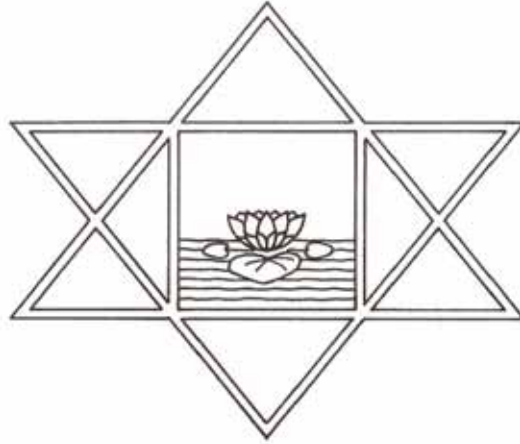


ACTIVITY REPORT  
1992



**Aravind Eye Hospitals  
& Aravind Children's Hospital**



*“Turn all thy mind to Me and fill it with the thought of Me and My presence. Turn all thy heart to Me, make thy every action, whatever it be, a sacrifice and offering to Me. That done, leave Me to do My will with thy life and soul and action; do not be grieved or perplexed by My dealings with thy mind and heart and life and works or troubled because they do not seem to follow the laws and Dharmas man imposes on himself to guide his limited will and intelligence. My ways are the ways of a perfect wisdom and power and love that knows all things and combines all its movements in view of a perfect eventual result; for it is refining and weaving together the many threads of an integral perfection. I am here with thee in thy chariot of battle revealed as the Master of existence within and without thee and I repeat the absolute assurance, the infallible promise that I will lead thee to Myself through and beyond all sorrow and evil. Whatever difficulties and perplexities arise, be sure of this that I am leading thee to a complete divine life in the universal and an immortal existence in the transcendent Spirit”.*

*Essays on the Gita - Sri Aurobindo*

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*The essence of Sri Aurobindo's teaching was to help mankind transcend to higher levels of consciousness and become better instruments for the divine forces to work through. At this time, when the world is being torn by racial violence and fragmented by political ambitions leading to economic imbalances and widening technological gap, it is particularly important to bring to focus Sri Aurobindo's philosophy and pursue the process of evolution of mankind to higher levels and contain the forces of destruction.*

*Aravind Eye Hospitals provide the ambience and environment for this process to manifest. We constantly challenge ourselves to go beyond the realm of moral or ethical practice of medicine and bring in values of holistic or humanistic approaches in providing eye health as a means of reducing human suffering. This reflection and challenge has guided us in finding an optimum balance between what is technologically ideal and appropriate eye health. The major challenges addressed in 1992 were to translate recent developments in technology into appropriate technology and to create a process of efficient transference of skills, knowledge and practice.*

*Aurolab came into existence, established as an independent non-profit charitable trust, with a mandate of developing appropriate technology in instrumentation, equipments and supplies. The beginning was made on 20th January 1992 with the inauguration of the IOL manufacturing facility. This facility was established with the initiative of Aravind and Seva Foundation with funding support from Seva Service Society - Canada, Combat Blindness Foundation -USA and Sight Savers (RCSB) - UK. Now this facility is operating to full capacity and produces quality intraocular lenses. It is available at an affordable cost and is now widely used in several charitable programmes in India and other developing countries. To train ophthalmologists in IOL surgery, "Aravind-Sight Savers Microsurgery Training Centre" is being set up with support from Sight Savers.*

*Aravind Institute of Community Ophthalmology is being established to teach basic tools of public health, management, and share the ingredients fundamental to Aravind and other successful eye care programmes. The institute recognizes that good management, public health approach and organizational values are key to effective and efficient eye care programmes. The training sessions and learning opportunities at the institute will address all these areas with varying emphasis, depending on the need of the eye care programme. This institute is being set up with funding support from Lions International and Seva Service Society.*

*1992 has been yet another year of growth and development at Aravind. Orbit and Oculoplasty clinic was established at Madurai and Retina and Vitreous services were made available at Tirunelveli. The existing speciality clinics at Madurai were further strengthened with better instrumentation and training in newer technologies. Over 6,00,000 out-patient visits and about 61,000 surgeries were performed in 1992 representing a 20% growth over the previous year.*

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## Services



Founded in 1976, in the city of Madurai, the Aravind Eye Hospital has grown from a 20 bed clinic to a 900 bed, twin hospital complex with training and research facilities. During this period, two satellite hospitals were established at Theni and Tirunelveli with 100 and 400 beds respectively, while a children's hospital was opened at Madurai.

Aravind has grown to be a premier ophthalmic institute and is now recognised by the World Health Organisation as a Collaborating Centre for Prevention of Blindness.

This institution is dedicated to the cause of preventing needless blindness. About 60% of Aravind's services are free, yet the hospital is self-supporting. This is made possible through hard work, efficient management, and the high volume of paying patients. Many voluntary organisations large and small work in partnership towards Aravind's mission to reduce needless blindness.

The hospital contributes to the development of eye care programmes in India through various research projects and as an accredited institute for post-graduate training.

With less than 0.4% of the country's ophthalmic manpower, Aravind accounts for 4% of the cataract surgery done nationwide.

As Aravind grows into a community oriented hospital performing a high volume of surgery, constant care is given to maintaining quality at the highest standards.

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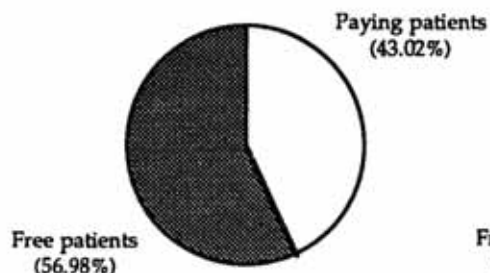
**Aravind Eye Hospitals  
Statistics - 1992**

|                             | Madurai  | Tirunelveli | Theni  | Total    |
|-----------------------------|----------|-------------|--------|----------|
| Out-patient visits - Paying | 1,86,061 | 54,522      | 17,105 | 2,57,688 |
| - Free                      | 2,34,519 | 84,860      | 21,998 | 3,41,377 |
| Surgery - Paying            | 20,752   | 3,386       | 482    | 24,620   |
| - Free                      | 27,598   | 7,230       | 1,610  | 36,438   |

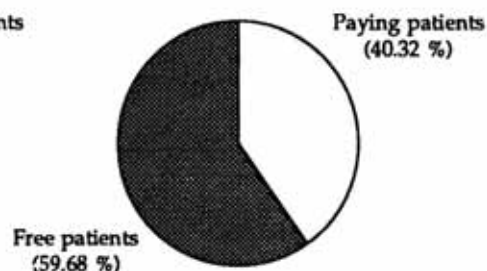
|                             |          |          |        |          |
|-----------------------------|----------|----------|--------|----------|
| Hospital out-patient visits | 2,87,657 | 87,476   | 27,955 | 4,03,088 |
| Eye camp out-patient visits | 1,32,923 | 51,906   | 11,148 | 1,95,977 |
| Total out-patient visits    | 4,20,580 | 1,39,382 | 39,103 | 5,99,065 |
| Screening camps             | 391      | 277      | 66     | 734      |

| Surgery Details  |               |               |              |               |
|--|---------------|---------------|--------------|---------------|
| Cataract & other lens removal procedures (without IOL) | 23,560        | 5,710         | 1,434        | 30,704        |
| Intraocular Lens (IOL)                                 | 13,528        | 2,361         | 359          | 16,248        |
| Trabeculectomy   | 675           | 67            | 4            | 746           |
| Retinal Detachment                                     | 519           | 28            | -            | 547           |
| Vitreous Surgery                                       | 292           | 1             | -            | 293           |
| Membranectomy  | 103           | 6             | -            | 109           |
| Squint Correction                                      | 308           | 3             | -            | 311           |
| Keratoplasty & Therapeutic Grafting                    | 140           | -             | -            | 140           |
| Ptosis   | 71            | -             | -            | 71            |
| DCR, DCT & other Septic Operations                     | 1,895         | 753           | 111          | 2,759         |
| Pterygium  | 443           | 164           | 49           | 656           |
| Laser & Xenon Photocoagulation                         | 1,852         | 454           | -            | 2,306         |
| Nd Yag Iridectomy                                      | 679           | 133           | -            | 812           |
| Nd Yag Capsulotomy                                     | 1,433         | 194           | -            | 1,627         |
| Argon Laser Trabeculoplasty                            | 43            | -             | -            | 43            |
| Other Surgical Procedures                              | 2,809         | 688           | 135          | 3,632         |
| <b>Total Surgery</b>                                   | <b>48,350</b> | <b>10,562</b> | <b>2,092</b> | <b>61,004</b> |

**Out-patient visits in 1992**  
Free & Paying patients



**Surgeries in 1992**  
Free & Paying patients



## Community Ophthalmology

India has perhaps the largest blind population in the world. A large section of this population lives in rural areas where there is little or no medical facility available. Poverty and illiteracy have deprived them of medical care. Aravind's community outreach programme aims at providing quality eye care for all, irrespective of their capacity to pay.

Aravind's eye camps form a vital link to the rural masses, helping the hospital to successfully attract a large number of patients. Field organisers trained in social marketing contact the voluntary agencies and industrial houses to get them to organise screening camps. Minor treatment, prescription of glasses and screening for glaucoma are done at the camp site itself.

Patients who need surgery are brought to the base hospital. Their transportation and food during their stay at Aravind are arranged by the hospital often with support from the voluntary agencies organizing the camp.

With the help of several service organisations, 734 camps held in the year 1992, helped Aravind examine 1,95,977 patients and perform 21,607 surgeries.

Aravind greatly treasures the partnership with these organisations and the spirit of service that they bring to the work.

### Meeting with the camp sponsors:

Dr. R. D. Ravindran arranged a meeting of all camp sponsors with the Aravind staff on 29th November at Aravind-Tirunelveli. More than 75 sponsors attended the meeting. All of them expressed that such meetings held periodically will help them a lot to understand Aravind's work and be more involved.

