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## Expert Team

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## Executive Summary

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This deliverable presents the expert team of BioASQ project, as formulated during the first 2 months of the project. The short CVs of the members of the biomedical expert team are presented, along with the agreement signed by them.

The biomedical expert team consists of people of various backgrounds (medical, biological and bioinformatics) and is expected to contribute to the project by composing benchmark datasets of questions & answers, participating in the manual assessment of samples of the results of the competitions and some of them are going to be involved in the composition of the BioASQ roadmap at the end of the project.

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# 1. Formulation of the expert team

The goal of Task 3.1 was to establish and organise the BioASQ team of biomedical experts. The team is organised and managed by biomedical experts from the Institute of Biology of NCSR “D”. The biomedical expert team has been formed during the first two months of the project. Several experts had been invited from a variety of institutions across Europe.

The main criteria for inviting experts was: (a) seniority of the candidates, (b) complementarity of their expertise (various fields of biology, various medical specialties, bioinformaticians, etc.), (c) diversity of their occupations (scientists working for commercial organizations, university personnel, medical practitioners, etc). We invited 15. Information on the goals of BioASQ and the role of the biomedical expert team was sent to the invited experts, as well as logistic information, such as the work schedule and remuneration procedure of the expert team. Based on discussions with the candidates, a team of 10 experts has been finally formed. Main criteria for the final choice have been the availability of the contacted person avoiding, in parallel, the inclusion in the team of people that could possibly participate to the challenge.

The principal task of the biomedical expert team of BioASQ is the composition of the Question / Answer benchmark dataset which will be used during the two BioASQ challenges. The team, in the next few weeks, will be structured internally, according to the expertise, background, and availability of each individual, also taking into consideration any special roles (e.g., in the editing of the roadmap document to be produced at the end of the project). A physical meeting of the expert team and additional virtual meetings (e.g., via private fora within the BioASQ social network) will be schedule in the months to come, in order to train the members of the team on the tasks they will be asked to perform, including the annotation tool they have to use (in Task 3.3), and to refine the guidelines for the tasks that the BioASQ consortium will have prepared (in Task 3.4).

The members of the team will also participate to the manual evaluation of a sample of the competitors’ answers, and to the overall challenge evaluation (through questionnaires). As mentioned above, some members of the biomedical expert team will participate to the composition of the BioASQ roadmap at the end of the project.

## 1.1 Expert Team Members

Member	Organization/Company Name	E-mail
Giorgio Iervasi	CNR/IFC	iervasi@ifc.cnr.it
Robertas Bunevicius	IOPR	rob@ktl.mii.lt
Toni Staykova	CUH	toni_staykova@yahoo.co.nz
Costas Pantos Iordanis Mourouzis	NKUA	cpantos@med.uoa.gr
Despina Sanoudou	NKUA	dsanoudou@bioacademy.gr
Sophia Kossida	Biomedical Research Foundation, Academy of Athens	skossida@bioacademy.gr

Roderic Guigo	CRG	roderic.guigo@crg.cat
Christoforos Nikolaou	Fleming	christoforos.nikolaou@gmail.com
Martina Samiotaki	Fleming	samiotaki@fleming.gr
Vasilis Promponas	University of Cyprus	vasilis.promponas@gmail.com

**Table 1: Expert team members**

## 1.2 Current status

After the formation of the expert team, various actions have taken place, including:

1. *The creation of a mailing list*, for the continuous interaction with the BioASQ project partners and the experts.
2. *The invitation of (at least the local) expert team members to the kick-off meeting* of the project, which took place in Athens (beginning of October), in order to inform them about the objectives of the project, and discuss with them different issues of their tasks.
3. *A pilot question creation task*. We decided to run a small pilot task, which will help us assess the difficulty of the actual task (benchmark sets creation), i.e., how much human effort is needed, what are the limitations, etc. It will also provide us with significant feedback from the biomedical experts' side since this pilot could be considered as a preliminary training phase for them. In their principal Question / Answer creation task (following the pilot trial) the biomedical experts will be assisted in their work by an annotation tool which will automate part of the task and will include additional features: search of relevant MeSH terms, automated storage of the material produced during the query etc. The result of the pilot trial will contribute to the adjustment and finalization of this annotation tool.

