

# TUG 2002, Thiruvananthapuram report and travelogue

Ross Moore  
(photos by Wendy McKay)

While wandering among the shops at Singapore's extensive Changi airport, after an 8-hour flight from Sydney, it was not such a surprise to hear my name being called to come to the Info desk. That would be Wendy McKay, whom I'd agreed to meet there. We were both taking the same flight directly to Thiruvananthapuram, abode of the sacred snake Anantha. This city, also known as Trivandrum, is the capital of Kerala State in South India, where TUG 2002, the 23rd annual T<sub>E</sub>X Users Group conference, was to be held. Wendy had come further than I, from Los Angeles via Taiwan. Having more hours to kill, she had taken a couple of sight-seeing tours around Singapore. With just three flights per week, Silk Air provides a convenient way to get to Trivandrum, when coming from further East, without the need to pass through other cities or rely on transport connections within India itself. Other conference attendees would be traveling even further to get to Kerala. In all there were 30 'foreigners' coming from 14 different countries. For most it would be their first trip to India. With 20–30 from elsewhere in India, local attendees at the workshops and the organisers themselves, the total number of participants would be close to 80.

Upon exiting the airport at Thiruvananthapuram it was a pleasure to be greeted by Kaveh Bazargan and C. V. Radhakrishnan. They run Focal Image India and provided the inspiration for holding TUG 2002 in Trivandrum, and the driving force behind its organisation. Hotel Samudra, where most of the foreign delegates would be staying, is a half-hour drive away at Kovalam. It was Radhakrishnan's car, but Kaveh was to drive. This may not seem remarkable unless you have already experienced driving in India. Roads are generally quite narrow, with **barely enough room** to pass another vehicle. Traffic drives on the left but the central line, if marked at all, serves only as an indicator. During the day roads are very busy, being used by people and bicycles — sometimes laden high with boxes, milk crates or caged chickens — **as well as motorised vehicles**. The latter includes motor scooters, motor bikes — lady passengers **sit side-saddle**, perhaps carrying a baby;

whole families of 4 or 5 somehow find a place to sit — and the small 3-wheeled auto-rickshaws, as well as cars, buses and trucks. Occasionally there is a cart: two wheelers pulled by a person, or the larger 4-wheeled variety powered by a **pair of bullocks**. **Elephants using the road** are rare within towns and cities, but can be encountered working along the highways between towns.

Vehicles pass with only inches to spare; external rear-vision mirrors are not used, as they would quickly be smashed against another vehicle. When desiring to pass, the rule is to honk the horn to let the driver in front know of your presence. Smaller vehicles give way to larger vehicles, more as a matter of self-preservation than as a rule. A common way to turn right is to cross and drive the last 50 metres or so down the opposite side of the road, before making the turn. There can be vehicles traveling in the opposite direction on *both* sides of your car, so it's no wonder that mirrors are of little use—there's no time to look into them. The traffic signs say 'Live and let live' and list five different speed limits for the different types of motorized vehicle. Normally foreigners do not drive, but instead hire a **taxi with a local driver**. A whole afternoon of sight-seeing can cost less than \$10. The driver will wait while you visit **museums**, **temple**, art galleries, the zoo, do some shopping or stop at a **roadside coconut stand**. Kaveh has spent so much time in India now that he now dares to sit behind the wheel; when I visited him last year he would always use a driver.

Hotel Samudra, at Kovalam, is run by the Kerala Tourist Development Commission (KTDC), a branch of the State Government. It sits atop a small hill with spectacular views across the ocean on one side. Apartments run down the hill at the back, with a short path leading down among the coconut palms to a small sandy beach. Paths lead to other beaches where every morning the fishermen come in with their small wooden boats, laden with fresh fish, after spending the night on the sea with their nets. There are plenty of hotels, but June to September is off-season for the tourist trade. During the week of TUG 2002, conference delegates were

practically the only occupants, apart from the teams of workers that ran the hotel and restaurant, the Ayurvedic massage center, and taxi drivers **waiting to offer their service**. A special rate of roughly \$20 per night had been negotiated for the duration of the conference.

