puducherry provide corneas and other eye tissue for sight – restoring transplant surgery. Besides eye ball collection and processing work, the eye banks also organize several training and awareness creating activities in colleges, self – help groups, Lions Clubs, Rotary Clubs and in non – profit organizations. In collaboration with different community organizations and compassionate corporations, Aravind eye banks observe Eye Donation Fortnight through programmes such as public rallies and awareness creation activities.

## Eye donation fortnight celebration

Madurai, August 25-September 8

23rd Eye Donation Fortnight was observed from August 25 to September 8. During these two weeks Rotary Aravind International Eye Bank did various programmes within and outside the hospital.

Write ups on the need and importance of eye donation were published in Newspapers and Cinema Slides explaining Eye Donation were distributed to the Madurai cinema theatres to create awareness about eye donation. In BSNL Phone Bills Eye Donation Message with our Hospital Number were printed to create awareness among public and Short Messages (SMS) were sent about significance of eye donations to all the BSNL Mobile phone subscribers. Letters were sent to all the Lions Clubs explaining the importance of Fortnight celebration and the activities to be done in this regard.

## Eye donation awareness rally

Eye Donation Awareness Rally was conducted by Rotary club of Rajapalayam at Madurai. The function was inaugurated by Dr. M. Sivagami, Aravind-Madurai on August 25. A total of 900 students participated in this rally.

*Eye Donation Awareness Rally by Aravind-Coimbatore*





*Eye Donation Awareness Rally by Aravind-Madurai*

### Eye donation fortnight celebration

Aravind IOB Eye Bank, Coimbatore, August 25 - September 8

Eye Donation Fortnight was observed at Aravind IOB Eye Bank-Coimbatore from August 25 to September 8. Eye Donation Awareness Rally was held to create awareness among public. A total of 450 college students participated in this rally. A Live programme presented by Dr. Siddharthan on 'Eye Donation' was broadcast by the All India Radio. Dr. Sathya Rakha delivered a talk on Eye diseases and Eye Donation over All India Radio.

In order to create awareness among public, doctors of Aravind-Coimbatore delivered special lectures at various colleges. Dr. Siva Jothi took the seminar session on Eye Donation at SNR College as part of creating awareness among them. Dr. Kalaivani took the session on Eye Donation at Kumaran College, Tirupur, Dr. Srishankar took a seminar on Eye Donation and Eye Diseases at Ramakrishna College, Dr. Sivajothi took the Eye Donation seminar at Gobi Arts and Science College. Dr. Revathi took the seminar on Eye Donation and Hospital Cornea Retrieval Programme for MSW and NSS students. Dr. Jothi took the seminar on Eye Donation at SNR College. Eye donation batches were worn by all Aravind staff.

### Eye bank training programme

Eye Bank Training Programme was held at Aravind - Madurai from July 20 to August 20. Two trainees one from



*Participants of Eyebank training programme*

Maharashtra and other from Priyamvada Birla Aravind Eye Hospital, Kolkata attended the programme. Eye Bank Manager Training Programme was held from August 6-12. Eye Bank Technician Training was held from August 6 to September 5, four members attended this course. Eye Bank Grief Counsellor Training was held from August 6-23, Mr. Himadri Bhattacharya attended the course.

### Details of eyes received and corneas used

Eye bank	Eyes Received	Suitable for Transplant	Used for transplant
Madurai	2,136	519	519
Tirunelveli	78	47	47
Coimbatore	1,105	395	395
Pondicherry	307	109	109
Total	3,626	1,070	1,070

Not all the corneas in the eyes donated are usable for transplant. Careful selection and determination has to be made to ensure that there is minimal rejection of graft or other complications in the recipient's eye. This can not be done at the point of collecting the eye, for technical and emotional reasons. The eyes with corneas that can't be used for transplant purposes are still very valuable. Other parts of the eye are used in certain surgeries and they are used for corneal graft training and research purposes.





Participants of the Flow Cytometry and its application in Ophthalmic Research Workshop

Dr. P. Namperumalsamy, Dr. A.P.J. Abdul Kalam, Dr. V.R. Muthukkaruppan during the inauguration of Research Institute



# Aravind Medical Research Foundation

The inauguration of the Dr.G.Venkataswamy Eye Research Institute on 1st October 2008 by Dr.A.P.J.Abdul Kalam, Former President of India, is a major landmark event in the annals of Aravind Eye Care System. This integral institute will have the state-of-the-art infrastructural facility to understand the basic biological mechanisms of eye diseases at Genome, Transcriptome, Proteome, Cytome and Histome levels apart from the clinical and research activities of the various constituents of Aravind Eye Care System – Aravind Eye Hospitals, Aravind Medical Research Foundation, Lions Aravind Institute of Community Ophthalmology and Aurolab.

Other highlights during this year were the identification of the causative agents (Eye fluke) in the formation of anterior chamber granuloma and the demonstration of molecular mimicry between leptospiral and human lens proteins in the rapid maturation of cataract in leptospiral uveitis patients.

The Indian Eye Research Group (IERG) meeting was conducted at our institution from July 26 – 27. While the Bireswar Chakrabarti memorial oration was given by

Dr. Anant Swaroop, Dr. Fielding Hejtmancik of National Eye Institute gave the inaugural Dr.G.Venkataswamy memorial oration .

We continue to be driven by our quest to reduce needless blindness and we believe that this new institution, which will integrate the basic and clinical research will aid in achieving this mission.