Currently, the following actions are scheduled:

1. *A second pilot question creation task*. This activity is planned to use a preliminary version of the annotation tool. It is planned to take place between 18 and 25 of January 2013.
2. *BioASQ Plenary Meeting, 28<sup>th</sup> – 29<sup>th</sup> January 2013, Grenoble*: A presentation of the activities undertaken so far for the BioMedical expert's team is going to take place.
3. *BioMedical expert's team physical meeting*: It will take place in Athens around 11-15 of February 2013.
4. *First round of Q&A composition*: 30 Q&A per BioMedical expert are expected to be delivered until the end of March 2013.

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## 2. Short CVs

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In this section, the short CVs of the members of the biomedical expert team are presented.

**Giorgio Iervasi, MD** is a Research Director and Chief of the Cardiovascular Endocrinology Research and Clinical Unit of the National Council Research (C.N.R.) in Tuscany Region G. Monasterio Foundation. From 1991 to 1997 he was an invited Professor in the Post graduate Schools for Doctors (Internal Medicine and Nuclear Medicine Specialties), in the University of Pisa. From 1991 to 1999 he was a Professor of Cardiovascular Endocrinology “International Master in Cardiology, Cardiac Surgery and Cardiac Anesthesia”, in the International Heart School in Bergamo, Italy. His research activity has focused in the cardio-endocrine-metabolic area, using inter-disciplinary and translational approaches. Initial studies included development and implementation of novel multi-tracer methods for in vivo modeling of thyroid hormones and cardiac peptide metabolism in humans. These new methodologies were subsequently applied to patho-physiological studies investigating the role of altered thyroid hormone and/or cardiac peptide metabolism in cardiac disease, with a special focus on heart failure progression in humans. The last 15-20 years were mostly dedicated to understanding the pathogenic role and clinical implications of mild thyroid dysfunction on cardiac disorders, with particular attention to low T3 syndrome not only a simple biomarker of worse prognosis, but a crucial contributing factor of disease mechanisms favoring progression of heart failure. He has published various papers regarding this particular area of research.

**Dr. Robertas Bunevičius** is a physician educated in psychiatry, endocrinology, and psychophysiology. He had run his training in Lithuania, Russia and USA. At present he holds an office of the Director and Chair of the Behavioral Medicine Institute at the Lithuanian University of Health Sciences. Dr. Bunevičius had defended Ph.D. thesis in 1993, and Doctor habilitus (D.Sc.) thesis in 1999. His research interest covers interaction of mental state with endocrine function and immunity, as well as reactivity to stress in psychiatric and cardiac patients. Dr. Bunevičius has published papers in medical journals with high impact factor, including first authorship in the New England Journal of Medicine. He made contribution for several textbooks as well as for development of new diagnostic and therapeutic methods in psychiatry and endocrinology. For his research contributions several national and international award were presented to Dr. Bunevičius including Award of the European College of Neuropsychopharmacology (Venice, Italy, 1995), Fulbright Award (Washington, D.C, 1997), Prize of the World Federation of Societies of Biological Psychiatry (Florence, Italy, 1999), Award of the International Society of Psychoneuroendocrinology (Montreal, Canada, 2005), Scientist of a Year Award (Kaunas, Lithuania, 2009), and Lithuanian Academy of Sciences Award (Vilnius, Lithuania, 2011). Dr. Bunevičius is involved in the activities of national and international scientific societies. He is a president of the Lithuanian Society of Biological psychiatry, a Vice-president of the World Federation of Societies of Biological Psychiatry (WFSBP) and a member of the Executive Committee of the International Neuropsychiatric Association (INA). Dr. Bunevičius have organized several national and international scientific meetings, delivered lectures and reports as invited speaker at numerous conventions.