**Camps - 1992**

| Name of organization               | No. of camps | Total out-patients | Surgery       |              |               |
|------------------------------------|--------------|--------------------|---------------|--------------|---------------|
|                                    |              |                    | Cataract      | Others       | Total         |
| Lions Clubs                        | 151          | 52,602             | 6,168         | 370          | 6,538         |
| Rotary Clubs                       | 45           | 14,035             | 1,472         | 88           | 1,560         |
| Vivekananda Kendra                 | 150          | 26,186             | 2,181         | 216          | 2,397         |
| Bhagavan Sri Sathya Sai Seva Orgn. | 32           | 10,590             | 1,941         | 95           | 2,036         |
| Other Religious Organizations      | 51           | 16,394             | 1,608         | 85           | 1,693         |
| Jaycees                            | 5            | 2,641              | 99            | 5            | 104           |
| Banks                              | 18           | 3,878              | 220           | 15           | 235           |
| Mills and Factories                | 26           | 8,390              | 1,142         | 70           | 1,212         |
| ASSEFA                             | 7            | 774                | 90            | 6            | 96            |
| Schools & Colleges                 | 41           | 6,761              | 358           | 36           | 394           |
| Hospitals                          | 11           | 4,584              | 829           | 41           | 870           |
| Trusts                             | 19           | 9,784              | 1,440         | 38           | 1,478         |
| Youth & Fans Assns.                | 59           | 9,013              | 669           | 30           | 699           |
| Other Voluntary Service Orgns.     | 76           | 18,449             | 1,107         | 68           | 1,175         |
| Others                             | 43           | 11,896             | 1,055         | 65           | 1,120         |
| <b>Total</b>                       | <b>734</b>   | <b>1,95,977</b>    | <b>20,379</b> | <b>1,228</b> | <b>21,607</b> |

*Sight Savers-UK, Seva Foundation-USA and Combat Blindness Foundation-USA helped subsidize the cost of restoring vision to the camp patients*



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## Aravind-Madurai

The main hospital at Madurai serves an area encompassing 20 million people. It is a five storey building with 325 beds. It has 4 major operation theatres and a minor one for septic cases.

The speciality clinics at Aravind-Madurai are:

- Retina and Vitreous Clinic
- Cornea Clinic
- Strabismus and Paediatric Ophthalmology Clinic
- Glaucoma Clinic
- Intraocular Lens/Cataract Clinic
- Neuro-ophthalmology Clinic
- Orbit and Oculoplasty Clinic
- Contact Lens Clinic

In India, Aravind has done pioneering work in the areas of anterior segment microsurgery, vitreo-retinal surgery, and corneal work. The hospital is well equipped with all support facilities like the Ocular Microbiology, Pathology, Radiology, Biochemistry departments and a workshop for maintenance of surgical instruments and other equipment.

The main hospital is also the headquarters of the Madurai Eye Bank Association. It receives eye balls from various institutions in India and USA.

## Aravind, Madurai - Free Section

Opened in 1984, Aravind Madurai Free section is located 100 metres from the main hospital. This five storey building can accommodate 600 patients. It has three major operating theatres, and a minor theatre for septic cases. There are facilities for the treatment of out-patients on the

ground floor. The in-patients are accommodated in large wards, on the upper floors. The free hospital is largely staffed on a rotation basis, with doctors and nurses from the main hospital serving both facilities. This ensures that all patients, non-paying as well as paying, receive the same high quality eye care. The free hospital treats approximately 350 out-patients and performs 90 operations per day.

## Aravind-Tirunelveli

Inaugurated in February 1988, Aravind-Tirunelveli is a near replica of the base Hospital at Madurai. It has facilities for 200 free patients and 200 paying patients. It serves the people in and around Tirunelveli, V.O.Chidambaranar and Kanyakumari districts.

In addition to having its own free section and out-reach activities through eye camps, the hospital also has a unique programme called *The Village cataract Awareness Programme*. Carefully selected volunteers from various social organizations are trained to identify cataracts and to bring the patients to the Hospital.

## Aravind-Theni

Aravind Theni was opened in August 1985 and has facilities for 60 free and 40 paying patients. Aravind-Theni handles all cataract, glaucoma and minor surgery. Theni serves a population of one million people within a 50km. radius.



Aravind- Madurai: Free Section

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## Aravind Children's Hospital

Aravind Children's Hospital was opened on 11th June 1984. Dr. Lakshmi Rahmathullah, Dr. Mumtaz and Dr. Paulraj are supported by a team of dedicated staff. There is a strong emphasis on continually providing a wide range of preventive services through nutritional and health education to families. More than 90% of the services including medicines, diagnosing and in-patient care are provided free.

The services include:

- Pre-natal and post-natal care.
- Immunisations.
- Rural outreach programmes.
- Formation of women's service groups.

Several training programmes on 'Vitamin A deficiency and its Control' for Community Health Volunteers of various voluntary agencies. Aravind Children's Hospital is concerned that Vitamin A deficiency continues to be a problem and registered the following cases at the hospital.

### Vitamin A Deficiency Cases-1992

|                 |    |
|-----------------|----|
| Night Blindness | 14 |
| Bitot's Spot    | 29 |
| Corneal Xerosis | 3  |
| Keratomalacia   | 12 |
| Corneal Scar    | 3  |

All the Vitamin A deficiency cases were closely monitored and treated with Vitamin A.

### Workshops and Exhibitions

Workshop on developing key indicators for reporting on Vitamin A deficiency

Science Exhibit on 'Vitamin A Deficiency' at MEPCO Engineering College Exhibition held at Gandhi Museum

Community Health Workshop organised by ASSEFA, Madras

### Projects

Conducted medical examination of children in the Sri Murugappa Chettiar Research Institute's Project on 'Large scale nutritional supplementation of spirulina algae' which is sponsored by the Department of Bio-technology and Ministry of Science & Technology, Govt. of India.

### Outreach Programmes

- A creche was started in the adopted village 'Indira Nagar' with the assistance of the Social Welfare Department.
- Demonstration of cooking nutritious food for the mothers attending the hospital.

### Publications

- Vitamin 'A' and childhood mortality published in Economic and Political Weekly, March 28th, 1992.

- Series of Tamil articles on 'Primary child care' in Grama Rajyam and 'Panchayat News' journals.

- Effects of frequent, low-dose Vitamin A intake on child survival: Implications for community based programmes in Frontiers of Nutrition and Food Security in Asia, Africa and Latin America, edited by Neil G.Kotlu-Chapter contributed to Text books.

### Aravind Children's Hospital Statistics 1992

|                         |        |
|-------------------------|--------|
| Out-patients            | 24,472 |
| In-patients             | 138    |
| Camps                   | 48     |
| Cases seen in the camps | 4,227  |
| Immunization            |        |
| D.P.T.                  | 1,104  |
| D.P.V.                  | 1,467  |
| Measles                 | 184    |



# Major Developments 1992

## Aurolab

Aurolab is incorporated as a public charitable trust, with a mission to develop and make new technologies available in eye care at a cost appropriate to developing countries. There is a special focus on community oriented eye care programmes. The intraocular lens (IOL) is the first product being developed and made available.

The availability of IOLs enable cataract patients to obtain a near normal vision after surgery. Aravind's experiences indicate that IOL implantation strongly motivates people to come for surgery.

Through Mr. David Green, the Seva Foundation, USA played a major role in identifying a technology partner (IOL International Inc., Largo, Florida, USA) and raising the necessary funds. Combat Blindness Foundation

(CBF), USA, Seva Service Society, Canada and Sight Savers, UK also gave substantial support to the project.



On January 20th, '92, the IOL manufacturing unit of Aurolab was inaugurated by Mr. David Green

A modern clean room manufacturing facility was created on the fourth floor of the hospital. Two engineers, Dr. P. Balakrishnan and Mr. R. D. Sriram received hands-on training at the technology partner's facility in Florida, USA. Mr. Gary Goins and Ms. Linda Hansen (IOL International) spent three weeks at Aurolab for setting up the laboratory and training the staff.

Mr. David Green and Ms. Linda Hansen returned to Aurolab again in June for further staff training, consultation for improving yield and to help in planning for marketing and future expansion.

The IOLs produced at Aurolab were released for clinical trials in March 1992 after extensive scanning electron microscope studies and microbiology tests to verify their quality. Sample lenses were evaluated and



The IOL team



approved by Dr. David Apple, a well known authority on IOLs in USA. After the safety and efficacy of Aurolab IOLs were well established, the lenses were made available for regular implantation. Aurolab has now achieved a production rate of 200 lenses a day, well above the planned rate. More than 8,000 lenses were implanted in 1992 with excellent results.

Presently Aurolab lenses are available for domestic and international non-profit charitable institutions and other users. The lenses are provided at a subsidised price to non-profit community oriented institutions or programmes. Aurolab plans to sell at least 75% of the production to the non-profit sector and the remaining 25% in the commercial market.

Any surplus income will be used to develop the manufacturing facility, for new product development, for subsidizing the cost of IOLs to poor patients and for supporting Aravind's teaching, training and research services.



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## **Aravind Institute of Community Ophthalmology**

Since 1982, Aravind has been offering training programmes in both clinical and management areas, for eye health personnel from India and a number of neighbouring countries. To strengthen this and various other training activities that are essential for an effective eye care programme, this institute will train ophthalmic personnel in public health eye care. SightFirst, a programme launched by Lions Club International to combat blindness, along with Seva Foundation, and Seva Service Society are funding the Institute.

### **Objective**

Using the broad environment of the Aravind Eye Hospitals, Aravind Children's Hospital and Aravind Medical Research Foundation, the institute plans to:

- establish a centre of international excellence.
- contribute to the prevention and control of global blindness, through training health related and managerial personnel in the development and implementation of community eye care programmes.

The institute's strategy to achieve the above objective, would be to provide a strong community orientation, necessary skills and both managerial and clinical knowledge. On their return, participants will be well equipped to establish or run an efficient and sustainable eye care programme, to reduce preventable blindness in their area.

### **Training Philosophy**

The Aravind institute will concentrate its efforts on skills with attitude development among the personnel required to plan, manage, and implement large volume, high quality and cost effective eye care programmes. The reduction of cataract blindness will be a primary but not exclusive focus. The unique model of Aravind Eye Hospital, in which 60,000 surgeries are performed annually, will provide the institute with a practical and stimulating learning environment. The energy for Aravind's work comes from a strong value system, that guides the individual's performance resulting in a unique work culture. The training at the institute will encourage the students to explore the potential of such values, allowing further empowerment of their work and the development of a value based work culture in their eye care programmes.