## Ongoing projects

### Basic research

The major ongoing basic research studies are:

- *Molecular genetic analysis of corneal endothelial dystrophies*
- *Identification of genetic defects occurring in Indian oculocutaneous (OCA) and ocular albinism (OA) families*
- *Association studies on diabetic retinopathy with type 2 diabetes in South Indian population*
- *Genetic study on congenital hereditary cataract*
- *A genetic component to the INDEYE study of cataract in India*
- *Molecular genetics of leber congenital amaurosis in South Indian population*

### Research scholars at AMRF





Working with Liquid handling system for DNA dilution

- Screening of LOXLI gene mutations in exfoliation glaucoma patients
- Biophysical characterisation of human myocilin and its deletion mutants
- Molecular genetics of keratoconus
- Corneal surface reconstruction using cultured human limbal epithelial cells
- Characterisation of corneal epithelial stem cells
- Identification, characterisation and quantification of human buccal epithelial stem cells for corneal surface reconstruction
- Developing xenobiotic-free culture conditions to generate stem-cell rich epithelium for corneal surface reconstruction
- Socket reconstruction using bio-engineered autologous oral mucosal epithelium
- Cytokine profile in aqueous humor of parasitic granuloma
- Antigenic mimicry between leptospiral and human lens proteins
- Pathogen host interactions in mycotic keratitis
- Proteomic profiling of serum in proliferative diabetic retinopathy
- Identification of biomarkers for primary open angle glaucoma
- Evaluation of a suitable in vitro model for diabetic retinopathy
- Topical kinetics of voriconazole (1% & 0.1%) in humans
- Standardisation and application of multiplex PCR as a rapid diagnostic test for the detection of infectious agent in the intraocular fluids of clinically suspected retinochroiditis patients
- Molecular insights into the etiology of infectious uveitis
- Elucidating the virulence genes involved in the pathogenesis of corneal ulcers by Aspergillus
- To elucidate the mechanism of neovascularisation in proliferative diabetic retinopathy Pro-inflammatory Cytokine release from RPE is linked to RAGE signalling
- Will cytoskeletal drugs prevent posterior capsule opacification?

### Clinical Research

The major clinical research studies are

- The study of low vision children in blind school
- Impact of the low vision devices and rehabilitation services on the quality of life



Children with Low Vision in Blind School

- Safety and efficacy of manual small-incision cataract surgery combined with trabeculectomy: comparison with phacotrabeculectomy
- Surgical outcome of phacotrabeculectomy in eyes with small pupils – A prospective study
- Correlation of central corneal thickness and retinal nerve fibre layer in POAG
- Comparison of intraocular pressure measured by Pascal dynamic contour tonometry and Goldmann applanation tonometry
- Comparison of intraocular pressure rise in the early postoperative period between phacoemulsification with intraocular lens implantation and phacotrabeculectomy in patients with primary open angle glaucoma and pseudoexfoliative glaucoma
- Mitomycin C augmented trabeculectomy combined with single site manual small incision cataract surgery-A retrospective analysis.
- Pars plana vitreous tap combined with manual small incision cataract surgery for management of phacomorphic glaucoma
- Safety and efficacy of using off label bevacizumab versus mitomycin C to prevent bleb failure in a single site phaco trabeculectomy by a randomised controlled clinical trial
- Central corneal thickness changes after combined (trabeculectomy and phacoemulsification) surgery
- Comparative study of safety and efficacy of rigid PMMA and foldable lenses in glaucoma triple procedures
- Results of repeat trabeculectomy with MMC 0.02% in POAG
- Assessment of consensual ophthalmotonic reaction (COR) following diode laser cyclophotocoagulation (DLCP) for advanced / refractory glaucoma
- Optical coherence tomography measurement of the retinal nerve fibre layer in normal and juvenile glaucomatous eye
- Study of diode laser cyclophotocoagulation in refractory glaucoma in South Indian population
- Intraocular pressure and central corneal thickness - A comparison between non-contact tonometry and Goldmann applanation tonometry