‘Stand up and be Proud of T<sub>E</sub>X’ was the motto for the TUG 2002 conference, organised by the Indian T<sub>E</sub>X Users Group, Free Software Foundation — Indian Chapter and the Department of Information Technology, Government of Kerala. They have every reason to be proud of their efforts. This was certainly the best run T<sub>E</sub>X Users Group meeting that I have attended. Many other delegates agree. Site for the talks was the Technopark in Koryavattom, a little to the north of the city of Trivandrum. As Kovalam being 17kms to the south, this meant a 40 minute bus trip each morning, so that each day started with the excitement of road traffic in India. Delegates from elsewhere on the sub-continent mostly were staying at a hotel in Trivandrum itself; they arrived on a separate bus or by car. The main building, with auditorium and conference rooms, has a **red-tiled roof** and is part of a cluster on top of a large hill with views to the north across a sea of coconut palms and cashew-nut trees. Huts and houses are invisible beneath the green canopy.

On the first day delegates were delighted to be greeted by a **traditional band** of blaring horns and beating drums and an elephant **decked in ceremonial dress** with a silk banner printed with the conference logo. Similar banners hung from light poles at the entrance to Technopark, and along the driveways. Fresh coconuts were available inside. Kaveh was **dressed in a dhoti**. Igor Rodionov was first to **ride the elephant**, followed by Gyöngyi Bujdosó, before it was time for the opening session. Satish Babu (of Internet Applications Technologies Pvt. Ltd., Technopark), as head of the Organising Committee, **chaired the opening session**. Short addresses were given by Ajay Shah (Ministry of Finance, Government of India, New Delhi) and Dr K. R. Srivathsan (International Institute for Information Technology and Management, IIIT), Technopark, Trivandrum), representing the major sponsors for TUG 2002. These were followed by the keynote address by Ajit Ranade (Chief Economist, ABN AMRO Bank, Mumbai) giving an overview of the ‘Status of T<sub>E</sub>X in India’. Ajit first used T<sub>E</sub>X as a graduate student and presented names of many publishers which use T<sub>E</sub>X within their production processes in India, mostly without explicit recognition of this aspect of their work. S. Rajkumar (Landscape Technologies, Trivandrum) followed by giving a description of the

challenges and opportunities for T<sub>E</sub>X with regard to Indic typesetting, with its many languages and scripts. There are over 5000 commercial fonts in daily use, but only 20 or so with support currently available in T<sub>E</sub>X. Next Amitabh Trehan described his experiences with T<sub>E</sub>X, typesetting in Hindi, Sanskrit and Persian. This included a project preparing a book of Indian verse, with commentary, prepared entirely in L<sup>A</sup>T<sub>E</sub>X. This session finished with Gyöngyi describing special aspects of typesetting in Hungarian, and the difficulties faced in trying to adapt L<sup>A</sup>T<sub>E</sub>X to account for these.

The auditorium at Technopark is shaped like an amphi-theatre with a large stage occupying one corner. Delegates are seated at long desks arranged as quarter-circles facing the stage, rising and of increasing length towards the back of the room. Entrance is from one side, at the top. Microphones on the desks are available for each pair of seats. A data-projector was mounted in the central aisle, projecting onto a large screen on-stage. Most speakers used this, and all talks were recorded for both audio and video. On either side of the screen hung silk banners proclaiming the conference, organisers and sponsors. Another smaller banner, with the conference logo, hung from the podium. Internet access was available to delegates via the IIIT, located downstairs in the same building but requiring a short walk out the front, and down a driveway to the separate entrance.

Over the three days prior to the conference proper there had been four workshops. The first of these was given by C. V. Radhakrishnan on Sunday, at the offices of Focal Image India. This was a hands-on introduction to T<sub>E</sub>X and L<sup>A</sup>T<sub>E</sub>X, in training sessions over the entire day, with participants from around India. Each received a copy of the book ‘L<sup>A</sup>T<sub>E</sub>X Tutorials: A Primer to L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>2’, prepared by the Tutorial Team of the Indian T<sub>E</sub>X Users Group, and printed locally. These tutorials can also be found on the web<sup>1</sup>. A revised version (with corrections and extra chapters) will shortly be published by the Free Software Foundation<sup>2</sup>, to become their official manual for L<sup>A</sup>T<sub>E</sub>X.