### **Proposed Activities**

The hospital conducts in-depth teaching programmes, which use both the hospital and community settings in their training process. The management and community ophthalmology courses will be offered directly by the core faculty of the institute, while the clinical courses will be administered by the institute.

### **Infrastructure**

The grant from 'SightFirst' will enable the institute to have its own building to house all its activities, and to provide accommodation facilities. In addition it will have access to Aravind Eye Hospital's Research and Library

facilities and also use as a learning ground, the various activities such as service delivery in the hospital, eye camps, vitamin A work and the hospital management process.

### **Faculty**

The faculty for the institute will fall into two categories. One category will consist of the existing Aravind Eye Hospital staff who are most accomplished in their functional area. The second category will form the core of the institute's faculty and will head disciplines such as Epidemiology, Biostatistics, Health education, Programme planning, etc. This faculty will be responsible for designing and co-ordinating the relevant training to their speciality area.

### **Collaborating Agencies**

The institute will collaborate with international organizations, institutes and community based agencies which have been working closely with Aravind since its inception.

Ms Diane Mills, Ms. Gail Collins and Mr. James Wilkinson of Payette Associates, Boston, USA did preliminary work for the design of the institute building.

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## Orbit and Oculoplasty Department

The Orbit and Oculoplasty Department was inaugurated on 22nd February by Dr. and Mrs. Bill Stewart. Dr. N. Nagappan will be in charge of this clinic.

The department has the facility to deal with most of the lid problems, orbital and lacrimal diseases. Surgeries are done with a 2.5 X Keeler Loupe, under fibre optic head-light illumination. Ellmann Surgitron bipolar coagulator, a new addition, helps to do surgery in a bloodless field. 1mm silicon rod for frontalis sling to correct congenital ptosis, 0.6 mm silicon tube for DCR, supramid, silicon sheets to repair orbital fractures, instruments to do orbitotomies, gold weights for lid implantation to correct anophthalmos are some of the procedures done. Socket reconstructions are done with acrylic implant, dermis fat and mucous membrane grafts. More than 50% of the patients seen in this clinic are treated free.



*Dr. N. Nagappan with Dr. Bill Stewart and Mrs. Stewart at the inauguration of the Orbit & Oculoplasty Department*



*Dr. P. Ravichandran garlanding Prof. Fred Munson*

## Changes at Aravind Free Section, Madurai

### Expansion of Out-Patient Facility

To meet the expanding patient volume, the out-patient area was doubled to occupy the entire ground floor. A laboratory was also added and the out-patient area was reorganised into two independent units for new and follow-up patients. The new expanded out-patient facility was inaugurated by Fred and Mary Munson on 20th January.



*Social worker with the patients at the free section*

The tracer-card system has been introduced in the medical record section, to help the staff in filing and keeping track of case sheets.

#### **Social workers and their role**

The free hospital is currently experimenting with the new concept of using social workers as patient counsellors to interact with patients for the duration of their stay. They are not qualified social workers but young service minded girls with a pleasing personality. They counsel at different stages of the patients' stay and assist in other aspects of overall patient care. Nathan Munson from Santa Fe, New Mexico, USA trained and guided the patient counsellors in dealing with the patients.

The social workers are constantly made aware that they are caring for elderly people who are sensitive and handi-capped due to blindness.

ward rounds. Any problem the patient may have is brought to the attention of the ward nurses. This allows the nurses to spend more time doing clinical nursing duties.

All the patient's needs are taken care of quietly and efficiently; every patient is treated with total kindness and compassion. As a result of the ongoing contact with the patients during their stay, a bond is formed enabling the patients to identify with them.

Their role is:

On the patients' arrival

- to welcome the patients on their arrival,
- to ensure that the patients have been allotted their rooms, and all their tests have been completed,
- to relieve any anxiety the patients may have by discussing and reassuring them about pre-operative procedures

After the operation,

- to talk to the patients about their family, village etc. This way an environment is created that makes the patient feel comfortable and relaxed.
- talk to them about the do's and don'ts of post-operative care, general cleanliness and hygiene.

During discharge

- to emphasise the instructions given by the nurses.

They help the nurses with the accountability of patients during

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## Operation Theatre Expansion

### Aravind-Free Section

A new theatre has been added to the existing theatres increasing the surgical tables from 8 to 11. This expansion funded by the Sight Savers will serve as the Aravind Sight Savers Microsurgery Training Centre.

### Aravind-Main

Currently, the operation theatres at Aravind Main are also undergoing expansion. There will be an addition of two more operating rooms, increasing the surgical tables from 11 to 17. The new theatres will be functional from February 15th, 1993.

## Aravind-Coimbatore

The construction of Aravind Eye Hospital at Coimbatore is scheduled to start in February 1993. It is expected to be completed in one year. It will be a modern eye care facility with over 150,000 sq ft, serving the western districts of Tamil Nadu and neighbouring Kerala state.

Ms Diane Mills, Ms. Gail Collins & Mr. James Wilkinson of Payette Associates, an architect firm in Boston specialising in hospitals donated their time. They worked with Mr. G. Srinivasan for a month in partnership with Mr. I. Gnanaraj and Mr. Gerard of Auroservices. Auroservices is the Indian architect firm at Pondicherry that will be executing the project.

## Library and Information Centre

With the appointment of an information specialist as the head of the library, several changes were made in the library to meet the changing needs on the library. The growing number of users and books led to the expansion and major renovation of the library. The library space has more than doubled with a separate room for the video section and an area for individual study.

In keeping pace with the new technologies in information handling, a computer has been installed with facilities for reading compact discs. All the information has been entered into a database and the articles in journals are in the process of being entered. Aravind library's database combined with the



*Mr. Palaniyandi in-charge of the Library and Information Centre*

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capacity for using Medline databases in compact discs will immensely help in literature search and will provide invaluable support to the teaching programmes and research.

### **Aravind Alumni**

1992 has been a year of strengthening the ties between members of the growing Aravind family in India and overseas.

Dr. Taraprasad Das, currently at L.V. Prasad Eye Institute, took the initiative and organised the first Aravind Alumni meeting on 9th August. The meeting was well attended, providing an excellent opportunity to catch up on each other's professional and family growth in addition to having a scientific update session. The alumni resolved to meet once every 2 years at Aravind.

A parallel development has been the initiative of St. Vincent's Hospital in New York, to form the Aravind International Alumni, consisting of all residents who spent time at Aravind as part of their residency. The first international meeting is likely to be held in November '93, at the annual meeting of the American Academy of Ophthalmology in Chicago.



*The alumni logo, conceived by Dr. Das symbolizes the emerging confidence and independence of a young bird venturing out to make a life for itself.*



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## Ongoing Research

### Aravind Medical Research Foundation

Established in 1984, the Aravind Medical Research Foundation (AMRF) conducts several research projects which have the potential of improving eye care delivery. These projects reflect Aravind's commitment to finding new ways to reduce the burden of needless blindness.

Some of the ongoing research works are:

#### Glaucoma

##### Mitomycin-C in glaucoma filtering surgery

A masked, randomised, prospective clinical trial in collaboration with Wilmer Eye Institute, Baltimore, USA is under way to determine the optimum concentration and exposure to ocular tissues by Mitomycin-C in glaucoma filtering surgery.

The pilot study on the use of Mitomycin C in Trabeculectomy was reviewed when Dr. Alan Robin from Wilmer Eye Institute was at Aravind in January. Following this, the study was finalised to determine the effectiveness of Mytomycin-C used in different concentrations.

##### Glaucoma Prevalence Study

A population based study to determine the prevalence of glaucoma is in the planning process. This study will be done in collaboration with Dr. Alan Robin of Wilmer Eye Institute who was at Aravind in December to discuss this study.

#### Retina & Vitreous

- Retinal detachment - a ten year retrospective analysis
- Endolaser SRF drainage - a prospective study

#### Strabismus & Paediatric Ophthalmology

##### Epidemiology and Management of Cataracts in Children

Dr. Clare Gilbert, Institute of Ophthalmology, University of London was here to set up a retrospective study of congenital cataract.

#### Ocular Microbiology & Pathology

A clinical trial on 'Efficacy of ketotifen eye drops in patients with allergic conjunctivitis' was completed in 1992.

#### Cornea

- Incidence of suppurative keratitis
- Significance of topical Mitomycin-C in prevention of recurrence of pterygium
- Serological correlation of Epstein Bar virus infection with nummular keratitis
- Diagnostic significance of Giemsa stain & 10% KOH smear in fungal keratitis

#### Madurai IOL Study (MIOLS)

Madurai IOL study (MIOLS) is a randomized, hospital based, clinical trial to evaluate the long term outcomes of posterior chamber intraocular lens implantation as compared to the common intracapsular method of cataract surgery.

One of the important questions to be answered by MIOLS is whether the final visual result of an ECCE/PC-IOL is sufficiently superior to that of ICCE with aphakic glasses considering its increased technical complexity and cost in the context of large-scale cataract intervention in developing countries. Further, MIOLS tries to answer whether PC-IOL can be used without significantly adding any severe complications of cataract surgery and to assess the cost/benefit of both methods in the context of developing countries.

The study protocols and questionnaires were reviewed, modified with necessary changes to reflect the Indian situation and plan of action was finalized during the last week of October 1992 in discussion with NEI and WHO expert committee.

A prepilot study has been carried out on 92 patients to become familiar and try out the procedure and forms as well as to identify errors and inadequacies in the structure and logic of the form.

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# Ophthalmic Education

The education of ophthalmologists and ophthalmic technical personnel is one of Aravind's major continuing contributions to the advancement of eye care.

The Medical Council of India, the National Board of Examinations recognise Aravind as a teaching institute. It is also affiliated to the Tamilnadu Dr.M.G.R. Medical University and the Madurai Kamaraj University. Aravind offers the following courses.

## Fellowship Training

Aravind offers fellowship training in the following subspecialty areas.

