

## Gianmauro Cuccuru



Gianmauro Cuccuru is a senior researcher in the Bioinformatics Program at CRS4, an interdisciplinary research center based in Pula, Sardinia (Italy). He is involved in the development of the CRS4 infrastructure for data-intensive computational analysis of large scale biological data. His current interests are mainly focused on the elaboration of a comprehensive approach to support data management and computable framework for data-intensive studies enabling the seamless integration of clinical and experimental data.

He is the lead developer of Orione, an integrated web-based data management and analysis platform that enable collaborative and reproducible biomedical research.

He has worked also on the computational prediction of drug cardiac toxicity exploiting the power of GPUs computing in a large scale biological simulation.

Gianmauro obtained his Laurea (MSc) degree in Electronic Engineering from The University of Cagliari, Italy, in 2006 . Before joining CRS4 in 2009, he worked on 3D laser scanning domain in the field of cultural heritage. His activities were mainly focused on coordinating the acquisition and data processing for massive 3D models visualization and distribution.

### Selected publications

1. J. Ison, K. Rapacki, H. Ménager, ..., G. Cuccuru, ..., S. Brunak. Tools and data services registry: a community effort to document bioinformatics resources. *Nucleic Acids Res.* 10/2015. 2015 : gkv1116v2-gkv1116. DOI: 10.1093/nar/gkv1116.
2. M. Orsini, G. Cuccuru, P. Uva and G. Fotia. Bacterial genomics data analysis in the next-generation sequencing era. *Data Mining Techniques for the Life Sciences (Second Edition)*, Springer, 06/2015. In press.
3. G. Palomba, A. Loi, E. Porcu, ..., G. Cuccuru, ..., G. Palmieri. Genome-wide association study of susceptibility loci for breast cancer in Sardinian population. *BMC Cancer* 05/2015, 15(1), 1–10. DOI: 10.1186/s12885-015-1392-9.
4. E. Palagano, H. Blair, A. Pangrazio, ..., G. Cuccuru, ..., C. Sobacchi. Buried in the Middle, But Guilty: Intronic Mutations in the TCIRG1 Gene Cause Human Autosomal Recessive Osteopetrosis. *Journal of Bone and Mineral Research Wiley*, 05/2015. DOI: 10.1002/jbmr.2517.
5. G. Cuccuru, G. Fotia, F. Maggio, J. Southern, Simulating Cardiac Electrophysiology Using Unstructured All-Hexahedra Spectral Elements. *BioMed Research International*, 04/2015, 2015: 473279. DOI: 10.1155/2015/473279.
6. G. Cuccuru, S. Leo, L. Lianas, ... , G. Zanetti. An Automated Infrastructure to Support

- High-throughput Bioinformatics. In Proceedings of. IEEE International Conference on High Performance Computing & Simulation , 07/2014, pages 600-607. DOI: 10.1109/HPCSim.2014.6903742.
7. S. Leo, L. Pireddu, G. Cuccuru, ... , G. Zanetti. BioBlend.objects: metacomputing with Galaxy. Bioinformatics (Oxford, England), 06/2014, 1–2. DOI: 10.1093/bioinformatics/btu386.
  8. G. Cuccuru, M. Orsini, A. Pinna, ... , G. Fotia . Orione, a web-based framework for NGS analysis in microbiology. Bioinformatics (Oxford, England), 03/2014, 30(13), 1928–9. DOI: 10.1093/bioinformatics/btu135.
  9. M. Orsini, S. Carcangiu, G. Cuccuru, P. Uva, A. Tramontano. The PARIGA Server for Real Time Filtering and Analysis of Reciprocal BLAST. PLoS ONE, 05/2013, pages e62224 vol. 8 num. 5. DOI: 10.1371/journal.pone.0062224.
  10. L. Pireddu, G. Cuccuru, L. Lianas, M. Vocale, G. Fotia, G. Zanetti. Automated and traceable processing for large-scale high-throughput sequencing facilities. EMBnet.journal, 05/2013; 19(A):23. DOI: 10.14806/ej.19.A.626
  11. S. Sanna, M. Pitzalis, ... , G. Cuccuru, ... , F. Cucca. Variants within the immunoregulatory CBLB gene are associated with multiple sclerosis. Nature Genetics, 06/10, 42:495-7. DOI: 10.1038/ng.584.