- Long term results of mitomycin C enhanced trabeculectomy in young adults
- Long term effect on IOP control after clear corneal phacoemulsification in previous successful trabeculectomies
- Retinal nerve fibre layer thickness in normal Indian paediatric population measured with optical coherence tomography
- A comparative study of efficacy, complications and corneal topography following single-site versus twin-site phacotrabeculectomy.
- Efficacy and safety of posterior juxtасcleral administrations of anecortave acetate for depot suspension (15mg or 30mg) versus sham administration in patients at risk for progressing to exudative Age-Related Macular Degeneration (AMD)
- A Six-month, phase 3, multicenter, masked, randomised, sham-controlled trial (with six-month open-label extension) to assess the safety and efficacy of 700 µg and 350 µg dexamethasone posterior segment drug delivery system (DEX PS DDS) applicator system in the treatment of patients with macular edema following central retinal vein occlusion or branch retinal vein occlusion
- A safety and efficacy assessment of vitreosolve® for ophthalmic intravitreal injection for inducing posterior vitreous detachment in non-proliferative diabetic retinopathy subjects
- A randomised, double masked, active controlled, phase 3 study of the efficacy, safety, and tolerability of repeated doses of intravitreal VEGF trap-eye in subjects with neovascular age-related macular degeneration (AMD)
- A study of featureless retina in diabetic retinopathy: Clinical and angiographic features and therapeutic implications
- A retrospective analysis of patients with idiopathic macular telangiectasia (IMT): Natural history, incidence of visual loss and investigations of causes of visual loss
- A retrospective study of the natural history of lamellar macular hole
- A study of polypoidal choroidal vasculopathy: incidence, angiographic and tomographic features
- Atypical manifestations of posterior scleritis: diagnosis and management
- A retrospective study of anatomic and functional outcome of chronic macula-off rhegmatogenous retinal detachment
- A prospective study of transpupillary thermotherapy (TTT) for chronic central serous chorioretinopathy (CSCR)
- Atypical acute posterior multifocal placoid pigment epitheliopathy associated with serous retinal detachment: Clinical and angiographic features and treatment
- Post pan retinal photocoagulation (PRP) serous macular detachment in patient with nephropathy
- Serous macular detachment as a predictor of resolution of vascular macular edema with intravitreal Triamcinolone injection
- Pigment epithelial detachment (PED) in chronic central serous retinopathy (CSCR)
- Serous macular detachment as a predictor of malignant hypertension
- Vitrectomy for macular hole associated with rhegmatogenous retinal detachment
- Radial optic neurotomy for ischaemic central retinal vein occlusion: a case-control study
- Brilliant blue dye for internal limiting membrane peeling in macular surgery
- Vitrectomy for fovea-threatening tractional retinal detachment in diabetic retinopathy
- Laser photocoagulation for diabetic macular edema with serous retinal detachment
- Optical coherence tomography evaluation of subhyaloid haemorrhage of various etiologies
- A study of combined occlusion of central retinal artery and vein
- An invited review on leptospirosis (international ophthalmology clinics)
- Silicone oil tamponade in 23 gauge sutureless vitrectomy: long term anatomical and functional outcome
- YAG hyaloidotomy with gas tamponade as a viable option for pre macular haemorrhage in PDR against surgical intervention by pars plana vitrectomy
- VTA Vs macular PHC for diffuse diabetic macular edema – prospective study
- Isolated intravitreal bevacizumab therapy for choroidal neovascular membranes of multiple aetiologies
- Intravitreal bevacizumab as a preoperative adjuvant for diabetic macular tractional detachments with active new vessels
- Intravitreal bevacizumab therapy for polypoidal choroidal vasculopathy
- A randomised, double-masked, parallel-group, multicenter, dose-finding comparison of the safety and efficacy of ASI-001A 0.5mg/day and ASI-001B 0.2mg/day flucinolone acetate intravitreal inserts to sham injection in subjects with diabetic macular edema.
- A randomised, double-masked, parallel group, multicenter, dose-finding comparison of the safety and efficacy of ASI-001A 0.5µg/day and ASI-001B 0.2µg/day fluocinolone acetate intravitreal inserts to sham injection in subjects with diabetic macular edema
- A phase 3 safety and efficacy study of vitreosolve® for ophthalmic intravitreal injection for inducing posterior vitreous detachment in retinopathy subjects
- VEGF trap – eye: investigation of efficacy and safety in Wet AMD - A randomised, double masked, active controlled, phase 3 study of the efficacy, safety, and tolerability of repeated doses of intravitreal VEGF trap-eye in subjects either neovascular age-related macular degeneration (AMD)
- INDGEN AMD study (An add-on study to the INDEYE Study)
- Retinochoroidal coloboma - a comparison of laser barrage photocoagulation versus natural history
- PVD-301- A Phase 3 safety and efficacy study of vitreosolve® for ophthalmic intravitreal injection for inducing posterior vitreous detachment in retinopathy subjects

- A 12-month randomised, pilot study to compare the efficacy and safety of verteporfin (visudyne) photodynamic therapy (standard fluence) plus intravitreal ranibizumab (lucentis) versus verteporfin (visudyne) photodynamic therapy (reduced fluence) plus intravitreal ranibizumab (lucentis) in patients with subfoveal of juxtafoveal choroidal neovascularisation secondary to age-related macular degeneration.
- Intravitreal VEGF trap-eye in subjects with neovascular age-related macular degeneration
- Randomised, double blind, active controlled study of the efficacy, surgical outcome and complications of Silicone Rod Sling in frontalis sling suspension surgery
- Socket reconstruction using bio-engineered autologous oral mucosal epithelium
- Corneal surface reconstruction using bio-engineered autologous oral (Buccal) mucosal epithelium
- Factors responsible for the generation of epithelial sheet rich in stem cells under ex-vivo conditions from the limbal and buccal biopsy
- Developing xenobiotic-free culture conditions to generate stem-cell rich epithelium for corneal surface reconstruction
- A clinical study on microbiological analysis, culture and sensitivity of chronic dacryocystitis and results following surgical treatment
- To study the functional results and complications of frontalis sling surgery by using silicon rod (auro sling)
- Outcome and safety of supratarsal injection of triamcinolone acetonide in improving the quality of life in patients with refractory vernal keratoconjunctivitis.
- Steroids for Corneal Ulcers Trial (SCUT)
- Mycotic Ulcer Treatment Trial (MUTT)
- Comparison of accuracy of IOL master and conventional A-scan biometry in IOL power calculation in high myopes
- Comparison of accuracy of IOL master and conventional A-scan in IOL power calculations
- Study of visual outcome and complications following posterior capsular rupture during IOL surgery
- Capsule wash for pediatric eyes
- Role of CTR on anterior capsular contraction in patients with retinitis pigmentosa
- Contralateral eye study to compare the incidence of PCO between square edge PMMA IOL and round edge PMMA IOL and between square edge PMMA IOL and acrysof IOL
- To compare safety and efficacy between SICS and phacoemulsification using ozil infinity system in immature cataracts with pseudoexfoliation
- Comparison of intraocular lens power calculation in eyes with long axial length using two formulae
- Comparison of astigmatism in manual SICS based on incision site
- Intra-operative floppy iris syndrome – an Indian perspective
- Genetic Component of the INDEYE study of Cataract and Age-Related Macular Degeneration in India
- Evaluation of homoeopathic therapy in treatment of cataract
- Posurdex – intermediate and posterior uveitis study
- HLA-DR determination of Vogt-Koyanagi-Harada syndrome and sympathetic ophthalmia in South Indian patients
- A double-masked, placebo-controlled, multicentric, parallel group, dose ranging study to assess the efficacy and safety of LX211 as therapy in subjects with non-infectious intermediate, anterior and intermediate, posterior or pan-uveitis
- How valid (sensitive and specific) is teacher's screening for refractive errors as compared to that done by trained refractionists?
- Clinical profile with ocular and oculocutaneous albinism at a tertiary care centre
- Surgical outcome of membranectomy via limbal route
- Wildervanck syndrome
- Clinical features of joubert syndrome
- Clinical course and outcome of bilateral PFV (persistent fetal vasculature)
- Jensen procedure for sixth nerve palsy – retrospective study
- Surgical outcome of traumatic cataracts in children
- Surgical outcome of microspherophakia
- Optic atrophy in children
- Surgical outcome in duane retraction syndrome
- Validating teachers screening for refractive error
- Surgical outcome of combined squint with IOL surgery

