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In summary, the Workshop provided not only an excellent environment for fibre diffractionists to meet and to share common problems, but it provided a good forum for presenting new software developments, new results and new hardware. The main disappointment was in the small number of synthetic polymer scientists at the Workshop. The area of synthetic polymers is seen by the Committee as central to the activities of CCP13, and it is hoped that in the future this Workshop will be seen by the polymer community to be an excellent place to discuss the development of new ways of both stripping and modelling polymer diffraction data.

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## REPORT ON THE 2ND WORKSHOP ON FIBER DIFFRACTION FROM BIOLOGICAL MACROMOLECULES

The CCP13 Chairman (John Squire) and Research Assistant (Richard Denny) were privileged to attend the Second Fiber Diffraction Workshop held in McCormick's Creek State Park at Spencer, Indiana from June 13th to 16th, 1993. We were joined by one other UK participant, Watson Fuller (Keele University). This really was a 'Workshop', with about 15 participants in total and a few days in which to discuss fibre diffraction problems in some detail. These Workshops were the brain-child of Gerald Stubbs (Vanderbilt University) and the main organiser of this one was Rick Millane (Whistler Center for Carbohydrate Research, Purdue University). On Monday 14th, the Workshop comprised talks on general fitting of fibre diffraction patterns (Richard Denny, Imperial & Daresbury and Thomas Hendrixson, Purdue), high resolution analysis and phasing of polysaccharides and viruses (Gerald Stubbs), modelling of disorder (Bill Stroud, Purdue) and molecular dynamics computations (Hong Wang & Gerald Stubbs). Gregory Kishchenko (Florida State University) presented analysis of M13 phage at 7 Å resolution, and discussed a new, high accuracy, method of determining specimen to film distance directly from the observed diffraction data. After lunch there was a roundtable discussion on specimen preparation. After a free afternoon in which to enjoy the scenic McCormick's Creek State Park and after Dinner, there was a 'special' talk by Watson Fuller on 'Complementary neutron and X-ray fibre diffraction of DNA and synthetic polymers'.

Tuesday morning saw talks on actin filament structure and regulation (John Squire, Imperial), the structure of Alzheimer  $\beta$ -amyloid fibres (Dan Kirschner, Harvard Medical School) and on the influence of side-chains, ions and water molecules on the rheological properties of calcium welan (Akella Radha, Purdue). After coffee were three talks by people from the Whistler Center on the roles of sodium ions and water molecules in the stability of the Poly d(A).Poly d(T) helix (R Chandrasekaran) and on the polysaccharides araban (Min Zhang) and mannan and related polysaccharides (Rick Millane). A roundtable discussion on data collection followed after lunch, and, after dinner, John Squire gave a 'special' talk on "Muscle - The Movie: An approach towards the first ever 3-D movie of molecular activity in an intact cell". Wednesday morning comprised a roundtable discussion on phasing and refinement and the Workshop closed with a short business meeting.

Though the participants were small in number, the meeting was of a high scientific standard and was informative and stimulating; it emphasised common problems, it reinforced the desirability of cooperating on the development of fibre diffraction software and it enabled the participants to get to know each other in a relaxed environment. Roll on Workshop number three!

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## THE 1993 ALPBACH EMBO WORKSHOP ON: 'COILED-COILS, COLLAGEN AND CO-PROTEINS'

This meeting was organised in Alpbach, Austria in September, 1993 both as a means of bringing together scientists working on related fibrous biological structures (e.g. muscle proteins, intermediate filaments, collagen) and also as an opportunity to honour two outstanding fibre diffractionists; Bruce Fraser and Tom MacRae. Their classic book 'Conformation in Fibrous Proteins' has been an invaluable source for many fibre diffractionists and their general contribution to the field has been enormous. The EMBO Workshop was well attended (about 65 scientific participants), it was thoroughly enjoyable scientifically, the Hotel was excellent and the surrounding scenery - typical Tyrolean hills, valleys and mountains - was superb. The next such Workshop is planned for 1997!

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