Curriculum Vitae

Personal details

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Work address:	Department of Genetics
	University of Cambridge
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Home address:	11 Purbeck House,
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	Cambridge,
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	e-mail: g.gkoutos@gmail.com
Date of Birth:	22 June 1976
Nationality:	Greek
Current position:	Fellow & Senior Research Associate
Marital Status:	Single

Education summary

Dates	Degree Awarded	Institution Details
1999 - 2002	**Ph.D**. in Chemical and Biological informatics **Title** Chemo/Bioinformatics Internet Resource Discovery **Supervisor** Prof. H. S. Rzepa	Wolfson Laboratory for Informatics, Modelling and Visualisation, Imperial College of Science, Technology and Medicine, Exhibition Road, South Kensington London**,** SW7 2AY, UK
1997 - 1999	**M.Sc.** (by research) in Bioinformatics **Title** Correlated mutations on G-Protein coupled **Supervisor** Prof. C. A. Reynolds	Department of Biological Sciences, University of Essex, Wivenhoe Park, Colchester, CO4 3SQ, UK
1994 - 1997	**BSc.** (honours) degree in Biochemistry	Department of Biological Sciences, University of Essex, Wivenhoe Park, Colchester, CO4 3SQ, UK
1993 - 1994	**4 A-level** (Maths, Chemistry, Biology, Physics)	Interanglian Foundation college, Χαλκοκονδύλη 16, Αθήνα, Ελλάδα
1991 - 1994	**12 GCSE** equivalents	1ο Λύκειο Κηφισιάς, Κηφισιά, Αθήνα, Ελλάδα
1989 - 1991	**Proficiency** in English	University of Cambridge
1989 - 1991	**First Certificate** in German	Goethe Institute

Professional career summary

Research and Fellowship Appointments

Dates	Title	Institution Details
2001 - 2002	Research Assistant **Imperial College**	Wolfson Laboratory for Informatics, Modelling and Visualisation, Imperial College of Science, Technology and Medicine, London, SW7 2AY, UK
2000	Industrial placement **Merck Sharp & Dohme**	Bioinformatics Team Merck Sharp & Dohme, Terlings Park, Harlow, UK. Neuroscience Research Centre (NRC)

Faculty Appointments

Dates	Postdoctoral Details	Institution Details
2008 -	Fellow & Senior Research Associate **University of Cambridge**	Department of Genetics, University of Cambridge, Downing Site, Downing Street, CB2 3EH, UK http://www.gen.cam.ac.uk
2007 - 2008	Researcher (Grade C) (Senior Lecturer) **Institute of Biological Research and Biotechnology (IBRB)**	National Hellenic Research Foundation, 48 Vasileos Konstantinou Ave., 11635 Athens, Greece http://www.eie.gr/

2005 - 2008	Research Associate	Department of Genetics,
		Department of Genetics,
		University of Cambridge,
		Downing Site,
		Downing Street,
		CB2 3EH,
		UK
	University of Cambridge	http://www.gen.cam.ac.uk
2002 - 2005	Team Leader & CDF,	Bioinformatics Unit
	Bioinformatics Unit,	Medical Research Council (MRC)
	Medical Research Council (MRC)	Oxfordshire,
		OX11 0RD,
		U.K.
	University of Oxford	http://www.mgu.har.mrc.ac.uk/aboutus/

Publications

Refereed Journals

1. G. V. Gkoutos *et.al*, PATO: Phenotype And Trait Ontology, *Nature Biotechnology*, **2009**, *submitted*
2. C. Mungall, G. V. Gkoutos, C. Smith, M. Haendel, & S. Lewis, A unified framework for describing phenotypes using ontologies, *Genome Biology*, **2009**, *accepted*
3. D. Smedley, J. Hancock, V. Aidinis, C. Ainali, M. Ashburner, J. Bard, R. Balling, E. Birney, A. Blake, E. Bongcam-Rudloff, A. Brookes, G. Cesareni, J. Eppig, G.V. Gkoutos, S. Greenaway, M. Gruenberger, J. Heriché, G. Kollias, A. Mallon, D. Muddyman, F. Reisinger, M. Ringwald, N. Rosenthal, K. Schughart, M. Swertz, M. Zouberakis, P. Schofield, Does it do what it says on the tin? The CASIMIR Database Description Framework; metadata for interoperability, *Nature Biotechnology*, **2009**, *submitted*
4. M. Haendel, G.V.Gkoutos, S. Lewis and C. Mungall, Uberon: towards a comprehensive multi-species anatomy ontology, *in preparation*
5. J.M Hancock, A. Mallon, T. Beck, G. V. Gkoutos and P.N. Schofield, Man, Mouse and Meaning: bridging the semantics of mouse phenotype and human disease, *Mammalian Genome*, , [Epub ahead of print] Manuscript ID MG-RW-09-0040, **2009**
6. G. V. Gkoutos, C. Mungall, S. Dolken, M. Ashburner, S. Lewis, J. Hancock, P. Schofield, S Kohler and P. Robinson, Entity- Quality-Based Logical Definitions for the Human Skeletal Phenome using PATO**, 2009**, *in print*
7. Hancock, J.M. et al. and the CASIMIR consortium, CASIMIR: Coordination and Sustainability of International Mouse Informatics Resources. IEEE, BIOINFORMATICS AND BIOENGINEERING,,10.1109/BIBE.2008.4696712, 1-6, **2008**