Presbyopia study team



Ms. Ramya devi at the presentation of her Ph.D thesis



- Surgical outcome of intermittent exotropia
- Strabismus surgery under topical anaesthesia
- Surgical outcome of exotropic duane's retraction syndrome
- Surgical outcome of posterior lenticonus in children
- Completion of anterior and posterior capsulorhexis using Hydroxy methy cellulose in paediatric cataract surgery
- Efficacy of nystagmus surgery
- Evaluation post operative predictive errors in paediatric cataract surgery using currently available IOL formulae
- Prospective study on optic neuritis in children
- Third nerve palsy surgical outcome
- Torsion evaluation after muscle displacement procedure
- Outcome of single muscle MR recession in esotropia retrospective study
- Binocularity following late strabismus surgery for childhood onset strabismus

#### Aurolab Clinical Trials

- Posterior capsular opacification after implantation of square edge PMMA, round edge PMMA and acrysof intraocular lenses: A prospective, randomised comparative trial
- Clinical evaluation of hydrophobic foldable IOLs
- Effect of square edge PMMA IOL in preventing lens epithelial cell migration in paediatric cataract surgery: A randomised controlled trial
- Randomised controlled trial of Aurolase 532-I-1 with already available green laser (Iridex) in proliferative diabetic retinopathy
- Clinical evaluation of aspheric intraocular lenses

#### Operations Research

- Investigating gender equity in the utilisation of cataract surgical services in Aravind Eye Hospitals, Madurai - SEVA Canada
- Uptake of spectacles for refractive errors across different delivery systems

- Assess the prevalence and socioeconomic burden of near visual impairment caused by uncorrected presbyopia
- HR practices which influences employee satisfaction and patient satisfaction

#### AWARDS

- **B. SUGANTHALAKSHMI**, Senior Research Fellow was awarded Pre doctoral Fellowship (2007-08) under Dr. Fielding Hejtmancik at National Eye Institute – “Genetics of diabetic retinopathy”
- **S. VAISHALI**, Junior Research Fellow received “Best scientific paper presentation award” at the Indian Eye Research Group meeting held in July, 2008 (Identification of stem cells in cultivated buccal mucosal epithelium and clinical outcome after transplantation in patients with bilateral LSCD)
- **S. JEYALAKSHMI**, Junior Research Fellow received “Best scientific paper presentation award” at the ASIA ARVO meeting held in January 2009 (Characterisation of human epithelial cells and epithelial-mesenchymal transition cells in relation to PCO formation in culture)
- **P. MURUGESWARI**, Junior Research Fellow was awarded UK Commonwealth Split-Site doctoral scholarship 2008 to carry out part of Ph.D – Centre for Vision Science, School of Bio medical Science, Queen's University, Belfast under the guidance of Dr. Alan Stitt - (October 1, 2008 to September 2009)