On Monday morning, C. V. Radhakrishnan held a workshop on ‘L<sup>A</sup>T<sub>E</sub>X to SGML/XML conversion’; describing the theory behind techniques that are put into practice in the day-to-day work at Focal Image India. This and subsequent workshops were held in a meeting room adjacent to the auditorium at Technopark. Lunch was provided, buffet-style, with several mildly spicy local dishes of fish,

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<sup>1</sup> <http://www.tug.org.in/tutorials.html>

<sup>2</sup> <http://www.fsf.org/>

chicken and exotic vegetables and breads. Delicious desserts with ice-cream cooled the palate. Soups and some Western dishes were also available each day. That afternoon Hans Hagen (Pragma ADE, The Netherlands) demonstrated METAPOST and pdfTEX, showing how easy it is to create graphics, both easy and some quite complicated ones. for use within documents prepared using ConTEXt.

Tuesday morning's newspaper contained a report of the Press Conference held the night before. TUG 2002 was in the news: 'Free Software typesetting comes to Kerala', it proclaimed. Just a single tutorial occupied the whole day. Sebastian Rahtz and Lou Bernard (Oxford University Computing Services) took it in turns to explain the ins-and-outs of the Text Encoding Initiative (TEI). This is a method to generate DTDs for XML documents in any particular field. It can help enormously in the need to be able to archive, and subsequently access to recover in printed or on-screen form, academic documents and technical manuals. Indeed, any type of 'document' should be able to be handled using these methods.

In the evenings, dinner at Hotel Samudra was served buffet-style, outside on a lawn seated under coconut trees with a view westwards, across the ocean and the setting sun. Different dishes were prepared each night, so that after a week all the dishes available from the restaurant must have been sampled. When ordering a beer, asked for 'chilled' beer, else it will not be cold. Tuesday night was registration; each participant received a coir satchel and folder, manufactured from the hard stringy fibres of coconut shells. On these was printed the conference logo, and they came stuffed with promotional materials about Kerala, a nicely bound preprint book, and two CDs of T<sub>E</sub>X-related and other Free Software, including the very latest version of T<sub>E</sub>XLive 7, and tools for using the TEI and XML. Traditional Indian entertainment was provided on two nights. This included spectacular fire-throwing, Indian martial arts, dancing girls in bright costumes, and flute Ragas. Dominic Wujastyk (Wellcome Centre, University College London) used his extensive knowledge of Indian customs and culture to provide information on what we were about to see, explaining the traditional stories being depicted. The large swimming pool behind the main hotel buildings received much use, both at night and during the day.

Throughout the conference, morning and afternoon teas and lunches were provided at Technopark. One could stand, chat and eat in the large room used as the serving area, or go outside onto the large balcony where chairs were placed under huge

marquées. This balcony afforded also a spectacular view across the coconut and cashew trees; frequently hawks could be seen hovering, sometimes coming close to the balcony. In the afternoon of the first day of the conference, Satish Babu (Computer Society of India) gave an Indian perspective of 'New Horizons of Free Software'. This is very important to the State of Kerala, where the literacy rate is very high but incomes are low. India as a whole is rich in programmer resources, but is otherwise poor; the Free Software model is appropriate for the needs of governments, institutions and industry. Włodzimierz Bzyl (University of Gdansk, Poland), speaking on 'The Tao of Fonts', showed some beautiful pictures of letter-like shapes used in different cultures. The talks for the day finished with Roozbeh Pournader (Sharif University of Technology, Tehran, Iran) presenting a general outline of The Unicode Standard, emphasizing recently introduced features. The important message here is to be Compliant; an aspect that the Linux and gnu communities embrace, and now backed also by corporations such as SUN and IBM, but where Microsoft has got some of the ideas wrong in existing software.

