

BiP-Day 2013: “Prima Giornata della Bioinformatica Pugliese” – Workshop report



Domenica D'Elia[✉], **Sabino Liuni**

CNR, Institute for Biomedical Technologies, Bari, Italy

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On 5 December 2013, a regional workshop on *Bioinformatics in Apulia (BiP-Day 2013)*¹ was held in Bari (IT) under the patronage of the Italian Bioinformatics Society (BITS²) and EMBnet³.

The aim of the workshop, prompted by the Italian National Node of EMBnet (CNR Institute for Biomedical Technologies⁴) and supported by the *InterOmics Flagship project*⁵, was to stimulate tighter collaboration between life science researchers and private biotech companies in the Apulia Region around cutting-edge topics in biological and clinical research, for which bioinformatics R&D is key.

With the advent of new high-throughput technologies, in particular High-Throughput Next-Generation Sequencing (HT-NGS), the approach to biological and clinical research has completely changed. There is now a pressing need to develop new bioinformatics tools and techniques to allow researchers to more easily handle the avalanche of data produced and, more importantly, to be able to interpret the results in a holistic way. Understanding the complex molecular interactions that modulate gene expression in physiological and pathological conditions is key to discovering the genetic bases of human diseases, and for understanding the contribution of dietary habits and lifestyles on human health and disease onset. In order to improve the abil-

ity of research communities to cope with these challenging tasks, multidisciplinary approaches are necessary. Moreover, the role of biotech companies is essential for translating research achievements into the clinical, agri-food and environment domains. All these themes were featured in this first edition of the *BiP-Day 2013* event, viewing them from the perspectives of biologists, physicians, bioinformaticians, computer scientists, physicists, engineers and biotech companies operating in the Apulia Region.

The workshop was organised in collaboration with representatives of the CNR *Institutes of Biomembrane and Bioenergetics (IBBE)*⁶ and *Biosciences and BioResources (IBBR)*⁷, and with the *Department of Biosciences, Biotechnologies and Pharmacological Sciences*⁸ of the University of Bari (IT).

The programme included twenty-five oral presentations from CNR and University research groups, biotech companies and representatives of i) the Regional Agency for Technology and Innovation (ARTI), Dr. Eva Milella (President); ii) the Regional Coordination Office for *Policies for economic development, employment and innovation Services, Industrial Research and Innovation*, Dr. Adriana Agrimi (Regional Executive Officer); and iii) the Apulia Industry Confederation, Dr. Michele Vinci (President of Industrial Confederation Bari-BAT).

Dr. Adriana Agrimi and Eva Milella, illustrated respectively, the Regional 2014-2020 Research & Innovation funding programmes and support actions of ARTI in line with the Horizon 2020 Research & Innovation European Programme. Dr. Michele Vinci illustrated the vision of the Industrial Confederation on the way biotech companies and Regional research groups could synergise efforts on research innovation, technology transfer and training of next-generation life science researchers.

The workshop's programme was structured into three main sessions: 1) Regional development programmes and major infrastructures for Bioinformatics in the Apulia Region; 2) Bioinformatics projects in bio-medicine, biodiversity, agri-food and bioinformatics training programmes; 3) Research & Business: the im-

1 www.ba.itb.cnr.it/bip-day

2 www.bioinformatics.it

3 www.embnet.org

4 www.itb.cnr.it

5 www.interomics.eu/home

6 www.ibbe.cnr.it

7 www.ibbr.cnr.it/ibbr

8 www.uniba.it/ricerca/dipartimenti/indice-dipartimenti-attivi/bioscienze-biotecnologie



Figure 1. Dr. Eva Milella, President of the Regional Agency for Technology and Innovation (ARTI).

portance of communication. Presentations are available from the workshop website associated to the [programme](#)⁹, and from the News section: [Presentations](#)¹⁰.