#### PH.D AWARDED

**Ms. R. RAMYADEVI**

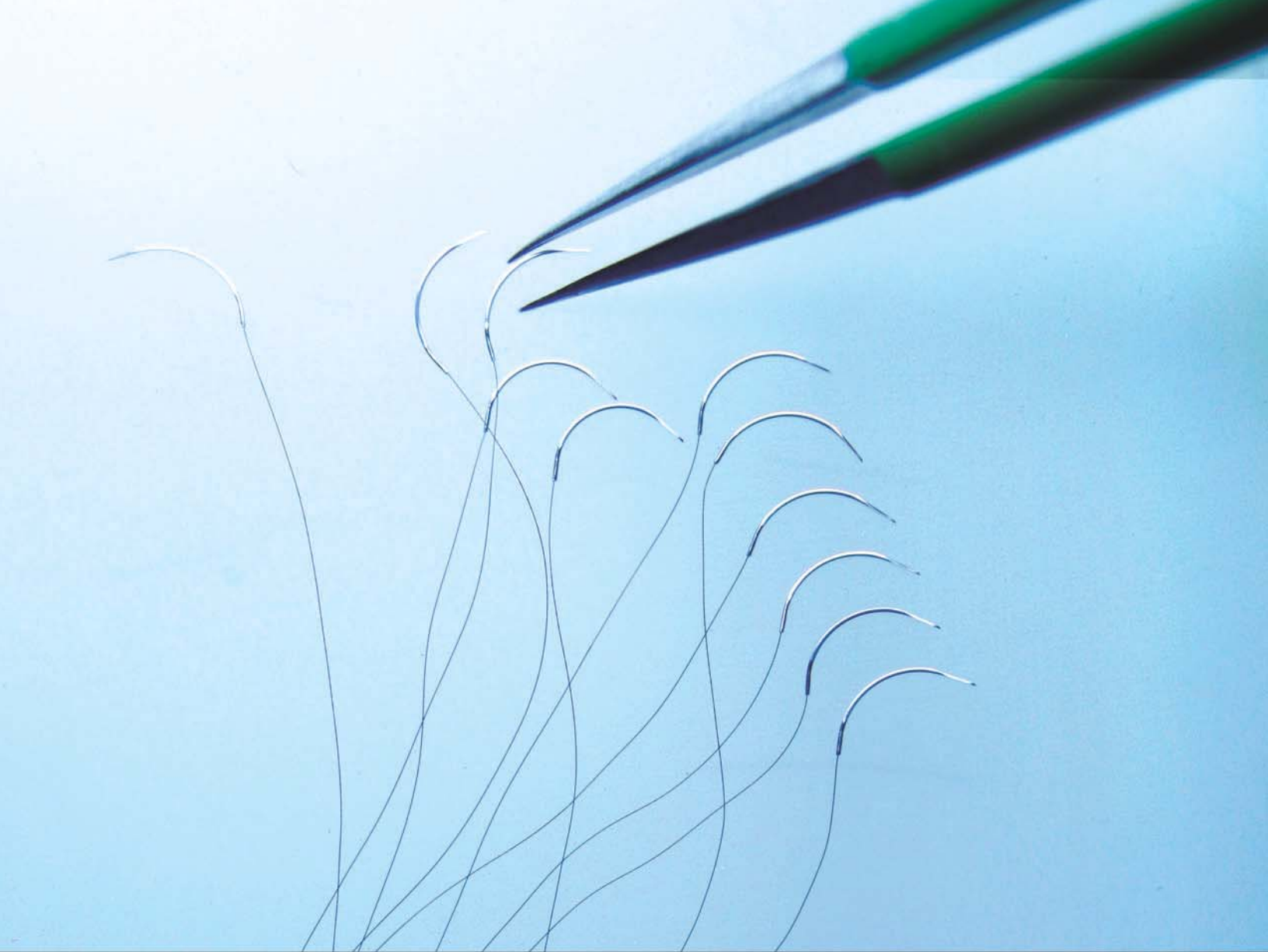
October 2008

Understanding the molecular genetics of cataract

**MR. J. NALLATHAMBI**

October 2008

Involvement of transcription factor genes PAX6/FOXL2 in various ocular anomalies.



*Suture Needles Manufactured at Aurolab*

*Production staff of Aurolab attaching suture with needle under microscope*



# Aurolab

## INTRODUCTION

Entering into the seventeenth year of its operations, Aurolab has expanded its product pipeline with the new range of ophthalmic products to fulfill the need of medical fraternity all over the world. To further its commitment to aid in the elimination of needless blindness, Aurolab opened the Laser division for manufacturing Green Laser Photocoagulator in its new facility. The Laser division, part of Instrument's division was inaugurated by Mr. Yemen Chambers, Ingenus, Australia.

Apart from the laser, Aurolab launched Auroflex – EV -Negative aspheric IOL, Aurosling, Absorbable suture and Oculblue Plus in 2008-09. During the year, various audits were conducted and successfully certified for various Aurolab products.

Aurolab participated in various international ophthalmic conferences, the national ophthalmic conference and in various domestic state level ophthalmic conferences in 2008-09. Aurolab received the Best Stall award in the Annual Conference of Tamil Nadu Ophthalmic Association, Chennai.

The HR department of Aurolab has introduced various activities for the welfare of the employees. A monthly retreat programme called 'Kalakkal Saturday' & 'Winners Saturday' is conducted for staff to expose their talents through cultural and sports activities. Aurolab staff undertook 'Plastic free Zone' project for three days to make Aurofarm a plastic free zone by removing all plastic wastes from its premises. A Crèche was inaugurated in the staff quarters for the Aurolab employees' children. The swimming pool at Aurofarm was inaugurated and made available for all Aravind staff. The Aurolab staff attended the outbound learning programme at the Pegasus Institute, Marakkanam.

## NEW PRODUCTS

### Auroflex – EV

February 2009

Aurolab's IOL division launched its Aspheric IOL "Auroflex – EV". This lens aids in increased contrast sensitivity and better visibility in low light conditions. The Auroflex – EV which is a negative aspheric IOL is the first of its kind manufactured in India. The unique prolate design ensures that all the light rays passing through the lens converge at a single point, thereby ensuring better contrast and sharpness of vision.

### Oculblue Plus

June 2008

Aurolab's Pharmaceutical division launched the Brilliant Blue G Solution "Oculblue Plus", an Ophthalmic staining dye. This dye has superior staining of ILM, even at lower concentrations as compared to the more expensive and toxic alternatives like ICG. It makes the delicate manoeuvre of ILM peeling much safer and efficient, with superior functional outcomes for patients.

### Aurosling

July 2008

Aurolab's suture division launched the Frontalis Suspension set "Aurosling". This product is useful in





patients with significant Ptosis and poor levator function. Its silicone tubing sleeve provides a method for securing rods and allows postoperative adjustment of the sling. The product is gaining great acceptance in the ophthalmic society due to its affordable price and high quality.

### Absorbable Suture

February 2009

Aurolab's suture needle division also launched the much awaited absorbable sutures in various sizes namely 6-0, 7-0, 8-0 and 10-0. The PolyGycolic Acid (PGA) absorbable suture comes in braided and monofilament form (only 10-0). These sutures are coated with polycaprolactone and calcium stearates, which render the thread extremely smooth, soft and knot safe.

### Green Laser Photocoagulator

February 2009

Aurolab launched Green Laser Photocoagulator "Aurolase 532". With significant increase of diabetes patients in India, a proportional increase in the incidence of diabetic retinopathy is found. The Green laser is used for photocoagulation of the tiny blood vessels that proliferate on the Retina, particularly with the onset of diabetic retinopathy.

### Audit

As Aurolab is a manufacturing unit, it should register its products to export them to other countries. Aurolab has already registered its products in some South American countries, some Asian countries and some African countries.

Now Aurolab is in the process of registering its products in Ethiopia. In this connection the Drug Administration and Council Authority (DACA), Ethiopia came here and audited the facility from August 9-11. The audit team was headed by lead auditor Mr. Lake Ademe Mengistie. Mr. Tekalign and Mrs. Tigist Belay Fenta were the co-auditors. The audit was completed successfully and Aurolab is awaiting the registration certificate.