The burning issue in the newspapers that week, and the previous week-end, had been a hike in the cost of power, electricity and gas. The reason given was reduced availability of water for hydro-electricity as monsoonal rains had been weak this season. These price-hikes had caused massive protests throughout the state, including the ransacking of government offices and damage to more than 100 buses. We had seen none of this, but the issue was to affect the conference, as a general strike had been called for the Friday. It would be unsafe to be on the roads, particularly as the bus trip from Kovalam to Technopark passed through at least two major rallying points. Besides, the drivers would not be working. A revised conference schedule was prepared, in which Friday would now be a free day. Some talks were withdrawn or moved to Saturday, and there would be an effort made to organise extra workshops and discussion groups at Hotel Samudra for Friday.

Thursday morning was 'Mathematics Morning'. This started with a keynote talk by Hans Hagen, titled 'ConT<sub>E</sub>Xt, XML and T<sub>E</sub>X: State of the Art?'. What has this to do with mathematics? He discussed the publication process, and one of his main examples was a journal for the Dutch Mathematical Society, having a rather flexible format allowing figures and equations to be displayed spanning either one, two or all three of the columns in a wide page layout. Next David Kastrup (Bochum, Germany)

compared five different  $\text{\TeX}$  editing systems which have varying degrees of WYSIWYG-like features for displaying typeset mathematics within the editor window. In my own talk I showed a way to embed the source code for  $\text{\LaTeX}$  mathematics within a PDF document, using text-fields that can be shown and hidden using roll-over actions in the Acrobat Reader window. A search-engine was implemented, also in JavaScript, to allow short strings of mathematics source to be located within the text-fields. How far to expand user-defined macros emerges as a conceptual issue with this approach. The morning finished with Stephen Watt (University of Western Ontario, London, Canada) talking about issues in the conversion between  $\text{\TeX}$  and MathML, and the need to conserve implicit mathematical semantics. Again the issue of not expanding macros is a key aspect.

After lunch Karel Píška displayed the Type 1 versions of Indic fonts that he had created using  $\text{\TeX}$ trace, applied to fonts available on CTAN as METAFONT versions only. With some extra editing to simplify the outline paths and remove unwanted artifacts, he has produced 55 scalable fonts suitable for inclusion in PDF documents. Next Behdad Esfahbod (Sharif University of Technology, Tehran, Iran) spoke about Farsi $\text{\TeX}$  and the Iranian  $\text{\TeX}$  community. A new release will include Type 1 fonts for Persian and Arabic scripts, though proper support in editors for bi-directional typesetting remains the biggest problem. Denis Roegel (LORIA, Nancy, France) showed how to use METAOBJ, a high-level object-oriented graphics language implemented with METAPOST. He discussed the advantages of an object-oriented approach to graphics, as well as describing the new primitives defined in METAOBJ. The day finished with Karel Skoupy (ETH, Zurich, Switzerland) outlining his vision of what would be required in a new typesetting system, using computing techniques developed and recognised as being valuable, since the advent of  $\text{\TeX}$ . This talk generated much lively discussion.

During the day it was learnt that the general strike for the next day had been called off. This was due to the government capitulating by removing the hike in energy prices, due to the unified opposition from across all the political parties. Whether the reported failure of the energy board to collect substantial amounts of revenue, from corporations and other government agencies, had any bearing on this reversed decision was not at all clear. In any case, the TUG 2002 organisers decided to stick with the revised schedule for Friday and Saturday. David Kastrup gave the tutorial that he had been unable

to give earlier in the week. There were lively discussions about matters concerning  $\text{\TeX}$  user-groups around the world, and many delegates took advantage of the Internet connection at Hotel Samudra, or spent much of the day shopping or enjoying the beach or swimming pool. Wendy and I visited Focal Image India to consult with C.V. Radhakrishnan, receiving a detailed demonstration of the methods he developed to convert  $\text{\LaTeX}$  source to XML, and back again to recover consistent high-quality printable output.