1. Retina and Vitreous
2. IOL and Anterior Segment Microsurgery
3. Cornea and External eye diseases
4. Paediatric Ophthalmology
5. Glaucoma
6. Neuro-Ophthalmology
7. Orbit and Oculoplasty

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## Postgraduates (Dip.N.B.)

Dr. N.V. Prajna  
Dr. S. Kalpana  
Dr. Damaris Magdalene  
Dr. S. Maya Devi  
Dr. Reeti Sharma  
Dr. Sujata Rao

## D.O. Students:

Dr. D.P. Prakash  
Dr. S. Shoba  
Dr. G. Rohini  
Dr. G. Mohankumar  
Dr. R.K. Geetha  
Dr. R. Deepti  
Dr. Bharathi  
Dr. Usha  
Dr. Dinukumar Arthur  
Dr. Ishrath Sultana

## Senior House Surgeons:

Dr. Ganesh Maiya  
Dr. Praveen Kumar  
Dr. Reshmy  
Dr. Naresh Babu

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## Diploma in Ophthalmology Diplomate of the National Board (Ophthalmology)

### Observer Programme

To sensitize the ophthalmologists to the community needs and to an appropriate management process, Aravind has developed a six day training module. The course will essentially expose the participants to actual work in a practical setting. They will visit an eye camp and be involved in the planning process also.

- A two year postgraduate course in hospital management (Masters in Hospital Management - MHM) in collaboration with Madurai Kamaraj University.

## Speciality Training

Dr. R.Ravichandran from Aravind, Tirunelveli was in the US for 16 weeks to get specialised training in paediatric ophthalmology and oculoplasty. He underwent training in the following institutions:

- **Pacific Medical Centre, San Francisco**  
At the Oculoplasty Centre, under Dr. Bill Stewart and Dr. Doy Ellis.  
At the Paediatric Ophthalmology Centre with Dr. Jambolsky and Dr. Alanscot
- **Wills Eye Hospital, Philadelphia**  
At the Paediatric Ophthalmology Department under Dr. Joseph Calhoun

He also visited the department of ophthalmology in the University of California and Stanford University in San Francisco.



*Dr. M. Srinivasan with some of the residents from the USA*

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## Visiting Ophthalmic Residents

As part of their training, every year, residents from various university hospitals in the USA come to Aravind. They share and exchange ideas and techniques as they observe the diagnosis, treatment surgeries and nursing methods followed at Aravind.

Residents who were at Aravind in 1992:

Mass Eye & Ear Infirmary, Boston  
Dr. Monte Mills  
Dr. Paul Cotram  
Dr. Sam Navon

Wilmer Eye Hospital, Baltimore  
Dr. John J. Michon

Illinois Eye & Ear Infirmary, Illinois  
Dr. Michael Januwicz  
Dr. Gregory Katz  
Dr. Stephen McLeod  
Dr. Carla Siegfried  
Dr. David Holck  
Dr. Mohamad Dana  
Dr. Seth Yoser  
Dr. Sue Ellen Colby

St. Vincents Hospital, New York  
Dr. Walter Moscosco  
Dr. Albert Vitale  
Dr. Scott Steidl

Brookdale Hospital Medical Centre,  
Brooklyn, New York  
Dr. Jerome Finkelstein

Proctor Foundation, U.S.A  
Dr. Lincoln Freitas

Sinai Hospital  
Dr. Steve Wahl

The WHO recognises Aravind as a training centre for eye health professionals from other countries.

## HKI

Dr. Aminoe, Dr. Ellya Thaher,  
Indonesia

## WHO

Dr. Niwardi Andri, Mrs. Sri Wahyuni and Mrs. Rita Herawati, Indonesia

Dr. K.M.K. Gamage, Sri Lanka  
Dr. Kunzang Getshen from Bhutan  
Dr. Mrs. Daw May Win, Myanmar

## Christoffel Blinden Mission

Dr. Pradhan, Sagarmatha -  
Choudhrie Eye Hospital, Nepal

## Sight Savers

Dr. Aman Khan from Lady Reading Hospital, Peshawar, Pakistan

## Sight First

Dr. Sudipta Dey from Calcutta

## Ophthalmic Nursing Training

Since the inception of the hospital, every year Aravind selects high school passed students and gives them on the job training in ophthalmic nursing. Aravind now has over 200 ophthalmic assistants and technicians trained specifically to work in the wards, out-patient departments, and in operating rooms. In 1992, 66 nurses were recruited. People trained thus are optimally used so that a large volume of work can be done while maintaining high quality. This training facility is also used by World Health Organisations and several national and international NGO's.

- Meg Munson specialised in cardiac intensive care nursing, Presbyterian Hospital, Albuquerque, USA was back at Aravind in January to restructure the nurses training programme. Her previous visit to Aravind helped her to come equipped with appropriate teaching material for

the programme. She conducted classes for all the nurses on management of medical emergencies. She contributed several teaching aids such as video tapes and books on routine patient examination, management of systemic diseases and human anatomy models.

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# Continuing Medical Education Programmes

## Seminars and Advanced Training Workshops

Continuing medical education is a vital element of Aravind's ongoing commitment. Seminars and advanced training workshops on different sub-specialities of ophthalmology are held every year and are open to all ophthalmologists. The faculty consists of selected international and national ophthalmologists renowned in that particular field.

### Course on Orbital Diseases, Eye Plastic and Lid Reconstruction

22nd and 23rd February

Course Director: Dr.N. Nagappan  
Coordinator: Dr. Javeed Khan

Guest Faculty Dr. Bill Stewart  
(Orbital & Eye Lid Reconstructive Surgeon, Pacific Medical Centre, San Francisco, California, USA)

Dr. Bill Stewart  
- Eye Lid Malposition-Management  
- Eye Lid Reconstruction Techniques  
- Orbital Diseases-Diagnosis and Surgery  
- Enucliation and Anophthalmic Socket Reconstruction

#### Aravind Faculty

Dr.Nagappan  
- Orbitopathy-Diagnosis and Management  
- Epiphora-Management

Dr.P.Vijayalakshmi  
- Management of Congenital Ptosis

Dr.Javeed Khan  
- Eye Lid Tumours Differential Diagnosis

Dr.Lakshmanamoorthy  
- USG in Orbital Diseases

Dr.Banumathy  
- Anatomy of Lid  
- Anatomy of Orbit and Orbital Spaces

Dr.Subburam  
- Transcranial Orbitotomy  
- Optic Nerve Fenestration: Indications and Technique

### Seminar on Cost Effective Management Practices for Hospitals

April 11th & 12th

Conducted by Department of Management Studies, Madurai Kamaraj University at Aravind Eye Hospital, Madurai

Mr. R.D. Thulasiraj, Administrator, Aravind Eye Hospitals  
- Hospital Material Management  
Mr.V. Ramakrishnan, Ramakrishnan Associates, Madurai  
- Hospital Room Costing and Job Costing - An exercise

Mr. U.K. Anandhapadmanaban, Kovai Medical Centre, Coimbatore  
- Hospital Engineering - a Changing Scenario

#### Madurai Kamaraj University Faculty

Dr. S. Subramanian  
- Human Resource Development System

Mr. M. Srinivasan  
- Effective Facilities Maintenance Concept and Practices for Hospitals

Mr. R. Varadharajan  
- Energy Conservation and Management of Utilities for Cost Effectiveness

Dr. S.V. Vaidyanathan,  
- Computers and Hospital Management System

Dr. Sam C. Bose presided over the session. Dr. Veerabaghu, Dean of Madurai Medical College gave the valedictory speech.

### Workshop on Developing Key Indicators for Reporting on Vitamin A Deficiency

April 23rd & 24th

Workshop Coordinator:  
Dr.V.Lakshmi Rahamathullah

Participants for this workshop had come from all over India. The two day workshop brought to light the various problems faced in eradicating vitamin A deficiency and action plan was devised to overcome the difficulties and to develop and obtain a better result in the VAD programme.

Dr. G. Venkataswamy gave the inaugural address.

#### Guest Faculty

Dr. Gopa Kothari, Project Director, Sight Savers, Bombay  
- Relevance of Kitchen Garden in VAD Programme

Mr. James Aiman, Manager, Catholic Relief Service, Madras  
- Health Education in CRS Projects

Dr. Umesh, Deputy Director, Shri. AMM Murugappa Chettiar Research Centre, Madras  
- Income Generation and Cultivation of Spirulina

#### Aravind Faculty

Mr. R.D. Thulasiraj  
- Orientation of the Workshop  
- Overview of Programme Indicators  
- Development of Format and Use of Information

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**Dr. Lakshmi Rahmathullah**

- Assessment of VAD
- Vitamin A Supplementation and Crisis
- Intervention for at Risk Children
- Intervention (Process) Indicators
- Outcome (Impact) Indicators
- How these Indicators can be Monitored
- Action Plan

**Ms. Ruth Vennila, Nutritionist,**  
Aravind Children's Hospital,  
Madurai

- IVACG Dietary Survey



*Dr. P. Namperumalsamy with Dr. V. M. Loganathan and Dr. Taraprasad Das at the Update Programme on Indirect Ophthalmoscopy & Retinal Detachment*

## **An Update Programme on Indirect Ophthalmoscopy & Retinal Detachment**

August 1st & 2nd 1992

Course Director:

**Dr.P.Namperumalsamy**

Guest Faculty

**Dr.Taraprasad Das**

*L.V.Prasad Eye Institute Hyderabad*

**Dr.Tarun Sharma**

*Sankara Nethralaya, Madras*

**Dr.V.M.Loganathan**

*Regional Institute of Ophthalmology,  
Government Ophthalmic Hospital,  
Madras*

**Dr. Taraprasad Das**

- To locate the Retinal Holes
- P.V.R Classification and Management
- Pseudophakic retinal detachments

**Dr.Tarun Sharma**

- Implant technique
- Pneumatic Retinopexy
- Management of Complicated R.D (Coloboma Choroid and Trauma)

**Dr.V.M.Loganathan**

- Explant technique
- Clinical features and Differential diagnosis of RD
- Prophylaxis of Retinal Detachment

**Aravind Faculty**

**Dr. P. Namperumalsamy**

- Fundus drawing and scleral depression
  - Traction RD: Aetiology and Management
  - Management of Giant Tear and Retinal Holes
- Dr. R. D.Ravindran**
- Principles and Rationale of R.D Surgery
  - Complications of R.D. Surgery