**Dr. Toni (Antoaneta) Staykova**, Fellow of the Royal Australasian College of Physicians, is a specialist in Internal and Geriatric Medicine trained in New Zealand with expertise in pharmacology for older people, clinical trials in elderly and drug repositioning research. She is an author of a Cochrane Systematic Review on Prophylactic Antibiotics in COPD (2001). She has developed interest in health systems improvement through training and education, applications of technology and innovations for service improvement. She is the WP7 leader of the PONTE EU project on behalf for CUH, which is due to be completed in March 2013. Dr. Staykova is also the Clinical Lead for International Education at the Addenbrooke's Postgraduate Medical Centre. Dr. Staykova has experience in creating and delivering needs-based educational programs in health care across the globe.



**Dr Constantinos Pantos** was born in 1960. He received his degree in Medicine (1984) and his PhD (1991) from Medical School of Athens. He is trained in Clinical and Invasive Cardiology at the University College & Middlesex Hospital, London, UK. He is currently Ass. Professor in the Department of Pharmacology, University of Athens. His main scientific interest is the role of thyroid hormone signalling in myocardial ischaemia and cardiac remodelling and the use of thyroid hormone as a potential therapeutic target to treat heart disease. He has published more than 60 papers regarding this particular area of research. Dr Pantos serves as Referee for International Scientific Journals and he served as member of the scientific committee of ESC. He was the president of the basic sciences working group of Greek Society of Cardiology (2006-2008). He is currently a member of the board of the International Society of Heart Research (European Section). He is editor of the book entitled “Myocardial ischemia : from mechanisms to therapeutic potentials” by Cokkinos/ Pantos / Heusch / Taegtmeier (Eds), Springer, 2006.

**Dr Iordanis Mourouzis** was born in 1976. He received his degree in Medicine from University of Athens (2001), PhD in Cardiovascular Pharmacology (2006, University of Athens) and his medical specialty as a cardiologist (2012, University of Athens). He is currently a Lecturer in the Department of Pharmacology, University of Athens. He has considerable experience in experimental models of isolated rat hearts, in vivo model of ischemia-reperfusion, biochemical and molecular techniques. His main scientific interest is the role of thyroid hormone signalling in myocardial ischaemia and cardiac remodelling. Dr Mourouzis has published 67 articles on peer reviewed international journals and 1 book chapter (Springer 2006).

**Dr. Despina Sanoudou** is an Assistant Professor at the Dept. Pharmacology-Medical School-University of Athens. She is an expert in Genomics/Pharmacogenomics and serves as an Expert Reviewer in this field at the European Union, the French Agency against Myopathies and the Greek Scholarship Foundation. Dr Sanoudou has over 48 research publications (PubMed), 140 conference abstracts and 115 invited talks. Among the major discoveries of her team are: i) the elucidation of molecular mechanisms implicated in the development of myopathies and cardiomyopathies, ii) the identification of molecular signatures that could improve diagnosis of muscular diseases, iii) the discovery of novel pathways involved in the response to anti-lipidemic treatments, and iv) the selection of promising new molecular targets for combating hyperlipidemia. Dr Sanoudou has received multiple awards for her research work including the UNESCO award for young women in science, the European Society for Human Genetics, the Panhellenic Union of Bioscientists, the Hellenic Cardiological Society and others. She is an Editorial Board member for 7 and serves as reviewer for another 16 international scientific journals. Dr Sanoudou’s research is currently funded by competitive research grants from the European Union (FP6 and FP7), the Greek General Secretariat for Research and Technology, the Hellenic Cardiological Society, the Leducq Foundation and the NIH.

**Dr. Sophia Kossida** received her BSc degree (1995) in Biology from the University of Crete, Greece. She was awarded her DPhil in Bioinformatics, from Oxford University, UK (1998). She worked at Harvard University, USA within the FlyBase group. She was employed as Senior Scientist within Lion Bioscience Research Inc. in MA, USA where she worked on the human genome mining project. She was appointed Director of Bioinformatics of Endocube in Toulouse, France. She joined Novartis in Switzerland as Lab head within the Functional Genomics Group. She joined the Biomedical Research Foundation of the Academy of Athens (BRFAA) (2004) as tenure track Bioinformatician. Her scientific interests lie within the Comparative Genomics, Molecular Evolution and Proteomics fields. She has 59 publications in peer reviewed international journals, 20 peer reviewed articles in conference proceedings, 14 book chapters and she is the inventor of 23 international patents (Dec 2012). She is in the editorial board of several scientific journals. She has got extensive teaching experience and has organized several workshops and conferences. Her team at BRFAA was appointed the National contact point of Bioinformatics for EMBnet since 2005. Since her appointment at

BRFAA she has secured approximately 2 million Euros funding from national and European competitive research grants.

