

the delights of a "caiperinia" were unleashed on an unsuspecting public; well most of us were unsuspecting, except Marcia Sing, who seemed well versed in the art. The conference was a good chance to meet people from around the world involved with Small Angle Scattering, to exchange knowledge on

techniques and methods of research and to establish ongoing collaborations, some of which are now starting to produce papers on triblock copolymer systems.

Patrick Fairclough

## 5th Annual CCP13/NCD Workshop

The fifth annual workshop for the collaborative computational project for fibre diffraction (CCP13) and non-crystalline diffraction (NCD) was held at Daresbury on the 7th-9th of May, 1996 and attracted 72 participants. Once again the workshop covered a number of topics, including synthetic polymers, hardware sources and detectors, software developments and biological systems. The talks were complemented with a poster session and commercial exhibition sponsored by Q-Associates and Siemens.

After the Chairman's introduction, George Wignall (Oakridge), the first keynote speaker, opened the polymer session by describing the advantages of absolute calibration standards utilizing examples from supercritical polymerisation and surfactant micelles. The session continued with Nick Terrill (UMIST) describing his latest work on the various structural intermediates during polymer extrusion, as studied by on-line SAXS/WAXS. Patrick Fairclough (UMIST) then discussed the complex melt phases in the PBO-PEO diblock copolymer order diagram determined by SAXS/WAXS/DSC studies and Ian Hamley (Leeds) concluded the session with a presentation on semi-dilute diblock copolymers.

As a prelude to the poster session, individual short presentations were made by Quanning Li, Günter Grossmann, Wayne Oatway and Andy Hammersley. The first day was concluded by dinner, poster viewing and judging, the commercial exhibition and a wine reception.

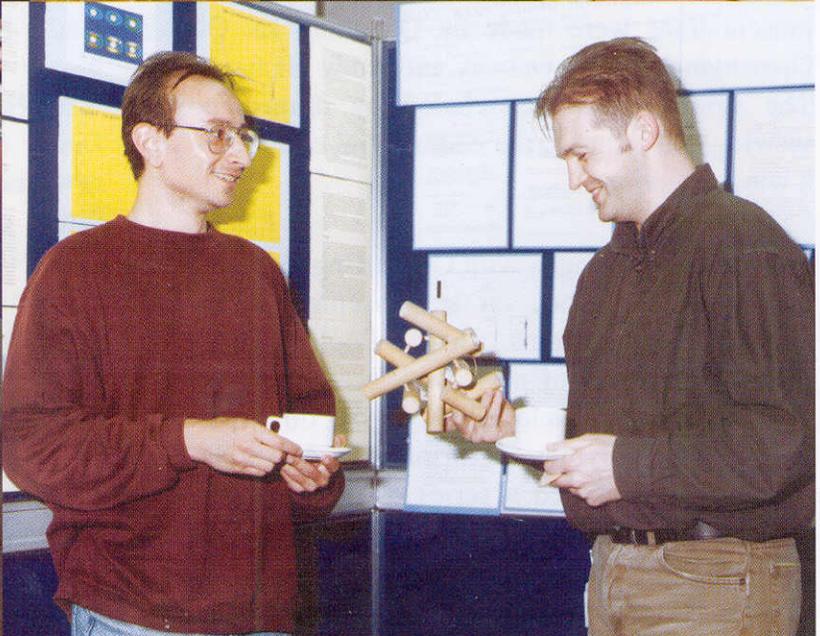
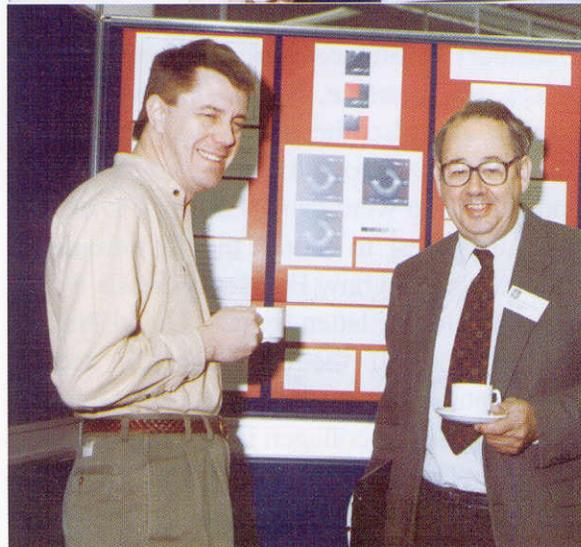
The second day began with Goran Ungar (Sheffield) describing his work on self-assembly in novel thermotropic systems. John Pople (Reading) discussed the use of a CCD detector as an X-ray imaging system developed for in-situ time resolved studies on polymer deformation. Mike Butler (Cambridge) outlined a series of polymer systems studied by simultaneous 2-D SAXS/WAXS, including PE, PMMA, and HDPE. Darren Hughes (Keele) also presented 2-D SAXS/WAXS results, of

spherulites, obtained at the ESRF using a Photonic Science CCD detector and a Synoptic framegrabber. Rob Lewis (Daresbury) demonstrated his latest method for correcting gas detector data for spatial resolution and wire modulation. He then showed the preliminary results obtained from the new "RAPID" detector system. The morning session was then concluded by Mark Shotton (Keele).