**Dr. D. Dwaraknath**

- Modern Trends in the Management of Retinal Detachment

**Dr. Meena Devi**

- Indirect ophthalmoscopy, Instrumentation

**Dr. Walter Mascarenhas**

- Normal and abnormal fundus periphery

**Dr. Sandeep Wagh**

- Classification of RD and aetiopathogenesis of Rhegmatogenous RD

**Dr. Vasudev**

- Exudative RD: Aetiology and Management

**Aravind Alumni - The First Meet**

9th August

**Morning Session**

**Dr. Taraprasad Das**

- Introduction & Programme Highlights

**Dr. G.Venkataswamy**

- Ophthalmology. Past, Present & Future

**Free Papers - Session I**

**Dr. S.Harikrishnan, Trivandrum**

- The usefulness of my training at Aravind Eye Hospital in my present work

**Dr. H.V.Giriswamy**

- Ocular flora in cataract patients in South India

**Dr. Deepankar Datta**

- "X" Suture with 8 - 0 silk in cataract surgery

**Dr. K.T.S.L.N. Murthy,**  
Vishakhapatnam

- Radial Keratotomy - Our experience

**Dr. P.Namperumalsamy**

- Recent Advances in Vitreo Retinal Surgery

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### Free Papers - Session II

- Dr. C.V.Gopal Raju, Dr.  
M.Srinivasan AEH, Madurai  
- *Unilateral keratoconus*
- Dr. Taraprasad Das, Hyderabad  
- *Traumatic Endophthalmitis*
- Dr. Harish B.Raichur, Solapur  
- *My Experience with Argon Laser  
Photocoagulation*
- Dr. Donald F Lobo, Dr. Parul Desai,  
Dr. Nitin Patel, Dr. O.P.Billore &  
Dr. Navasari  
- *Advanced vitreous surgery with  
indigenous resources - Our  
experience*
- Dr. Taraprasad Das, Hyderabad  
- *Coloboma of Choroid with retinal  
detachment. Video presentation*

### Afternoon Session

- Dr. G.Natchiar  
- *Recent Advances in Intraocular  
Lens Surgery*
- Dr. M.Srinivasan  
- *Recent Advances in Management  
of Infectious Keratitis*
- R.D.Thulasiraj  
- *Role of Health Administrator in  
Modern Eye Care Practice*

### Business Meeting

## Update Programme on Ophthalmology for General Practitioners

### at Aravind - Tirunelveli

October 18th

- Dr. R. Kumaraswamy  
- *Red Eye*  
- *Intraocular Lens*
- Dr. M. Srinivasan  
- *Eye injuries and corneal infection*
- Dr. V. Chittibabu  
- *Corneal Problems*
- Dr. Mithran  
- *Ocular Manifestations of Systemic  
Diseases*
- Dr. Niranjana Kumar  
- *Lasers*

- Dr. Vijayalakshmi  
- *Paediatric eye disorders*
- Dr. R. Ramakrishnan  
- *Glaucoma*
- Dr. R.D. Ravindran  
- *Diabetic Retinopathy*  
- *Headache*
- Dr. C.A.K. Shanmugham  
- *Practitioner's Role in reducing the  
prevalence of blindness*
- Dr. C. Premachandran  
- *Applications of laser*

## Seminar on Management of Glaucoma

### at Aravind - Tirunelveli

December 27th

- Dr.Krishna Das  
- *Medical Management in Glaucoma*
- Dr.R.Ravichandran  
- *Glaucoma in Paediatric Age group*
- Dr.Ramakrishnan  
- *Surgical Management in Glaucoma*
- Dr.C.Premchandran  
- *Laser in Glaucoma*
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## In Appreciation

Aravind's achievements during 1992 would not have been possible without our dedicated staff and the following organisations. Support has been in the form of research grants, technical and financial support.

Aravind extends its gratitude and appreciation for their continual support.

**Sight Savers (formerly RCSB), UK**

The partnership with Sight Savers has been further strengthened with their involvement in Aravind's overall work and supporting projects that have a broader relevance to prevention of blindness. In 1992, Sight Savers pledged support to the establishment of a microsurgery training centre with a special focus on IOL training and also support its running for a period of five years. They will continue to support Aurolab to meet part of its capital requirement for the next five years.

**Seva Foundation, USA**

Seva Service Society, Canada Seva Foundation and Seva Service Society continue to take a very active interest in Aravind's development. In 1992, they provided technical and funding support for the establishment of Aurolab for manufacturing low cost intraocular lenses and are involved in the development of Aravind Institute of Community Ophthalmology.

**Direct Relief International (DRI), USA:**

DRI's help has been invaluable in arranging shipping of donations of equipment and medical supplies from USA.

**Combat Blindness Foundation (CBF):**

USA increased its support for eye camps apart from the financial support for Aurolab

**Helen Keller International (HKI)**

Through the VITAP programme, HKI increased the focus of Vitamin A work at Aravind Children's Hospital. They continue to support the hospital management training programme by covering the travel cost of visiting faculty.

**Ford Foundation, USA**

Ford foundation continued its support to Aravind's work on Vitamin A and child survival by making a supplementary grant to disseminate the research finding and to catalyse action plans through the Government and non-government agencies.

**International Centre for Eye Health (ICEH)UK:**

Aravind is conducting collaborative research with ICEH in the area of childhood blindness.

**National Eye Institute (NEI)**

USA: NEI continues to be involved in Aravind's growth especially in the area of research and clinical service. Through WHO, NEI will be making a grant for research in the area of intraocular lenses, evaluating it against the conventional intracapsular surgery, looking at clinical complications and impact on quality of life, vision function and economic status.

**Lions International**

SightFirst programme launched by Lions International is supporting the operating costs of Aravind Institute of Community

Ophthalmology for the first five years. The first instalment has been received. It will also meet the construction cost of the building that will house teaching and administrative facilities, and that of a hostel to accommodate visiting faculty and students.

**World Health Organisation (WHO)**

WHO continues to sponsor fellows from countries in the SEARO region to be exposed to clinical ophthalmology, community eye health program and to study large volume eye care delivery. With funding supports from NEI, WHO is initiating a large research study to compare the two surgical procedures - ECCE with IOL and ICCE with aphakic spectacles.

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## Volunteers and Visitors

- Dr. Kevin Carey and Mr. Nagarajan from Sight Savers were at Aravind in the first week of May to discuss the Aravind and Sight Savers joint project in manpower development and institutional development.
- Mr. Nagarajan and Mr. James Beale from Sight Savers were at Aravind in September to finalise the support for the Microsurgery Training Centre and Aurolab.
- Prof. Fred Munson from Ann Arbor, Michigan was here for nine weeks to teach the students of the Hospital Management Course and to assist Aravind in reviewing various administration and management policies. Aravind was requested by the Government of India to assess the Sitapur Group of Hospitals and assist in upgrading the facilities available there. Prof. Munson played a key role in this regard by making a site visit to Sitapur and leading a planning session held at Madurai in which staff of Sitapur and a few consultants participated.
- Ram Dass from Seva Foundation was at Aravind from the 19th December 92 to 8th January 93. During his visit, he interviewed some of our senior staff and had discussions with postgraduates and fellows. He discussed the Aravind Institute of Ophthalmology in detail with Dr. V and R.D. Thulasiraj. He also attended the Management of Eye Care Delivery Course organised by NEI at Madurai.
- A well wisher of Aravind, Dr. Carl Kupfer, Director of NEI, Bethesda, USA has visited Aravind several times. During his visit in February, he reviewed Aravind's activities and participated in the discussions on future projects and growth plans.
- Dr. Jay M. Enoch, University of California, California, USA to workout the details for a research study to evaluate a hyperactivity testing method for dense cataracts.
- Claudia Nenno, Medical Student, College of Physicians & Surgeons of Columbia University, USA
- Dr. Peter Nash, his wife Dr. Linda and Ms. Neena from Seva Service Society, Canada.
- Dr. Alvin Balent and his wife Dr. Linda Civerchia, USA
- Ms. Amita Prasher from New Delhi was here in May on a three day visit. Specialised in visual communications she studied Aravind's community work to help in developing effective methods and material for patient communication.
- Dr. B. Patnaik, from Retina Associates, New Delhi Mr. Arun Anand from DLF Real estate developers, New Delhi visited Aravind during the second week of June. They came to gather information required for developing a speciality hospital that DLF plans to build in New Delhi.
- Dr. Y.K. Mahendra and Mrs. Mahendra, Mr. P.S. Chauhan, Mrs. Asha Das from Khairabad Eye Hospital, Kanpur had come to Aravind in July to attend the one week overview training module.



*Dr. G. Venkataswamy and Mr. Thulasiraj with Dr. Y. K. Mahendra and his staff from Khairabad Eye Hospital, Kanpur*

- Steve Thomas, ophthalmic technologist from Florida, USA was here in June. He conducted classes on Fundus photography and use of ultrasound equipment for our doctors and staff.
  - Steven Gyser, ophthalmologist from John Hopkins, USA
  - Dr. Marcia Regina Issa, ophthalmologist from Brazil came on a one month visit to Aravind as an observer. She participated in clinical, surgical and community ophthalmology activities.
  - Senthil Krishnasamy, medical student from Iowa, USA was at Aravind to do a study as a part of his elective course.
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*Dr. Abiose, Mr. Otaru, Dr. Akinsete from the National Eye Centre in Nigeria with Mr. Raheem Rahmathullah*

- Dr. Manthalkar Rao from MR Medical College, Gulbarga, Karnataka and Dr. J. Biswas from Sankara Nethralaya, Madras were here as D.O. examiners
- Dr. Leon Swartzbeg, an anthropologist and Margot Pomeroy from Ashland, U.S.A were at Aravind for three weeks.
- Rajiv Bindlish, medical student from Canada
- Dr. Abiose, Mr. Otaru, Dr. Akinsete from the National Eye Centre in Nigeria were at Aravind in July to explore the possible collaboration with Aravind to assist in the development of the eye centre.
- Terrence R. Gillen and Dr. Leon Ellwein from National Eye Institute, USA and Dr. Kasthuri Rangan from Harvard Business School, USA were at Aravind in August to plan for the forthcoming workshop on 'Management of Eye Care Delivery' to be held at Aravind in January 1993.
- Dr. Leon was later joined by Dr. Negrel from WHO, Geneva.