**Dr. Roderic Guigó** obtained his PhD in 1988 for work on Computational Methods on Evolutionary Ecology carried out with Dr. Jordi Ocaña at the Department of Statistics from the Universitat de Barcelona. He then moved to the Dana Farber Cancer Institute, and latter to Boston University, where he was a postdoctoral fellow with Dr. Temple F. Smith. With Dr. Smith, he became interested in Computational Genomics, which have been since then the main field of Dr. Guigó's research. Roderic Guigó is coordinator of the Bioinformatics and Genomics Program at the Center for Genomic Regulation (<http://big.crg.cat>), and full professor of Bioinformatics at the University Pompeu Fabra. Author of over 120 publications, he is a leading scientist in the field of Computational Genomics. He is member of advisory boards of many Bioinformatics and Genomics institutions, including the European Bioinformatics Institute. In addition to the NIH lead ENCODE project, Roderic Guigó participates or has participated in many European projects.

**Dr. Christoforos Nikolaou** is Assistant Professor at the Department of Biology in the University of Crete. He is currently closely collaborating with the Institute of Immunology at the Biomedical Sciences Research Center “Alexander Fleming”. He holds a Bachelor's Degree in Chemistry from the University of Patras and a Ph.D. from the Department of Biology of the University of Athens, which he received in 2005. He has worked as a post-doctoral fellow at the Centre of Genomic Regulation (CRG) in Barcelona, Spain and as a visiting researcher at the Department of Chemistry in Boston University. His research interests lie in the fields of bioinformatics and computational genomics, with particular focus on chromatin structure, epigenetics and genome evolution and architecture. In particular, he has made contributions in the discovery of the role of nucleosomal positioning preferences in eukaryotic exon definition, the problem of nucleosome positioning in eukaryotes and the evolution of genome architecture in bacteria. He is a regular reviewer for Bioinformatics, PLoS Computational Biology and PLoS One.

**Dr. Martina Samiotaki** received her BSc degree in Microbiology from the University of Uppsala. In 1996, again from Uppsala University, she obtained her PhD in Medical Genetics, where she developed new methods in DNA detection. She was awarded a postdoctoral fellowship from the Swedish Medical Research Foundation to perform a project at Biochemistry department at Hellenic Pasteur Institute in Athens, Greece on the topic: “Phage-display expression of human antibody fragments against the muscle acetylcholine receptor”. Her second postdoctoral training was obtained at the anticancer research Institute of the “St-Savvas” hospital in Athens, focusing on the study of the processing of pre-mRNA. Since year 2000 she is an operational scientist in Macromolecular Analysis Laboratory at B.S.R.C. “A. Fleming”, focusing her research in the Mass-spectrometry assisted analysis of proteins and lipids. She has an extensive expertise in the method development and has assisted in numerous and diverse projects. Now, she is responsible for the new platform in the laboratory consisting of an Ultra-HPLC inline with an LTQ-Orbitrap XL mass spectrometer, enabling state-of-the-art analyses to be performed.

**Dr. Vasilis Promponas** holds a PhD from the University of Athens, Greece. He is currently head of the Bioinformatics Research Laboratory in the Department of Biological Sciences at the University of Cyprus. His research interests include: large scale comparative genomics, protein sequence analysis, prediction of protein structure and function, and genome and protein evolution. He is mainly interested in the elucidation of protein sequence to structure/function relationships using sequence similarity, statistical and machine learning techniques. He is a reviewer for Bioinformatics, Biosystems, Proteins: Structure, Function and Bioinformatics, BMC Genomics and a member of the International Society for Computational Biology (ISCB).