*CE certification audit*



*V. Venkatesa Kannan, Division Manager - Pharmaceuticals, N. Vishnu Prasad, Marketing Manager – Exports, Dr. P. Balakrishnan, Managing Director at the AAO conference*

### CE Audit

The CE certification audit was held from September 1 - 2 by TUV Rheinland, Germany. The lead auditor Dr. Hans G Rudolf, Germany and co auditor Mr. Guru Prasad, Bangalore conducted the audit. The audit was completed successfully. Aurolab got CE certificate for its new product Oculblue plus and some extended models of Polypropylene sutures, cartridges and injectors.

### MAJOR OPHTHALMOLOGICAL CONFERENCES

Aurolab actively participated in the trade exhibitions of domestic and international conferences to promote its products. The participation in various Ophthalmological conferences provided an opportunity for Aurolab to meet delegates from various regions and discuss future business with existing distributors. Apart from national and state level conferences, Aurolab also participated in the following international conferences during 2008-09:

- 8th General Assembly of International Agency for Prevention of Blindness (IAPB) at Argentina, August 25 -28
- XXVI European Society of Cataract & Refractive Surgeons Conference at International Congress Centrum, Berlin, September 13 -17

*MEDICA trade fair at Düsseldorf, Germany*



- American Academy of Ophthalmology Annual Meeting (AAO) at Atlanta, November 8 – 11
- MEDICA trade fair at Düsseldorf, Germany, November 19 – 22
- 10th International Congress of the Middle East African Council of Ophthalmology (MEACO) at Manama, Bahrain, March 26 -30

## 67th All India Ophthalmological Conference

Jaipur, February 5-8

Aurolab participated in the 67th All India Ophthalmological Conference held at B.M. Birla Science and Technology Research Centre, Jaipur from February 5-8. Aurolab used the opportunity to introduce new products “Auroflex - EV” - Negative Aspheric IOL, absorbable sutures and needles, Oculblue Plus - A new dye for ILM peeling, and Aurolase 532 - Green Laser Photocoagulator to the ophthalmic society. Members of the Aurolab team organised the Aravind Alumni Meet held on February 7 at Hotel Maurya Palace, Jaipur.

### AWARDS

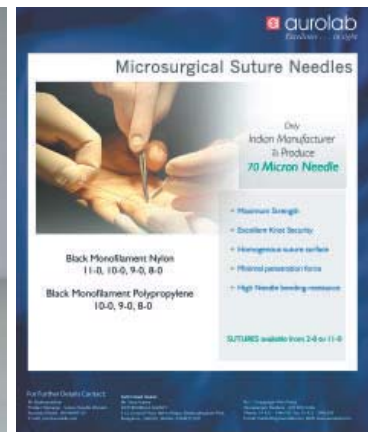
Aurolab won the ‘Award for the Best Stall’ in the 56th Annual Conference of Tamil Nadu Ophthalmic Association held at Chennai from August 8-10.

### Best Advertisement Award

Aurolab participated in the 32nd Annual Conference of the Indian Society for Surgery of the Hand (ISSH) and the second combined meeting of the British Society for Surgery of the Hand (BSSH) and ISSH held at Bangalore from November 28-30. As part of it, Aurolab had put up a stall and released a full page colour advertisement in the souvenir. This was selected as the best advertisement and found place in the first page of the book which was circulated among 225 surgeons.



Award for the Best Stall



Best Advertisement Award

## OTHER NEWS AND EVENTS

### Observation of Mission Day

Mission Day was observed on July 7 to reflect on Founder Chairman Dr.G.Venkataswamy. Dr. P. Balakrishnan, Managing Director delivered a talk on the future steps of Aurolab entitled Vision for going forward. Passages were read from Illuminated Spirit and Bhajan was performed by the staff.

### Inauguration of Creche

Crèche for the children of the employees was inaugurated on August 1 by Dr. P Balakrishnan, Managing Director.

### Plastic Free Zone Project

To make Aravind Eye Care System a plastic free institution, Aurolab undertook plastic free zone project for three days by cleaning the entire Aurolab and Aurolab premises. This project was led by 12 Admin fellows who have recently joined Aravind Eye Care System. The staff members involved themselves whole heartedly in this non bio degradable plastic free project and they covered 80% of the premises.

At 67th All India Ophthalmological Conference, Jaipur



Crèche inaugurated by Dr. P Balakrishnan, Managing Director





*Swimming pool at Aurolab*

### Inauguration of Swimming Pool

A swimming pool was inaugurated at Aurolab by Mr. Kanakaraj, Engineer at Aurolab premises on September 12.

### Guest Lecture

A talk on the ways to prevent heart attack was given by Dr. Dick Lueker, Cardiologist – New Heart Centre, USA on October 11.

### Graduation Day Celebration

Graduation day for the trainees who completed one year training was celebrated on December 6. Felicitation address was given by Mr. P. Balakrishnan, Managing Director, Aurolab, Dr. G. Natchiar, Vice-Chairman, AECS, Dr. M. Srinivasan, Director, AECS and Dr. Usha Kim, Head, Department of Mid Level Ophthalmic Personnel Training.

### Pegasus Workshop

The first batch of 25 members of Aurolab staff attended the outbound learning programme at the Pegasus



*Aurolab staff at pegasus workshop*

Institute, Marakkanam from May 22-24. The second batch of 25 members of Aurolab staff attended the programme from June 19-21. The outbound learning built a sense of camaraderie amongst the group.

### Inauguration of Laser Division and Tool Room

The Laser Division and Tool room were inaugurated by Mr. Yemon Chambers, Ingenus, Australia and Dr. M. Srinivasan, Director, AECS on March 23.

### Recreational Events

Aurolab organises a monthly retreat programme on Saturdays, “Kalakkal Saturday” thereby providing a homely forum for Aurolab employees to expose their talents through singing, dancing and other performing arts. On Winners’ Saturday various sports activities are organised for the employees.