They worked on the design for the research study 'to evaluate the safety and efficacy of IOL implantation over traditional cataract surgery'.

- The following from Allergan International were at Aravind to visit Aurolab: Mr. Brainard - Senior Vice-President, Pan-Asia Region, Mr. P. Haugen - President, Worldwide Eyecare from USA and Mr. N. Sheriff and Mr. Prasad from UAE
- Ms. Shailaja Chandra, Jt. Secretary, Ministry of Health, Delhi was at Aravind on a 2 day visit.
- A medical team led by Dr. Ochsner from Ochsner Eye Med/Surgical Centre, Wichita, KS, USA were at Madurai at the invitation from the Christian Mission Hospital. At Aravind they examined patients, performed surgeries and conducted classes for the residents and postgraduates.
- Dr. Fletcher, Dr. Leon Ellwein, Dr. Ed McManus and Dr. Roy Milton from NIH, USA and Dr.

Dominic Negrel from WHO, came to Aravind on a follow-up visit. During this second visit, detailed discussions were held to finalise the protocol, data forms and manual of operations.

- Dr. Jill Keefe, Project Officer, Low Vision Project, University of Melbourne, Australia was with us for 10 days in November. She conducted classes for the doctors and the nurses on methods of evaluating the cause for low vision and advice of appropriate low vision aids.
  - David Emmert, Photographer from Baltimore, USA
  - Dr. Lester Kaplan, Corporate Vice President, Pharmaceutical Development and Research, Allergan USA was at Aravind in December with Dr. Alan Robin from Wilmer Eye Institute, USA.
  - Dr. Paul H. Campbell, Lecturer in Management, Harvard School of Public Health, Boston and Dr. Nirmala Murthy, from Hospital Management Development Network, India, Bangalore visited Aravind in December. They discussed Aravind's projects in training and teaching and the potential involvement of Harvard School of Public Health in Aravind's work.
- Dr. Nirmala Murthy, Dr. Paul Campbell and R. D. Thulasiraj discussed the forthcoming course 'Strategic Management in Hospitals' to be held in May 1993.
- Dr. Barbara Underwood, WHO, Switzerland
  - Traycie Skinner, UK
  - Rev. David Steven from UK

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## Conferences Attended

### 50th Golden Jubilee Conference of All India Ophthalmological Society

Delhi, 2nd to 6th February

Dr. Venkataswamy

- *Effective and large volume Cataract Surgery in Eye camps - Practical Management*

Dr. P. Namperumalsamy

- *Diabetic Retinopathy: Medical Management and Lasers*

Symposium on Medical Treatment of Diabetic Retinopathy

- *Introduction on Etiology-Recent Advances- Future: Video course on Vitreous Surgery*
- *Indications for Anterior Segment Surgery*

Co-Chairman for Current Concept Programme on

- *Management of Giant Retinal Tear with inverted flap- Our experience*
- *Prophylaxis of Giant Retinal Tears*

Update Programme on Post-operative Endophthalmitis

- *Early Detection and Management*
- *Surgical Treatment by Posterior Segment Surgery*

Co-Chairman for Free-Paper session Retina III

Pre-Conference Course on Eale's Disease:

- *Aetiology of Eale's Disease*
- *Management of Advanced Cases of Eale's Disease*

Vitreoretinal Society Meeting:

- *Eale's Disease & Vitreous Surgery*

Dr. Natchiar

- *Safe and Effective use of IOL under Eye Camp conditions*

Free-Paper Session Cataract IX

- *Cataract in Congenital Typical Coloboma - Should IOL be Implemented ?*

Chairman for Free-paper session - Neuro Ophthalmology I

- *Keynote address: Field Defects in and around Chiasma*

Co-Chairman for the Free-paper sessions - Cataract V & Cataract XI

Convenor for Instruction course on

- *Organisation and arrangements for a successful eye camp*

Current Concept Programme:

- *Organisation for Large Volume Surgery*

Chief Co-ordinator for the Video Instruction Programme: International Congress of the Intraocular Implant Society, Scientific Programme:

- *Basic ECCE Techniques*
- *Conjunctival/Corneal Incision making*
- *Capsulotomy Needle doing simple safe Capsulotomy, Capsulorexhis methods .*

Symposium

- *Malposition of IOL signs and symptoms*

R. D. Thulasiraj

Symposium on Reduction of Backlog in Cataract Surgery in Developing Countries- A Blueprint

- *Information, communication and health education*

Current Concept Programme on Effective and Safe Large Volume Cataract Surgery in eye Camps Practical Management

- *Patient Recruitment - Constraints, Operative research Method*

Dr. P. Vijayalakshmi

- *Frontalis Sling Surgery with IMM Silicone Rod*

Dr. R. D. Ravindran

- *Pseudophakic Pupillary Block Glaucoma following Posterior Chamber IOL Implantation*

Dr. R. Ramakrishnan

- *Effect of Apraclonidine on IOP after Anterior Segment Laser Surgery in Indian Eyes*
- *Bilateral Extensive Persistent Pupillary Membrane Management with Yag Laser - Poster Session*

Dr. D. Dwaraknath

- *Retrospective Evaluation of Central Retinal Vein Occlusion CRVO (Poster)*

This has won the 2nd prize in the Scientific Exhibit Session

Dr. Lakshmanamurthy

- *Role of Photocoagulation following Retinal Detachment Surgery*

Salem Ophthalmic Association

Meeting Yercaud, March 11.

Dr. P. Namperumalsamy

Chairman: Symposium on 'Lasers in Ophthalmology'

- *Introduction and Basics of Laser Therapy*

**Ophthalmology in Developing Countries - An International Symposium**

San Francisco, USA, March 12 - 13

Dr. G. Venkataswamy

- *Aravind - Setting up a Cataract Program: What Did We Do ? What Did We Learn ?*

Dr. M. Srinivasan

- *Diagnosis and Treatment of Fungal Corneal Ulcers*
- *How Do We Do it ? : Cataract Symposium*

IAPB meeting

New Delhi, March 16th to 18th

Dr. G. Venkataswamy

- *Cataract Backlog and other Emerging Eye Problems in the Region*

Mr. Thulasiraj

- *Man Power Development*

**Workshop on 'Pars Plana Surgery for Anterior and Posterior Segment Disorder'.**

Hyderabad, April 4th and 5th

Dr. P. Namperumalsamy

- *Lensectomy*
- *Vitreotomy in Eale's Disease*
- *Giant Retinal Breaks*
- *Management of Intra-operative Haemorrhage*

**District Conference - Lions Club of Palghat**

Palghat, April 12

Dr. Natchiar

- *The Role of Lions in Reducing Cataract Blindness*

**Indian Medical Association Meeting**

Coimbatore, April 12

Dr. Natchiar

- *Neuro-ophthalmic Problems and their Management*
- *Panel discussion on 'Common Eye Disorders and their Management'*

**Association of Research for Vision in Ophthalmology (ARVO Meeting)**

Sarasota, U.S.A, May 2nd to 7th

Dr. P. Namperumalsamy

Dr. G. Natchiar

**Seva Board Meeting**

San Rafael, U.S.A, May 23rd to 31st

Dr. P. Namperumalsamy

Dr. G. Natchiar

Mr. R. D. Thulasiraj

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**Schepens Alumni Meeting**

Boston, U.S.A, June 5th  
Dr.P. Namperumalsamy  
Dr.G. Natchiar

**Symposium on Congenital Cataract**

Institute of Child Health, London  
June 18th & 19

Dr.P. Vijayalakshmi  
- *Pars plicata lensectomy in congenital cataract*  
- *I.O.L. for children's aphakia in India*

**Indian Medical Association Meeting**

Tuticorin, June

Dr.R.D.Ravindran  
- *Management of Diabetic Retinopathy*

**Regional Symposium on Community Ophthalmology**

Bangalore, June 27-28

Dr.G.Venkataswamy  
- *The Madurai experience in modern community ophthalmology*  
Mr.R.D.Thulasiraj  
- *Role of voluntary organisations and SightFirst Programme*

**Tenth Afro-Asian Congress of Ophthalmology**

Jakarta, Indonesia, July 17th to 21st

Dr. G. Venkataswamy  
Conquering Blinding Cataract  
- *Indian experiment for combating cataract blindness*  
Dr. P. Namperumalsamy  
Course on Lasers in Retinal Diseases  
- *Laser Photocoagulation on Eale's Disease*  
Course on Vitreoretinal Diseases  
- *Wedge Implant in Retinal Detachment Eyes*  
Dr. G.Natchiar  
- *High quality large volume cataract surgery with IOL Implantation at low cost. A model for developing countries.*  
- *Effective and safe high volume cataract surgery: Practical Management*

**IOL Surgery Workshop**

Organised by Ophthalmic Association of Erode & Salem, July

Dr. R.D.Ravindran  
- *Complications of IOL surgery and post-operative management*  
- *Wound closure and astigmatism*  
- *IOL surgery in glaucoma patients*

**District Science Centre**

Tirunelveli - July

Dr. R.D.Ravindran  
- *Eye Health Care*

**Salem Ophthalmic Association Meeting**

Salem, August 16th

Dr. P. Vijayalakshmi  
- *Management of Cataract, Glaucoma and Strabismus in Children*  
Dr. M. Srinivasan  
- *Corneal Diseases*

**SRISTY 92 - Southern Regional IMA Academy of Medical Specialities Seminar**

Tuticorin, August 29th

Dr. P. Namperumalsamy  
- *Lasers in Ophthalmology*

**IOL Workshop**

Delhi, 29th & 30th August,

Dr. G. Natchiar  
- *Wound size - Site and techniques for capsular opening*  
- *Postoperative care*  
- *IOL in children - Indications :Justification and current status*  
- *Special types of IOLs and IOLs in special situations - Iris claw, Disc Lenses, scleral fixation etc.*  
- *IOL in traumatic cases - Technique and time*

