

CALL FOR PARTICIPATION  
COMBINATORIAL PATTERN MATCHING

London, 17-19 April 1991

The Combinatorial Pattern Matching School was first held at University of Paris 7 in June 1989 and 1990. The 1991 Conference will be held at Royal Holloway and Bedford New College (University of London); located West of London near Windsor Great Park, it is the only rural campus college of the University of London.

Papers presenting original, fundamental advances in algorithmic and combinatorial problems arising in applications which involve extensive manipulation of strings will be presented. Typical application areas include pattern recognition and computer vision, molecular sequence analysis, data compression and encoding, speech synthesis, text retrieval and editing etc. Also results that expose and study conceptual advances in parallel architectures or describe algorithmic work that enhances or exploits features of these architectures within the above framework will be presented.

We are inviting you to participate at CPM '91. People who wish to attend, please return the registration form by 20th March to the address below:

CPM '91,  
RHBNC, University of London,  
Dept of Computer Science,  
Egham, Surrey TW20 0EX, England

*Invited Speakers:*

A. Apostolico      M. Crochemore      A. Ehrenfeucht      Z. Galil

*Organizing Committee:*

A. Davies, P. Hoare, C. Iliopoulos, A. Johnstone  
e-mail: csi@oak.cc.kcl.ac.uk Fax: (+44 0784) 437520

# Combinatorial Pattern Matching 1991

17-19th April 1991

## PROGRAM

**All lectures will be held in  
Arts Building Lecture Theatre 2  
See Campus Map No. 23**

Wednesday 17th April

- 9:30 - 10:30 **Apostolico, A.**, Purdue and L'Aquila University,  
*String Algorithmics over an ordered alphabet (I).*
- 10:30 - 11:00 Coffee
- 11:00 - 12:00 **Apostolico, A.**, Purdue and L'Aquila University  
*String Algorithmics over an ordered alphabet (II).*
- 12:30 - 2:00 Lunch
- 2:00 - 2:30 **Iliopoulos, C.**, King's College London,  
*Superprimitivity and fast Lyndon decomposition.*
- 2:30 - 3:00 **Shaw-Taylor, J.**, RHBNC(University of London),  
*Fast String Matching in a Stationary Ergodic Source.*
- 3:00 - 3:30 **Cummings, L.**, University of Waterloo,  
*Construction of strongly nonrepetitive strings.*
- 3:30 - 4:00 Tea
- 4:00 - 5:00 **Crochemore, M.**, University of Paris VII  
*Mutually avoiding sets of words*
- 6:30 Dinner

Both Lunch and Dinner will be served in the Athlone Dining Hall.

Thursday 18th April

- 9:30 - 10:30 **Crochemore, M.**, University of Paris VII  
*Prefix periods in strings*
- 10:30 - 11:00 Coffee
- 11:00 - 12:00 **Crochemore, M.**, University of Paris VII  
*Parallel computations on strings*
- 12:00 - 12:30 **Lecroq, T.**, CERIL  
A variation on the Boyer-Moore Algorithm
- 12:30 - 2:00 Lunch
- 2:00 - 2:30 **Hume A.**, AT&T Bell Labs,  
*Fast String Searching*
- 2:30 - 3:00 **Benson G.**, University of Maryland,  
*Two-dimensional periodicity in Rectangular arrays*
- 3:00 - 3:30 **Smyth W.**, McMaster and Curtin University,  
*An  $O(n^2)$  algorithm for computing weak repetitions in a string*
- 3:30 - 4:00 Tea
- 4:00 - 5:00 **Galil, Z.**, Tel Aviv and Columbia University,  
*On the exact complexity of string matching*
- 19:00 Conference Dinner  
To be held in the Picture Gallery of Founder's Building West

Friday 19th April

- 9:30 - 10:30 **Galil,Z.**, Tel Aviv and Columbia University  
*Tree pattern matching*
- 10:30 - 11:00 Coffee
- 11:00 - 12:00 **Galil,Z.**, Tel Aviv and Columbia University  
*A lower bound for parallel string matching*
- 12:00 - 12:30 **Grossi, R.**, University of Pisa  
*An expected linear time algorithm to find all the Quasi-palindromes of a string*
- 12:30 - 2:00 Lunch
- 2:00 - 2:30 **Stonebridge B.**, University of Bristol  
*Derangements of partitioned sets*
- 2:30 - 3:00 **Colussi L.**, University of Padova,  
*Fastest Pattern Matching In Strings*
- 3:00 - 3:45 **Giancarlo,R.** , Columbia University and AT&T  
*Speeding up Dynamic programming*
- 3:45 - 4:00 Tea
- 4:00 - 5:00 **Apostolico, A.**, Purdue and L'Aquila University  
*Efficient detection on Quasiperiodicities in strings*

Report on  
"Combinatorial Pattern Matching" school,  
London, 17-19 April 1991.

The CPM school was held at Royal Holloway and Bedford New College last April. The main theme of the meeting is all that concerns strings with particular emphasis on combinatorial or algorithmic aspects. Applications to the treatment of images, the compression of data, the analysis of molecular sequences or the processing of natural languages also fall into the scope of the school.

There were around thirty participants. Although the programme was rather dense, it was light enough to allow informal discussions between each others. And this is also one of the aims of these meetings to put altogether "stringologists" and (advanced) students interested in the domain.

Three mini-courses have been delivered by A. Apostolico, Z. Galil and myself. They presented some of the most recent works on strings. Several participants have also presented their own research. And the overall has been an homogeneous and very interesting meeting. Unfortunately, we had to regret that A. Ehrenfeucht has been prevented to come.

The organisation has been especially efficient, thanks to the local committee composed of A Davies, P. Hoare, C. Iliopoulos and A. Johnstone. The RHBN College is well equipped to receive congresses (Pub, shops, bank,... on the campus) and a place that deserves a visit for its green and flowery park.

This CPM school is the second of its kind after the one held in Paris in July 1990 (see Bulletin 42 of October 1990). All participants agreed to meet next year probably in US around Easter. I wish the next CPM as successful as the present school.

Maxime Crochemore.