## 3. Agreement signed by the team

The cooperation agreement between the scientific manager of BioASQ project and each of the experts is given below:

### COOPERATION AGREEMENT

1. The Scientific Manager of the FP7-ICT-2011-8 project "BioASQ - A challenge on large-scale biomedical semantic indexing and question answering" (hereinafter the *project*), Dr. George PALIOURAS (hereinafter the *Scientific Manager*) from the Institute of Informatics & Telecommunications of the National Center for Scientific Research "Demokritos" (hereinafter IIT/ NCSR "D"), having its legal seat at Aghia Paraskevi, Patriarchou Gregoriou & Neapoleos Street, P.C 153 10, Attica – Greece

and

2. Dr./Mr./Ms. ...., residing at ....., street ....., ....., VAT: ..... Tax Office: ..... (hereinafter the *Scientific Associate*) to whom the conduct of specific tasks in the context of the above mentioned project, coordinated by NCSR "D", has been assigned,

**being the signatory parties, have agreed as follows:**

1. The object of this Agreement is the cooperation between IIT/ NCSR "D" and the Scientific Associate, in accordance with the terms and conditions defined hereby and the attached 'Description of Work' of the project.
2. The Scientific Associate has adequate experience and expertise in the scientific field of the project. The Scientific Associate shall produce and deliver a list of interesting questions (in English), golden answers (in English) and ontology concepts that are related to each answer, as described in the project's 'Description of Work'. The Scientific Associate is expected to produce at least 60 questions, together with the corresponding answers and ontology concepts, in two batches, as explained in appendix A of the 'Description of Work' of the project. The questions have to be delivered on time according to the project time plan. Additionally, the Scientific Associate will provide feedback on the challenge reports and will assess manually a selected sample of the responses of the systems that will participate in the challenges. The Scientific Associate will be assigned a minimum of 3 questions in each of the two challenges and will be expected to assess the responses of all participating systems to these questions.
3. The ownership of the results generated during the execution of the subject Agreement belongs to IIT/ NCSR "D", which can freely disclose these results and can also file relevant patents. The Scientific Associate does not acquire the right to a patent claim.
4. The Scientific Associate is obliged to perform the agreed tasks and deliver the agreed results, for the fee specified in this agreement. The rights related to any intellectual property developed during the subject Agreement under the supervision of the Scientific Manager, while implementing the project, belong exclusively and completely to IIT/ NCSR "D", to which the Scientific Associate provides his/her services. The Scientific Associate is obliged, no later than the completion of any intellectual property, to notify the Scientific Manager in writing before its announcement to any third party other than IIT/ NCSR "D". All the above are valid for at least 5 years after the termination of the subject Agreement. Within this period, the Scientific Associate cannot use or publish or exploit without permission any results generated from the cooperation with IIT/ NCSR "D".

5. The Scientific Associate is not allowed to participate in the challenges described in the attached 'Description of Work' and should not disclose any information related to the project to any of the challenge participants. Any relationship of the Scientific Associate to any of the participants in the challenges should be communicated in writing to the Scientific Manager as soon as it becomes known to the Scientific Associate.
6. The remuneration of the Scientific Associate will be based on working hours and will be recorded in the accounts of NCSR "D". The Scientific Associate will be granted remote access and will be obliged to work with a specific software tool installed on NCSR "D" servers that will record the productive hours worked for the project, as required by EC regulations.
7. The Scientific Associate will be paid in accordance with the project's budget category (Personnel). The hourly rate of the Scientific Associate will be 35 € and the total amount to be paid to the Scientific Associate cannot exceed 7000 €
8. The above mentioned amount of money will be remitted with bank checks issued to the Scientific Associate.
9. This agreement is in force from the date that it is signed, until the end of the project (30 September 2014).
10. Any modifications of the terms and conditions of this Agreement will need to be agreed and signed by all parties.

**The subject Agreement has been issued on ..... in three (3) copies signed by the Parties.**

The Parties

*Scientific Manager of the Project*

*Scientific Associate*

.....  
Dr. G. Paliouras

.....  
Prof./Dr./Mr./Mrs. ....

Approved by:

*Director of the Institute of Informatics & Telecommunications  
of the National Center for Scientific Research "Demokritos"*

.....  
Dr. C. D. Spyropoulos

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## 4. Conclusions

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This deliverable presented the establishment of the BioASQ team of biomedical experts. Their expertise and experience are presented, as well as the cooperation agreement between BioASQ project and the experts.