Report on CPM 2011 and StringMasters 2011

the 22nd Annual Symposium on Combinatorial Pattern Matching
and the 6th StringMasters Forum on Stringology

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The 22nd Annual Symposium on Combinatorial Pattern Matching, one of the most relevant Pattern Matching scientific events, has been held from June 27th to June 29th in the beautiful setting of La Torre Conference centre and Hotel in **Mondello, Sicily (Italy)**. The conference has been organized by a local committee composed by **Chiara Epifanio**, **Raffaele Giancarlo Giosuè Lo Bosco**, **Sabrina Mantaci**, all from the Department of Mathematics and Computer Science of the Università degli Studi di Palermo, and **Line Fonfendre**, from Universiteé Paris-Est. Additional support has been given by **Marco Elio Tabacchi** and **Roberto Vaglica**, again from Università degli Studi di Palermo. The Symposium has seen the participation of 93 scientists from 17 countries, detailed in the following table (C:Countries, P:Participants):

C	P	C	P	C	P	C	P	C	P	C	P
AU	1	CN	4	FI	5	IL	8	KR	3	UK	5
CA	5	DE	7	FR	13	IT	5	PL	2	US	4
CL	1	DK	2	HK	2	JP	5	RU	1	tot	93

The scientific programme has been overseen by a 40 members committee, and consisted of a total of 39 presentations: three invited and the remaining ones selected among 67 submissions (an acceptance ratio of .507). All contributions were presented at the conference. Proceedings have been published by Springer in its LNCS serie (volume 6661).

More information about CPM 2011 can be found online by browsing the page cpm2011.unipa.it. The topics of interest of the conference are: **Bioinformatics Coding and data compression**, **Computational biology**, **Data mining**, **Information Retrieval**, **Natural language processing**, **Pattern discovery**, **String algorithms**, **String processing in databases**, **Symbolic computing** and **Text searching**.

CPM 2011 started early in the morning of the 27th, with an invited talk by **Gad Landau** titled **Algorithms on Grammar-Compressed Strings** followed by a session on **Pattern Matching and Text Compression** chaired by **Juha Kärkkäinen**, and, after a deserved coffee break, a session on **Combinatorics on Words** chaired by **Aldo de Luca**. During the session on Pattern Matching and Text Compression,

Chris Thachuck, the winner of the CPM 2011 Best Student Paper prize presented his talk entitled **Succincter Text Indexing with Wildcards**. After lunch, the day continued with the first session on **CPM and Computational Biology**, chaired by **Michal Ziv-Ukelson**, followed by the first session of **Classic String Matching** chaired by **Sabrina Mantaci**. The day ended with the **Business Meeting** and the **Best Student Paper Award Ceremony**, in which mr. Thachuck was presented with a certificate and a poster.

The 28th started with the invited talk by **Nello Cristianini** titled **Automatic Discovery of Patterns in Media Content**. The second session on **CPM and Compressed Text** (chair **Gonzalo Navarro**) followed, and the morning was closed by the second **Classic String Matching** session chair by **Chiara Epifanio**. The rest of the day was spent strolling around in the nearby Palermo, visiting the local landmarks and the botanical garden. A sumptuous Social Dinner at the Grand Hotel Piazza Borsa, in Palermo downtown, closed the day.

The last day of the conference was opened by the invited talk **Computational Regulatory Genomics** by **Martin Vingron**, with the chairing of **Maxime Crochemore**. The following sessions were the third **CPM and Compressed Text** chaired by **Travis Gagie**, and the second **CPM and Computational Biology** (chair **Max Alekseyev**). The conference was closed by the **Trees and Graphs** session chaired by **Giosuè Lo Bosco** and the third and final **Classic String Matching** session, chaired by **Gregory Kucherov**.

Most of the participants lodged at the La Torre Center, and thanks to the beautiful weather of Sicily in June were able to enjoy the seaside or the Hotel pool during the breaks from the conference and in the previous and following days. Snapshots from the conference will be published on the website. CPM 2012 will be held in Helsinki next July.

CPM 2011 has been followed by StringMasters 2011 (stringmasters.unipa.it), held in the building of the Department of Mathematics and Computer Science of the Università degli Studi di Palermo from june, 30th to july. StringMasters was originally established with the aim of bringing together researchers in string algorithms at all levels to study and debate current open problems of particular theoretical and practical interest. The meeting is informal, with no scheduled presentations, and is entirely devoted to new research resulting from the interactions among the participants. Typically small impromptu groups of about 2 to 5 researchers who share a common interest in a problem are formed during the meeting. The workshop is accommodated in several meeting rooms to allow space for the parallel working groups and for general milling around. The first editions of StringMasters was held at McMaster University in 2007 and 2008 (hence the name). The research papers resulting from the spontaneous interactions among the participants were published in a special issue of a prestigious international journal (Fundamenta Informaticae). StringMasters was then held at two south-

ern hemisphere locations: at the University of Stellenbosch, South Africa and at Curtin University, Perth, Western Australia, and in 2011 moved back to the northern hemisphere, in London, UK at the King's College, and finally in Palermo. StringMasters is devoted to the many applications of stringology including: **Indexing String Combinatorics**, **Design of Algorithms and Data Structures**, **Bioinformatics**, **Data Mining**, **Internet Issues**, **Natural Language Processing**, **Automata Theory**, **Network Security** and **Lossless Data Compression**.

The 2011 edition of StringMasters has been organized by **Marinella Sciortino**, **Alessio Langiu** and **Laura Giambruno** (Università degli Studi di Palermo) and **Filippo Mignosi** (University of l'Aquila, Italy); in the scientific committee sit **Maxime Crochemore** (Department of Informatics of King's College London, UK and Université Paris-Est, France), **Costas Iliopoulos** (King's College London, UK and Center for Stringology and Applications, Curtin University, Western Australia), **Filippo Mignosi** (University of l'Aquila, Italy), **Antonio Restivo** (Università degli Studi di Palermo, Italy), **Marinella Sciortino** (Università degli Studi di Palermo, Italy) and **Bill Smyth** (McMaster University, Canada, King's College London, UK and Center for Stringology and Applications, Curtin University, Western Australia).

The meeting, attended by 27 participants from 8 countries, started with a Problem Recognition session, where **Antonio Restivo**, **Maxime Crochemore**, **Filippo Mignosi**, **Costas Iliopolus**, **Dany Breslauer**, **Frantisek Franek** and **Jacqueline Daykin** presented some interesting open problems in stringology. Following each participant decided to join one of the breakaway group in order to discuss the topics, among them: **application of the v-order to BWT**, **strings application to EEG**, **sequences of minimal forbidden factors**, **BWT Transform**, **Sturmian words**. During the two days of the meeting, participants flowed freely from one group to the other, from open problems to conjectures, hundreds of A4 sheets were filled with long sequences of **a**s and **b**s (or ones and zeros for the more engineering inclined), and as a longstanding tradition of StringMasters, the scientific discussion will continue advancing using other means such as emails, telephone calls and impromptu meetings in other conferences, and the results will be published in a special volume to be edited by **Jacqueline Daykin** and **Maxime Crochemore**.