The workshop programme was introduced by Domenica D'Elia, who gave a snapshot of the central place of bioinformatics in biological research in the past 30 years, and its key role in modern biology. She presented EMBnet, the Global Organisation for Bioinformatics Learning, Education & Training ([GOBLET](#)¹¹) and collaborating European projects ([SeqAhead](#)¹²) and [AllBio](#)¹³. Participants were invited to showcase their lines of research, their findings and expertise, and also to express their needs and wishes for collaboration and bioinformatics support. Presentations were structured in this way to give participants a global view of human and technological resources

operating in the Region, to establish new contacts on the basis of their own scientific interests and needs, to detect common interests and to stimulate discussion around common goals. In order to facilitate contact after the meeting, participating groups were invited to submit their contributions as a card with the following schema: i) who (research group details and contacts); ii) what (research line description); iii) why (research aims & goals); iv) how (methods and technologies used); v) with whom (needs and requests for collaboration). Participants' cards are available from the workshop website at: www.ba.itb.cnr.it/bip-day/category/partecipanti/.

Four companies participated in the event: [Eusoft s.r.l.](#)¹⁴, [MASMEC S.p.A](#)¹⁵, [EXPRIVIA S.p.A](#)¹⁶ and [IBM Italia S.p.A](#)¹⁷; each presented current technological advances in their own *Research & Innovation* sectors that exploit the translational nature of modern biological, biomedical and

9 www.ba.itb.cnr.it/bip-day/programma/

10 www.ba.itb.cnr.it/bip-day/category/presentazioni/page/3

11 www.mygoblet.org

12 www.seqahead.eu

13 www.allbioinformatics.eu/doku.php

14 www.eusoft.it/it

15 www.masmec.org

16 www.exprivia.it/en/home

17 www.ibm.com/it/it



Figure 2. From left to right, Gaetano Scioscia (IBM Italia S.p.A), Massimo Carella (Laboratory of Medical Genetics and Bioinformatics Unit, IRCCS Casa Sollievo della Sofferenza), Graziano Pappadà (EXPRIVIA S.p.A).

pharmaceutical research. Concluding remarks were given by Gaetano Scioscia (IBM Italia S.p.A.), who provided a fascinating overview on [The role of Bioinformatics in the perspective of bio-economy](#)¹⁸. Education and training was included in the programme to stimulate discussion around the importance of 'formal and non-formal' bioinformatics education & training programmes, which is emerging as one of the most pressing needs of the scientific community. Educating the next generation of scientists is one of the most important commitments that bioinformatics communities worldwide have a duty to accomplish in order to allow scientific research to advance in all domains of the life sciences.

With the support of the Flagship project *InterOmics*, a [Tutorial-Day](#)¹⁹ on *Tools and methods for the analysis of omics data and biodiversity* was organised in association with the *BiP-Day 2013* workshop, on 6 December. The Tutorial was

held at the Department of Physics *Michelangelo Merlin* of the University of Bari, with the collaboration of the [BioVel project partners](#)²⁰. The Tutorial-Day was heavily over-subscribed and registration had to close early owing to space limitations.

Overall, the workshop attracted more than 110 participants, and we were delighted by the enthusiasm with which this initiative was welcomed. We would like to thank the speakers and all the attendees for their contributions to the success of the workshop. In particular, we would like to thank the trainers on the Tutorial-Day (Monica Santamaria, Bruno Fosso, Saverio Vicario, Balech Bachir, Andreas Gisel, Angelica Tulipano, Flavio Licciulli, Arianna Consiglio) and Giacinto Donvito, the University Department of Physics and the [INFN](#)²¹ for providing the necessary IT infrastructure and logistics for organising the Tutorial-Day.



Figure 3. The BiP-Day's registration desk.

18 www.ba.itb.cnr.it/bip-day/2013/12/la-bioinformatica-nelle-prospettive-della-bioeconomy

19 www.ba.itb.cnr.it/bip-day/tutorial

20 <https://www.biovel.eu>

21 <https://www.ba.infn.it/>