The TUG Business meeting, chaired by yours truly, was first on the agenda for Saturday morning. Here we skimmed through the draft minutes of the Board of Directors meeting, held in Portland, Oregon on 20th July. Some factual errors were noted and concern was expressed at the lateness of *TUGboat* issues, and the declining number of members of  $\text{\TeX}$  Users Group, over the last couple of years.  $\text{\TeX}$  Users Group board member Kaja Christiansen (University of Århus, Denmark) described the new  $\text{\TeX}$  Development Fund. Members were advised of the forthcoming elections in 2003 and invited to consider making nominations for President and Board members. Following the break for morning tea were two talks coming from the IIT group at Technopark; namely G Nagarjuna spoke on ‘Symantic Web, GNEWSYS and Online Publishing’ followed by Dr K.R. Srivathsan describing the ‘Education Grid’. Then Hong Feng (President of CTUG, People’s Republic of China) described efforts by CTUG to implement the Chinese artificial logical language Lojban, using  $\text{\TeX}$ . A long morning finished with K. Anilkumar (Linuxense Information Systems, Trivandrum, India) describing how to use shell-escapes to make  $\text{\TeX}$  read a database, and generate reports.

After lunch John Plaice (School of Computer Science and Engineering, UNSW, Sydney, Australia) departed from his advertised talk on Devanagari support in Omega, to speak on some completely different aspects of Omega development. Fabrice Popineau (SUPELEC, Metz, France) described the new aspects of  $\text{\TeX}$ Live 7 for Windows’ users, then Karel Skoupy demonstrated  $\text{\TeX}$  running as a web service. After a break for afternoon tea, the strains of Hawaiian music wafted through the auditorium, before Wendy and I gave a presentation about next year’s meeting, TUG 2003, to be held in Hawaii towards the end of July. This was a walk through the web pages, now on [www.tug.org](http://www.tug.org), and the screening of a tourist video of the sight and delights to be found on the large island. Dominic Wujastyk (Wellcome Centre, University College London) closed the



meeting with heartfelt thanks to the organisers for a most enjoyable and stimulating conference, well-run by the organisers and successful in every way. No major problems had been encountered; the potential for disruption due to the strike threat had been effectively accommodated with a minimum of fuss.

Throughout the conference there was a line of desks outside the auditorium, where tour-operators provided information and touted their business. Kerala is famous for its ‘backwater cruises’, on the large lake and waterways near Alappuzha (Alleppey) and Kochi (Cochin). This is the rice-growing area, roughly 100 miles north of Trivandrum. Tourists hire a boat — converted rice transports, with **elaborate superstructure** constructed from bamboo poles and weaving, propelled by a single out-board motor. There can be one, two or three bedrooms, for sleeping on-board over one or two nights, and a **comfortable sitting-room/living area**. The crew consists of 3 or 4, **including a cook**, with all meals provided. Some of the **more modern boats** have solar panels for the electric lighting. Several groups of T<sub>E</sub>X Users Group delegates took cruises starting Sunday afternoon, taking cruises that did a large loop across the lake and around paddy fields.

We met up **on the water**, and at landing points. Sights along the cruise included **churches**, temples, villages and small farming plots, as well as exotic

flowers, plants and bird-life. We were treated to a **spectacular sunset**. A **crew of 65** were practising for the famous ‘snake-boat’ races; their boat was not a full-sized snake-boat, which has a crew of more than 100 oarsmen.

Included in some of the tours is a visit to a high-quality hotel, either for lunch or an overnight stay, or to other popular tourist destinations. In our case it was the **Raja Garden Retreat** at the beach resort town of Varkala. Along the way we stopped to photograph an **elephant feeding** on coconut palm fronds, while taking a break from moving huge logs just off to the side of the highway. Seeing us tourists, the workers asked for 100 Rupees ( $\approx$ \$2) to bring the **elephant closer**.

Back at Hotel Samudra, for one last night, there were still a few T<sub>E</sub>Xies. Some others returned the next day from their tours. After a last visit to Focal Image India, and a bit more shopping, there was enough time for a rejuvenating Ayurvedic massage — very oily. There’s always more to pack for the return journey; dinner of Kerala cuisine in the restaurant, then a taxi took us to the airport for the 11.00pm flight. TUG*India* had done a great job; thanks especially to Kaveh and C.V. Radhakrishnan. Hopefully the opportunity will arise to return to “God’s Own Country”, in the not too distant future.



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September 2002















































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