After lunch, Ian Munro (Daresbury) gave a brief history of the SRS, and then outlined details of proposed upgrades and new stations, science highlights and future developments. John Squire (Imperial College) then elaborated on a proposal to upgrade station 2.2 at the SRS as a new fibre diffraction facility. He concluded by showing potential areas of research. Stephen King (Rutherford) described shear flow experiments with Pluronic P85 water soluble macro surfactant on the LOQ beamline at the ISIS facility.

After coffee, the poster prizes were awarded by J.Squire. The judges (D.Hukins and G.Wignall) decided to award prizes in three subject areas to N.Terrill (UMIST), L.Pope (Keele) and R.Lewis (DL).

Andy Hammersley described the crystallographic binary file format and a proposal to adopt an imageNCIF file format as the new standard. Richard Denny (Daresbury & Imperial College) described the new graphical user interface, XFIT, for the 1-D peak fitting program and also the latest modifications to LSQINT. John Squire (Imperial College) then showed how he and his group were using LSQINT to extract intensities in the quest to model the first frame of "Muscle: the movie" and how Fourier synthesis would be used to generate the latter frames. David Hukins (Aberdeen) rounded off the day with the second keynote presentation with an intriguing view into the mechanical properties of collagen in the intervertebral disk of the spine. The second day was concluded with a sherry reception and conference dinner at Daresbury.



## Photographs

*John Squire presenting cheques to the 3 poster prize winners (top right & centre right). Among the scenes captured during the poster session, Tony Ryan demonstrates, to Liz Towns-Andrews, that life isn't so bad with only one good arm (top left). Patrick Fairclough asks John Pople how to dunk his strange looking biscuit (bottom right).*

The final day started with our third keynote speaker, Rick Millane (Purdue), who gave a detailed account of both uncorrelated and correlated disorder in polycrystalline fibres. Steve Maginn (MSI) gave a visual demonstration of the capabilities of the Cerius<sup>2</sup> computer program for both neutron and electron scattering, powder, crystalline or amorphous data. Chick Wilson (Rutherford) outlined his approach to Laue data collection on the SXD time of flight diffractometer at the ISIS facility. Peter Purslow (Royal Veterinary, Denmark) described his current work on the elasticity of fibrillin, a major component of elastic microfibrils. Tim Wess (Stirling) told us about his modelling work on the

structure of collagen and Nageena Malik (OU) continued the theme by telling us about stroma collagen, glycation and the preventative attributes of analgesics, especially aspirin. Neville Greaves (Daresbury) explained how simultaneous SAXS/XAFS/XRD could be used to probe the disorder-order transitions of cordierite glass ceramics. Helen Gleeson (Manchester) presented some recent results from liquid crystal studies using simultaneous SAXS/WAXS/RAMAN/DSC and how each technique can be used to probe a separate feature of the structure. Gordon Tiddy (Salford/Unilever) concluded the session by describing how shear and stopped-flow could be used to study the structure and kinetics of liquid crystals.

The workshop concluded with a special vote of thanks to Janet Smith and Diane Travis for all the hard work and organisation that went into making the whole meeting run smoothly.

A fuller account of the talks/posters presented at this workshop may be read later in this volume or viewed on the World Wide Web at:

<http://www.dl.ac.uk/SRS/CCP13/workshop96>.

Geoff Mant

## Synchrotron Radiation Summer School 1996, Italy

In October, 1996 a Summer School on 'Applications of Synchrotron Radiation in Life Sciences and Chemistry' was held at Maratea, Italy. Included as part of this were sessions on Fibre Diffraction given by Trevor Forsyth, Richard Denny and myself. The School was sponsored by the European Synchrotron Radiation Society (ESRS) and was organised by Malcolm Cooper (Warwick), Dominique Maes (Brussels) and Lorenzo Avaldi (Rome). About 50 students and 24 teachers participated in what proved to be a highly successful Workshop. Participants came from all over Europe (Italy, Portugal, France, UK, Germany, Belgium, Finland, Sweden, Denmark, Poland), and also from the US (Boston and Las Vegas). The School was held at the magnificent Hotel Villa del Mare in Maratea, which is on the west coast of southern Italy. For me a four hour train journey south from Rome, was followed by an 'interesting' minibus ride in the dark around a tortuous coastal route with many hairpin bends and a driver who must have been late for his supper. However, having arrived safely, I discovered that the

Hotel had a magnificent site, overlooking the sea close to Sapri, and that it was built into a sheer cliff down to the sea. The lecture room even had the exposed cliff face as one wall. Each level of the Hotel had creeper-hung veranda's, one of which can be seen in the photograph, and breathtaking views. Although it was a 'summer' school, it was obviously at the end of the season. The weather was not brilliant, but when an opportunity presented itself a number of hardy souls (not including me!) took the hotel lift down through the cliff to the private beach below and ventured into the sea. Others enjoyed swimming in the Hotel pool, although the only pool that I got near was the sort that happens on a baize-covered table with balls and a cue. The weather was actually very rough sometimes and the spray and water plumes emanating from the breakers crashing against the rocks surrounding the private beach were quite dramatic and very noisy.

I was involved in the School in three capacities. The first was to teach some basic biology to the students,