*Graduation Day Celebration for Production staff at Aurolab*



## Awards and Accolades

During the year 2008 – 2009, Aravind Eye Care System won many national and international awards, both at the organizational and individual levels. These awards bear testimony to the world's recognition of Aravind's humanitarian services by providing high quality eye care at affordable cost to the community.

Aravind's innovative eye care services was internationally acknowledged when it was conferred the prestigious Gates Award for Global Health – 2008. The Gates Award for Global Health was established by the Bill & Melinda Gates Foundation to reward and exemplify organizations which have developed processes for improving health, especially in resource poor settings, with measurable results.

### Dr. B.C. Roy Award

Dr. P. Namperumalsamy was conferred with the "Dr. B.C.ROY AWARD" by the Medical Council of India in the Category of "Eminent Medical Teacher". The Management Committee of Dr. B.C. Roy National Award Fund has selected Dr. P.N. for the prestigious National Award for the year 2006 and he received the award from Her Excellency Smt. Pratibha Devisingh Patil, President of India on July 1.

### Champalimaud Award Lecture at ARVO (The Association for Research in Vision and Ophthalmology)

Antonio Champalimaud Vision Award which carries with it a cash prize of 1 million Euro (approximately Rs. 5.5. crores) was awarded to Aravind in September 2007 for its contributions to the alleviation of visual problems, primarily in developing Countries. ARVO and



*Dr. P. Namperumalsamy, Chairman, Aravind Eye Care System, receives the "Dr. B.C. Roy Award" from Her Excellency Smt. Pratibha Devisingh Patil, President of India*

Champalimaud Foundation have jointly instituted the Champalimaud Award Lecture as a part of ARVO annual meetings every year. Dr. P. Namperumalsamy, delivered the first Champalimaud Award Lecture at ARVO annual meeting held at Fort Lauderdale, USA in April 2008. He highlighted the multifarious contributions of Aravind towards preventing and eliminating needless blindness in India and other developing countries of the world.

### Gates Award-2008

In recognition of its groundbreaking work to prevent debilitating blindness and provide affordable, world-class eye care to the poor, the Aravind Eye Care System won the 2008 Gates Award for Global Health. The \$1 million Gates Award - the world's largest prize for international health - honors extraordinary efforts to improve health in developing countries.

*Dr. P. Namperumalsamy with Ms. Maria Leonor Belezá, Dr. Al Sommer, Mr. João Silveira Botelho and other dignitaries following the first Champalimaud Award Lecture at ARVO annual meeting*





*Dr. R.D. Ravindran, Dr. P. Namperumalsamy and Ms. Suzanne Gilbert with Dr. Jim Tielsch and Dr. Joanne Katz who nominated Aravind for the Gates Award*

Dr. P. Namperumalsamy received Gates Award from Bill Gates Sr. at a grand ceremony held at Omni Shoreham Hotel, Washington D.C, U.S.A on May 29.

### **Piramal Prize for Aravind**

Ahmedabad, June 30

Aravind Eye Care System has won the Piramal Prize for its innovative rural eye care service through the IT enabled Vision centres which offer telemedicine facility to eye patients in the villages. The prize worth Rs.10 lakh was awarded by the Piramal Foundation and centre of Innovation, Incubation and Entrepreneurship, a wing of the Indian Institute of Management, Ahmedabad.

A memorandum on the Vision Centre Programme initiated by Chairman Dr. P. Namperumalsamy was submitted and explained to the panel by Mr. V. Vijayakumar, Project Manager and Mr. Mohammed Gowth, Assistant Manager, Community Outreach.

### **Honored by the Apollo Hospitals**

Chennai, July 20

Dr. P. Namperumalsamy was honoured at the Doctors' Day celebrations at Apollo Hospitals. The celebration was organised by Apollo Hospitals at Hotel Taj Coramandal, Chennai. The Chairman of Apollo Hospitals presided over the function and the Honourable Union Minister for Finance Shri P. Chidambaram presented the awards and delivered the special address. The award carries a Citation Block and a cash of Rs. 2 lakhs.

### **Rotary Club's 'For the Sake of Honour' Award**

In appreciation and admiration of his outstanding, dedicated and continuing contributions to the crusade against blindness and in recognition of his vocational Excellence and leadership qualities the Rotary Club of Madurai has presented "For the Sake of Honour Award" to Chairman Dr. P. Namperumalsamy on November 4.



*The Honourable Union Minister Shri P. Chidambaram presenting the award to Dr. P. Namperumalsamy at Apollo Hospitals*

### **Health Care & Life Sciences Award**

Dr. P. Namperumalsamy, (with his initiation as the Co-ordinator, TIFAC-CORE in Diabetic Retinopathy) is chosen for the Health Care & Life Sciences Award at the Ernst and Young Entrepreneur of the Year 2008 for his contribution to super-specialty ophthalmology and his pioneering work in medical and surgical treatment of diseases of retina and vitreous in India.

Ernst & Young organised its tenth 'Ernst & Young Entrepreneur of the Year Awards 2008' on Wednesday, November 26, at the Taj Land's End in Mumbai.

### **Rotary Club's for the Sake of Honour Award and Vocational Excellence Award**

Udumalpet, December 17

Rotary Club of Udumalpet awarded "For the sake of honour award" to Dr. P. Namperumalsamy, Chairman and to Dr. G. Natchiar, Vice-chairman, AECS. Vocational Excellence Awards were presented to Dr. Narendran, CMO, and to Dr. Kalpana Narendran, Senior Medical Officer, Aravind-Coimbatore.

*Dr. P. Namperumalsamy, received the Health Care & Life Sciences Award as the Ernst & Young Entrepreneur*



### Council Member of Asia Cornea Society

Asia Cornea Society which was formed at Singapore in 2007 serves as a forum for the exchange of knowledge and information on clinical, educational and research aspects of the corneal sub speciality among the specialists and researchers throughout Asia. Its ultimate aim is alleviation of corneal blindness.