8. Swertz MA, *et.al* and the CASIMIR consortium, Towards dynamic database infrastructures for mouse genetics IEEE, BIOINFORMATICS AND BIOENGINEERING, 1, 399-405, **2008**

9. C. Mungall, G. V. Gkoutos, N. Washington and S. Lewis, Representing Phenotypes in OWL, *OWLED*, **2007,** 40

10. C.J. Mungall, D. B. Emmert 2, and The FlyBase Consortium A Chado case study: an ontology-based modular schema for representing genome-associated biological information Bioinformatics **2007** 23(13):i337-i346; doi:10.1093/bioinformatics/btm189

11. J. M. Hancock, J. Blake, M. Bogue, S. D.M. Brown, E. Chesler, D. Davidson, J. Eppig, G.V.Gkoutos, S. Greenaway, K. Lee, C. Lengger, A. Mallon, H. Masuya, W. Muller, H. Parkinson, G. Proctor, E. Reueni, P. Schofield, A. Shukla, T. Toyoda, L. Vasseur & S. Wakana, Integration of Mouse Phenotype Databases, *Mammalian Genome*, **2007,** 18(3), April 10, [Epub ahead of print] DOI: 10.1007/s00335-007-9004-x

12. P. Mabee, M. Ashburner, Q. Cronk, G. V. Gkoutos, M. Haendel, C. Mungall, E. Segerdell & M. Westerfield, Phenotype Ontologies: the bridge between genomics and evolution, *BioEssays*, *Trends Ecol Evol*, **2007**, April 6; [Epub ahead of print] PMID:17416439

13. P. Schofield, B. Rozell & G. V. Gkoutos, Towards a Disease Ontology, Anatomy Ontologies, *Springer* Verlag, **2007**

14. Mouse Database Integration Consortium, Uniting Mouse European Informatics, *IMGC*, **2006**, j12

15. G.V.Gkoutos, Genetics, Bioinformatics and Philosophy – From Genotype to Phenotype, *Society&Health VI*, 153-170, **2006**

16. G. V. Gkoutos, Towards a Phenotypic Semantic Web, *Current Bioinformatics*, Invited Paper by Journal Editor (J. Cupta), **2006**, 1, 2, 235-246 (12)

17. The Eumorphia Consortium: *A list of all members of The Eumorphia Consortium is given in Supplementary Note online* (http://www.nature.com/ng/journal/v37/n11/suppinfo/ng1105-1155_S1.html) S.D.M. Brown, P. Chambon & M. Hrabé de Angelis, *Nature Genetics*, **2005** Nov;37(11):1155. (http://www.nature.com/ng/journal/v37/n11/full/ng1105-1155.html)

18. Eumorphia Consortium, The EUMORPHIA Project: phenotyping the mouse - towards a systematic functional annotation of the mouse genome, *Transgenic Research*, 14 (4): 492-493, 2**005,** ISSN: 0962-8819

19. Steve Brown, Heena Lad, Eain Green, Georgios Gkoutos, Hilary Gates, Martin Hrabé de Angelis and members of the EUMORPHIA consortium, EUMORPHIA and the European Mouse Phenotyping Resource for Standardised Screens (EMPReSS), *Mammalian Genome*, **2005** (ahead of publishing at *Wiley-VCh Publishers)*

20. Green ECP*, Gkoutos GV*, Lad HV, Blake A, Weekes J, Hancock JM. EMPReSS: European mouse phenotyping resource for standardized screens. *Bioinformatics*. **2005**; 21(12):2930-1 Epub **2005** Apr 12. PMID: 15827082. *These two authors contributed equally to this work*

21. G. V. Gkoutos, E.C.J. Green, A-M Mallon, J.M. Hancock and D. Davidson., Using ontologies to describe mouse phenotypes. *Genome Biology*, **2004**, 6, R8. [http://genomebiology.com/2004/6/1/R8]

22. G. V. Gkoutos, E. C. J. Green, S. Greenaway, A. Blake, A-M Mallon and Hancock J.M, CRAVE: A database, middleware and visualisation system for phenotype ontologies. *Bioinformatics*. **2004**, Nov 18; doi: 10.1093/bioinformatics/bti147]

23. Gkoutos, G.V., Green, E.C.J., Mallon, A.M., Blake, A., Greenaway, S., Hancock, J.M., and Davidson, D., Ontologies for the Description of Mouse Phenotypes, *Comparative and Functional Genomics*, **2004**, 5, 545-551

24. G. V. Gkoutos, E. C. J. Green, J.M. Hancock, D. Davidson, Building Mouse Phenotype Ontologies, *PSB*, **2004**, 9, 179-189. Available on line: [http://www-smi.stanford.edu/projects/helix/psb04/gkoutos.doc]