**Southern Regional Ophthalmic Conference**

Madras, September 4th to 6th

Dr. P. Namperumalsamy  
Chairman - Panel Discussion on "Vitreous Surgery"  
Symposium on vitreous surgery  
- *Proliferative Diabetic Retinopathy*  
Dr. P. Vijayalakshmi  
- *Management of exotropia*  
Dr. Ramakrishnan, Dr. Krishnadas  
- *Management of Refractory Glaucoma with trabeculo-suprachoroidal shunt*  
Dr. R.D.Ravindran  
Symposium on IOL Implantation  
- *Technique of can-opener capsulotomy*  
Dr. R. Kim, Dr. R.Ramakrishnan, Dr. Krishnadas  
- *Efficacy of Argon Laser Trabeculoplasty in Glaucomas with pseudoexfoliation syndrome*  
Dr. Ramakrishnan, Dr. Krishnadas  
- *Mitomycin-C in Refractory Glaucoma*

Dr. N. Nagappan, Dr. N.V. Prajna

- *A New lid tightening procedure for senile entropion*  
Dr. P. Vijayalakshmi, Dr. P. Lakshmana Rao & Dr. R. Ravichandran  
- *A Retrospective study of 300 Esotropes who were treated surgically*  
Dr. M. Srinivasan, Dr. Prabjot Channa, Dr. Gopal Raju, Ms. Celine George  
- *Nocardial endophthalmitis following IOL surgery*  
Dr. H.V. Giriswamy, Dr. M.Srinivasan  
- *Ocular Flora in patients admitted for cataract*  
Dr.P.Vijayalakshmi, Dr. Lakshmana Rao  
- *Long-term results of intraocular lens implantation in children*  
Dr. Arup Chakrabarthi, Dr. G. Natchiar  
- *Our Experience with posterior chamber lens in subluxated cataract*

**Glaucoma Society of India Meeting**

Ahmedabad, September 19th and 20th  
Dr. R. Ramakrishnan  
- *Aphakic Glaucoma*  
- *Post Laser rise in IOP*

**Salem Ophthalmic Association Meeting**

Salem, October 4th  
Dr. Ramakrishnan  
- *Recent Trends in Glaucoma Management*

**Vidarbha Ophthalmic Society 17th Annual Convention**

Nagpur, October 10th & 11th

Dr. P. Namperumalsamy  
- *Pars Plana surgery - Instrumentation*  
- *Pars plana surgery for anterior segment disorders*  
- *Pars plana surgery for posterior segment disorders*

**2nd Central Zone Ophthalmic Conference**

Indore, October 11th

Dr. G. Natchiar  
- *Neuro-ophthalmic problems of optic nerves*

**Gujarat Ophthalmological Society Conference**

Karamsad, October 17th

Dr. G. Natchiar  
Community Ophthalmology - *Effective & safe high volume cataract surgery in eye camps*  
- *When will you remove an IOL*

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## American Academy of Ophthalmology Meeting

Dallas, USA, November 7th to 12th  
Dr. P. Namperumalsamy

Dr. R. Ravichandran

'Study of Mitomycin C as adjunct to filtering surgery in South India' - scientific exhibit

## Andhra Pradesh State Conference

Visakhapatnam, November 28th & 29th  
Dr. P. Lakshmana Rao

## District Science Centre,

Tirunelveli - December (AIDS DAY)

Dr. R. D. Ravindran

- *Ophthalmic manifestations of AIDS*

## Kerala State Conference

December 5th & 6th

Dr. P. Vijayalakshmi

- *Management of Horizontal Squint*

Dr. P. Lakshmana Rao

- *Diagnosis of concomitant Squint*

Dr. R. Ravichandran

- *Ocular Movement and BSV*

## Publications

- Aravind published a book on *Ocular Pharmacology and Therapeutics* in January. Dr. Rathinam Sivakumar Dip.N.B with guidance from Dr. Natchiar and assistance from other department heads has authored this book.
- A slide manual on Glaucoma
- Video on Surgical Procedures in Glaucoma
- Dr. P. Namperumalsamy is the managing editor for the Tamil Nadu Ophthalmic Association (TNOA) journal since 1990. It is published as a quarterly by the hospital with the TNOA funds.
- Through 'Kannoli' a newsletter brought out by the Madurai Eye Bank, Aravind creates awareness among the public regarding common eye diseases, eye injuries etc.

### Journal of Kerala State Ophthalmological Society Vol. IV, No.1, March 1992

Dr. M. Srinivasan

- *Mycotic Keratitis*

### Tamil Nadu Ophthalmic Journal Vol. XXX, No. 1, March 1992

Dr. Ramakrishnan, Dr. Krishnadas,

Dr. G. Natchiar

- *Posterior Chamber Lens Implantation Combined with Trabeculectomy in Advanced Glaucoma with Cataract*

Dr. M. Srinivasan

- *Mycotic Keratitis*

Dr. C. Premachandran, Dr. R.D.

Ravichandran, Dr. R. Kumaraswamy

- *Posterior Capsule Opacification in Relation to IOL Optic Design*

### Archives of Ophthalmology, June 1992

Dr. R.D. Ravindran

*Book Review on Colour Atlas of Ophthalmic Parasitology*

### Tamil Nadu Ophthalmic Journal Vol. XXX, No. 2, June 1992

Dr. R. Ramakrishnan, Dr. Krishnadas,

Dr. G. Natchiar

- *Posterior Chamber IOL implantation in Lens Induced Glaucomas*

Dr. P. Vijayalakshmi

- *Optical Correction of Aphakia in Children*

Dr. P. Vijayalakshmi, Dr. Santosh Adke

- *Clinical Evaluation of Superior Oblique Palsy*

Dr. Prabjot Channa & Dr. M. Srinivasan  
- *Complications due to Soft Contact Lens*  
- *Excimer Lasers-Instruments and Applications*

### Afro Asian Journal of Ophthalmology, September '92

Dr. Premchandran C

Dr. Kumaraswamy

Dr. R.D. Ravindran

- *Posterior capsule opacification in relation to IOL Optic design*

### Journal of Kerala State Ophthalmological Society Vol. IV, No.3, September 1992

Dr. P. Lakshmana Rao, Dr. M. Srinivasan

- *Conjunctival and Corneal Infections in Children*

### Tamil Nadu Ophthalmic Journal Vol. XXX, No. 3, September 1992

Dr. P. Namperumalsamy

- *Central Serous Retinopathy*

Dr. Deva Prasad Kar

- *Evolution of Intraocular Lenses*

Dr. N. Nagappan

- *Lid Disorders*

- *Investigation and Management of Epiphora*

Dr. K. Lakshmana Murthy

- *Ultrasound in Orbital diseases*

Dr. P. Subburam

- *Proptosis of Neuro-ophthalmic Interest*

### Tamil Nadu Ophthalmic Journal Vol. XXX, No. 4, December 1992

Dr. P. Vijayalakshmi, Dr. P. Lakshmana Rao, Dr. R. Ravichandran

- *Long-term Results of Intraocular Lens Implantation in Children*

Dr. Arup Chakraborti, Dr. Natchiar

- *Posterior Chamber Lens in Subluxated Cataracts - Our Experience*

Dr. H.V. Giriswamy, Dr. M. Srinivasan

- *Ocular Flora in patients admitted for cataract surgery*

Dr. M. Srinivasan, Dr. Prabjot Channa, Dr. C.V. Gopal Raju, Ms. Celine George

- *Nocardial Endophthalmitis following IOL Surgery*

Dr. Ramakrishnan, Dr. Krishnadas

- *Mitomycin-C in refractory glaucoma*

Dr. R. Kim, Dr. Ramakrishnan,

Dr. Krishnadas

- *Argon Laser Trabeculectomy in glaucomas with exfoliation syndrome*

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## Awards

### **National Award for the Welfare of Handicapped**

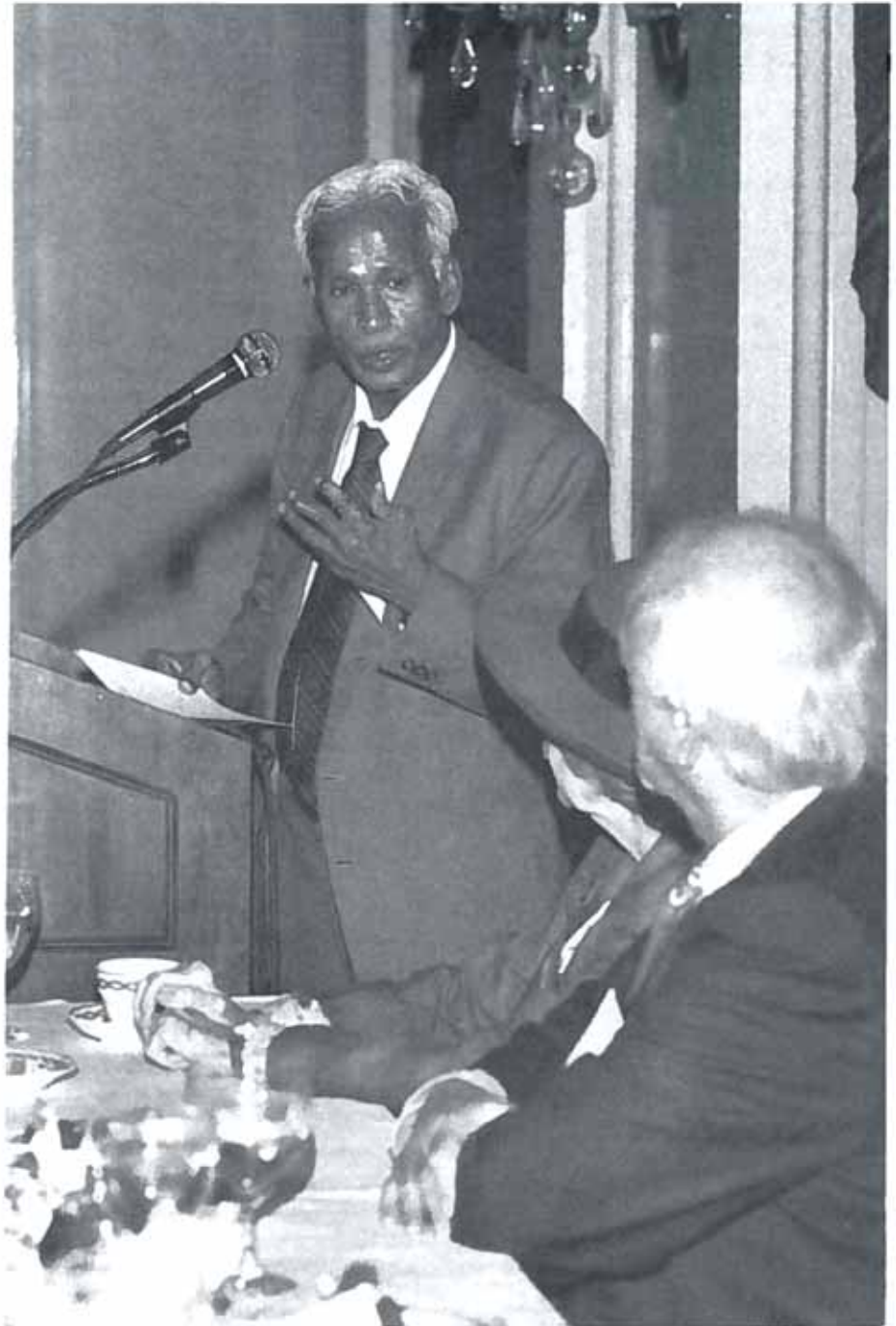
The Ministry of Welfare, Government of India in appreciation of his service for the visually handicapped presented Dr. G. Venkataswamy with this award on 15th March.