Dr. Prajna, Professor at Aravind's Postgraduate Institute of Ophthalmology and Chief of Education and Training Programme of Resident doctors has become one of the 14 Board of Council Members of Asia Cornea Society. He is one among the two Indians included in the Council. Other members are from Singapore, Japan, China, Korea, Thailand, Taiwan and Philippines.

### First Case of Ophthalmic Brachytherapy Using Iodine 125 Seeds

Dr. Narendran, CMO, Aravind-Coimbatore, and his team successfully performed the first case of Ophthalmic Brachytherapy using Iodine 125 seeds manufactured by Bhabha Atomic Research Center (BARC) on May 26, 2008. It is a case of a large choroidal melanoma. This is the first time in India that I-125 seeds from BARC have been used commercially which had earlier been used only in pilot studies.

### Best Scientific Paper Presentation Award

Ms.S.Jeyalakshmi, Junior Research Fellow, Aravind Medical Research Foundation has received the "Best Scientific Paper Presentation Award" at ASIA ARVO 2009 meeting held in Hyderabad from January 15-18 for the paper in "Characterisation of Human Epithelial Cells and Epithelial- Mesenchymal Transition Cells in relation to PCO formation in Culture".



Ms. S. Jeyalakshmi, Junior Research Fellow, AMRF with the "Best Scientific Paper Presentation Award"

### DEAF LEADERS award

Mr. Poornachandran of Aravind's Instruments Maintenance department has been awarded the Deaf Leaders Award for 2008. The award was presented during the 5th year anniversary celebrations of DEAF LEADERS (Deaf Empowerment Activities for Literacy, Education, Accessible Development, Employment, Rehabilitation and Sports) held at Coimbatore. Last year at the meeting of the organisation, Mr. Poornachandran had given a "talk" using sign language and a power point presentation on his work at Aravind.

### Padmashree Dr. JS Mahashabde Memorial IAGICEH Award 2008

Dr. P. Namperumalsamy has been conferred with Padmashree Dr. JS Mahashabde Memorial IAGICEH Award 2008 by International Centre for Eye Health, London at the AIOS Conference, Jaipur on February 3, 2009. This award was given as a mark of recognition of his life long, selfless and devoted community eye health care services across the Indian subcontinent.

*The Rotary Club of Udumalpet presented Vocational Excellence Awards to Dr. Kalpana and Dr. Narendran*



*Mr. Poornachandran of Aravind's Instruments Maintenance department gets the DEAF LEADERS Award for 2008*



## Partners in Service

Aravind gratefully acknowledges the unstinting support of friends and organizations throughout the world in its campaign against needless blindness. The number of organizations and institutions working with Aravind continues to grow even as long-standing collaborators find new ways to build on the synergy. Such partners in service are a source of true support and inspiration for the organisation's sustainable development and growth.

Friends of Aravind, a non-profit based in the United States, has been established specifically to raise awareness and build financial resources and other forms of support for the Aravind Eye Care System. Under the dedicated leadership of Dr. Christine Melton, the organization has become increasingly active with the launch of its own website ([www.friendsofaravind.org](http://www.friendsofaravind.org)) that highlights current projects and opportunities and allows for easy online contributions through Paypal.

In fond memory of Mahema Devadoss, a dear friend and well-wisher of Aravind who passed away in 2007, Govel Trust Mahema Devadoss Endowment has been established to support low vision services for the poor. This fund was made possible by a generous offering from Mahema's husband Mr. Manohar Devadoss. Yet a greater endowment is the extraordinary spirit of the Devadossess which continues to inspire those at Aravind and all others fortunate enough to know them.

### For service delivery, training and more

- Acumen Fund, USA
- Adopt-a-Business, UK
- Alcon Laboratories Inc, USA
- Canadian International Development Agency, Canada
- Carl Zeiss Meditec, Germany
- CBM International, Germany
- Combat Blindness Foundation, USA
- Essilor, India
- Friends of Aravind, USA
- Fred Hollows Foundation, Australia.
- Google Foundation, USA
- Indian Institute of Management, Bangalore, India
- Indian Space Research Organisation, India
- International Federation of Eye Banks, USA
- Indian Overseas Bank, Chennai, Madurai
- International Agency for Prevention of Blindness
- International Eye Foundation, USA
- International Counsel for Ophthalmology (ICO)
- Lavelle Fund for the Blind, USA
- Lions Clubs International Foundation, USA
- ORBIS International, USA
- Pegasus Institute for Excellence, India
- Project Impact, USA
- Rotary International, USA
- Right to Sight, Ireland
- Seva Service Society, Canada
- Seva Foundation, USA
- Sight Savers International, UK
- State Bank of India, Madurai
- TIFAC-CORE, Department of Science & Technology, Government of India
- Topcon, Japan
- University of Michigan, USA
- VISION 2020 – The Right to Sight, India
- W<sup>2</sup> Consulting, UK
- World Diabetes Foundation, Denmark
- World Health Organization (WHO)
- University of California, Berkeley, Dept of Computer

### For Research

- Allergan Pharmaceuticals, USA
- Defence Research & Development Organisation, Government of India
- Department of Biotechnology, Government of India
- Department of Science & Technology, Government of India
- Francis I.Proctor Foundn. for Research in Ophthalmology, UCSF, USA
- Indian Council of Medical Research, India
- International Centre of Eye Health, UK
- Indian Institute of Technology, Chennai
- London School of Hygiene & Tropical Medicine, UK
- Madurai Kamaraj University, India
- National Eye Institute, USA
- National Institute of Nutrition, Hyderabad
- Royal Tropical Institute, Netherlands
- Singapore National Eye Centre, Singapore
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