### **1992 Lighthouse Pisart Vision Award**

The Lighthouse Inc. New York, USA awarded Dr. G. Venkataswamy with the '1992 Lighthouse Pisart Vision Award' on September 22 at New York.

### **International Blindness Prevention Award**

The American Academy of Ophthalmology established an Academy International Blindness Prevention Award. Dr. G. Venkataswamy was the first recipient of this award on November 9th at the opening ceremony of the academy meeting at Dallas, USA.



*Dr. G. Venkataswamy at the award ceremony*

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# Aravind Eye Hospitals & Postgraduate Institute of Ophthalmology

Director: Dr. G. Venkataswamy M.S.

Chief Medical Officer:  
Dr. P. Namperumalsamy M.S.

Senior Medical Officer: Dr. G. Natchiar M.S.

Secretary: G. Srinivasan M.S.

Administrator: R. D. Thulasiraj M.B.A

Project Director: Dr. C.A.K. Shanmugham B.S.Sc.,D.E (Prague)

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## Aravind- Madurai

### Retina & Vitreous Clinic

Chief: Dr. P. Namperumalsamy M.S.

#### Medical Officers:

Dr. Dwarak Nath M.S.

Dr. Vasudev M.S.

Dr. R. Kim D.O.

Dr. V. Narendran D.O.

#### Fellows:

Dr. Walter Mascarenhas

Dr. Sandeep Wagh

Dr. Uday Gadgil M.S.

Dr. Sanjiv Lal M.S.

Dr. Javeed Khan M.S.

Dr. Ravi Kulkarni M.S.

### Intraocular Lens and Cataract Clinic

### Neuro-Ophthalmology Clinic

### General Ophthalmology Clinic

Chief: Dr. G. Natchiar M.S.

#### Medical Officers:

Dr. K.S. Chandrakanth D.O.

Dr. Arup Chakrabarti M.S.

Dr. Rathinam Dip.N.B.

Dr. Susil Pani Dip.N.B.

Dr. Selvi D.O.

Dr. M.T. Ramesh D.O.

Dr. V. Madhavan D.O.

Dr. J. Lakshmanan D.O.

#### Fellows:

##### IOL:

Dr. Ganesh M.S.

Dr. Shubhangi Kulkarni M.S.

Dr. Sivaprakash Rao M.S.

#### General Ophthalmology:

Dr. Dinesh Sahu M.S.

Dr. V.K. Awasthy M.S.

Dr. Ponnamm Sridhar M.S.

#### General Ophthalmology Junior Fellows:

Dr. Anil A. Alatkari D.O.

Dr. Saguna D.O.

Dr. Prashant MBBS

### Cornea Clinic

Chief: Dr. M. Srinivasan M.S.

#### Fellows:

Dr. Gopal Raju M.S.

Dr. Giriswamy M.S.

Dr. Jagadesh Kumar Reddy M.S.

### Paediatric Ophthalmology & Strabismus Clinic

### Contact Lens Clinic

Chief: Dr. P. Vijayalakshmi M.S.

Medical Officer: Dr. Lakshmana Rao M.S.

Fellow: Dr. Anuradha Chavan M.S.

### Glaucoma Clinic

Chief: Dr. R. Ramakrishnan M.S.

Medical Officer: Dr. Krishnadas D.O.

### Orbit & Oculoplasty Clinic

Chief: Dr. N. Nagappan M.S.

### Free Hospital

Medical Officer: Dr. P.Ravichandran D.O.

### Ocular Microbiology & Pathology Department:

Dr. K. Sundar Ph.D.

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## Aravind- Tirunelveli

### Retina & Vitreous Clinic

Chief: Dr. R. D. Ravindran M.S.

### Paediatric Ophthalmology Clinic

### Orbit & Oculoplasty Clinic

Chief: Dr. R. Ravichandran M.S.

### General Ophthalmology Clinic

#### Medical Officers:

Dr. C. Premachandran D.O.

Dr. R. Kumaraswamy D.O.

Dr. V. Chittibabu D.O.

Dr. Niranjan Kumar D.O.

#### General Ophthalmology Junior Fellows:

Dr. Mithiran D.O.

Dr. Raja Vengal Reddy D.O.

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## Aravind-Theni

Senior Medical Officer: Dr. D. Datta Dip.N.B.

Junior Medical Officer: Dr. P. Chitra M.B.B.S

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## Aravind Children's Hospital-Madurai

Director: Dr. Lakshmi Rahmathullah D.P.H

#### Medical Officers:

Dr. Mumtaz M.D.

Dr. Paulraj M.B.B.S.

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# Aravind Eye Hospitals

& Postgraduate Institute of Ophthalmology

Affiliated to Madurai Kamaraj University and Dr. M.G.R. Tamilnadu Medical University

Run by Govel Trust

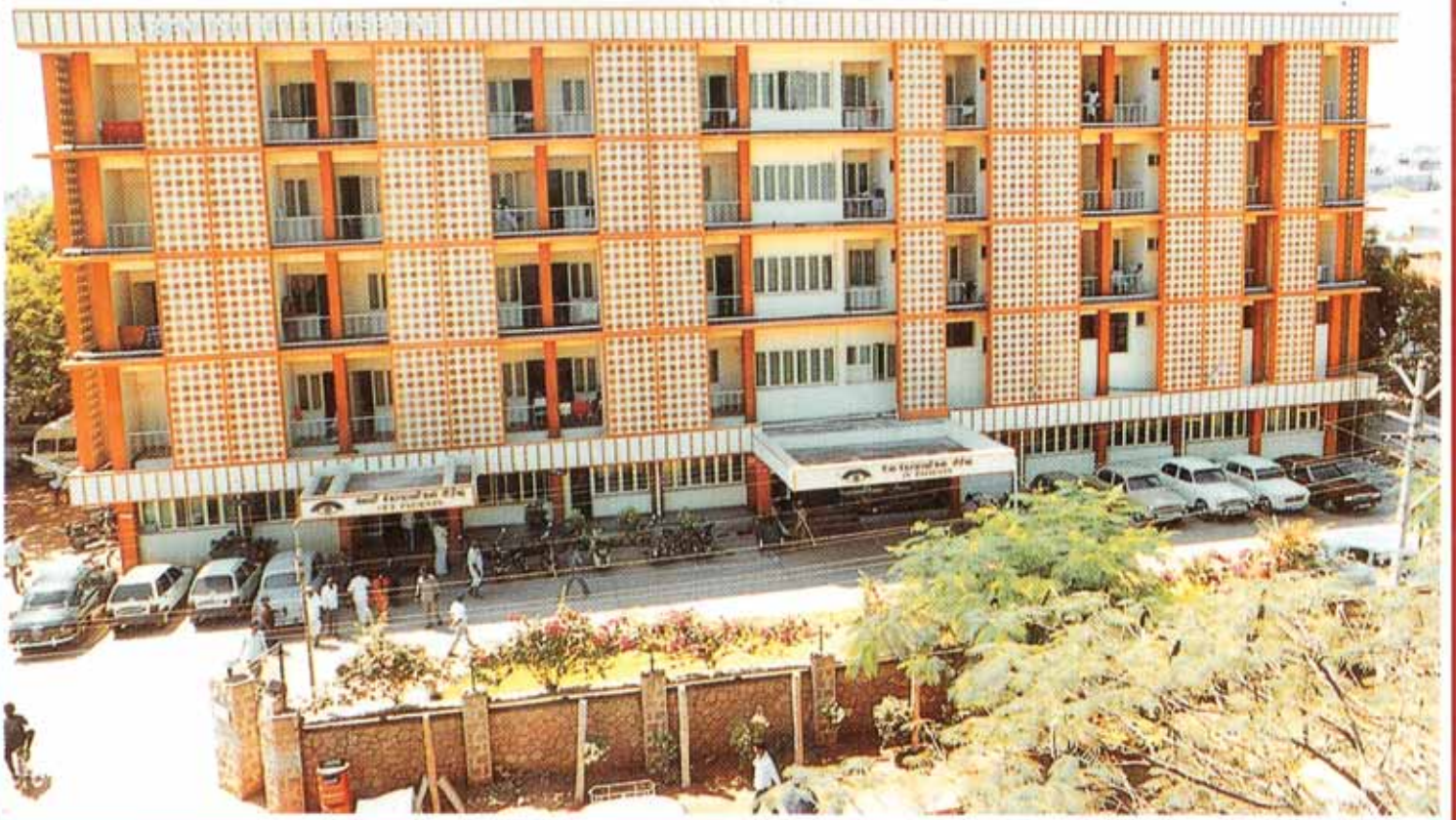
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## Aravind Eye Hospitals & Postgraduate Institute of Ophthalmology



World Health Organisation  
Collaborating Centre  
For Prevention of Blindness

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**Aravind Children's Hospital**  
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