25. G. V. Gkoutos, R. M. Clark, O. A. Adjei and H. S. Rzepa. Chemical Machine Vision Project: Extraction of chemical metadata from raster images, *J. Chem. Inf. Comp. Sci.* **2003,** 43(5), 1342-1355. [http://dx.doi.org/10.1021/ci034017n]

26. G. V. Gkoutos, E. C. J. Green , A.M. Mallon, J.M. Hancock, Mouse Phenotype Ontology Development and Applications, *ECCB*, **2003**, (49), 143-145

27. G. V. Gkoutos, P. Murray-Rust and H. S. Rzepa, Online Validation and Comparison of Molfile and CML Molecular Atom-Connection Descriptors, *Internet J. Chemistry*, **2003**, 6(1), CP1-U10

28. G. V. Gkoutos, C. Leach and H. S. Rzepa, ChemDig: New approaches to Chemically Significant Indexing and Searching of Distributed Web Collections, *New. J. Chem.*, **2002**, 26(5), 656-666

29. G. V. Gkoutos, Internet-based Molecular Resource Discovery Tools, *CSA*, 2, **2002**, 3

30. G. V. Gkoutos, P. Murray-Rust, H. S. Rzepa and M. Wright, Peer to Peer (P2P) Systems as Molecular Resource Discovery tools, *Proc. International Chemical Information Conference,* **2002**, pp 142-149.

31. G. V. Gkoutos, P. Murray-Rust, H. S. Rzepa, and M. Wright, The Application of XML Languages for Integrating Molecular Resources, *Internet J. Chemistry*, **2001**, 4 (12): U1-U15

32. G. V. Gkoutos, P. Murray-Rust, H. S. Rzepa and M. Wright, Chemical Markup, XML and the World-Wide Web. Part III: Towards a signed semantic Chemical Web of Trust, *J. Chem. Inf. Comp. Sci.*, **2001**, 41 (5): 1124-1130. (Supporting information) [http://pubs.acs.org/subscribe/journals/jcisd8/suppi nfo/ci000406v/README.html]

33. P. R. Gouldson, M. K. Dean, C. R. Snell, R.P. Bywater, G. V. Gkoutos and C. A. Reynolds, Lipid facing correlated mutations and dimerization in G-protein coupled receptors, *Prot. Engineering*, **2001**, 14 (10), 759-767

34. G. V. Gkoutos, P. Murray-Rust, H. S. Rzepa, and M. Wright, Integration of Internet Molecular Resources, *CMPTI*, **2001**, SII1. Abstract of paper available on line at: [http://magnet.lptc.u-bordeaux.fr/CMTPI/Rzepa.htm]

35. G. V. Gkoutos, P. R. Kenway, P. Murray-Rust, H. S. Rzepa and M. Wright, A Resource for Transforming HTML and Molfile Documents to XML Compliant Form, *Internet J. Chem.*, **2001**, 4 (5), U4-U14

36. G. V. Gkoutos, P. R. Kenway and H. S. Rzepa, A robot-based resource discovery tool for adding chemical meta-information and value to web-based documents, *New. J. Chem.*, **2001**, 25 (4), 635-638

37. G. V. Gkoutos, P. R. Kenway and H. S. Rzepa, JChemTidy: A Tool for Converting Chemical Web Document Collections to an XHTML Representation, *J. Chem. Inf. Comp. Sci.*, **2001**, 41, 253-258

38. P. R. Gouldson, R. E. Smith, M. K. Dean, C. Higgs, G. V. Gkoutos and C.A. Reynolds, Dimerisation and Domain swapping in GPCRs: a computational study, *Neuropsychopharmacology*, **2000**, 23, S61-S77

39. G. V. Gkoutos and H. S. Rzepa, The Internet as a Molecular Discovery Resource, *MDPI*, **2000**, ISBN 3-906980-01-4

40. G. V. Gkoutos and H. S. Rzepa, A Mechanism for Creating Chemically Oriented Internet Search Channels, *Internet J. Chem.*, **2000**, 3 (7-8), U9-U19

41. G. V. Gkoutos, P. R. Kenway and H. S. Rzepa, JChemTidy and JChemDig: New Resource discovery tools for Molecular Sciences, *Chemistry and The Internet*, **2000**, 4, article 8

42. G. V. Gkoutos, H. S. Rzepa and M. Wright, Hierarchical display of Chemical Data in Web Browsers, *Internet J. Chem.*, **2000**, 3(7-8), U1-U7

43. G. V. Gkoutos and H. S. Rzepa, Use of Meta-data in Chemical Content Relevancy Ranking, *MDPI*, **1999**. MDPI, ISBN 3-906980-01-4

44. G. V. Gkoutos, C. Higgs, R. P. Bywater, P. R. Gouldson, C. A. Reynolds, Evidence for dimerisation in the adrenergic receptor from the evolutionary trace method, *Int. J. Quant. Chem., Biophys. Quarterly*, 74(3), **1999**, 371-379

45. A. Nilsson, M. Wijayawardene, G. V. Gkoutos, K. M. Wilson, N. Fernandez and C. A. Reynolds, Correlated mutations in the HLA class II molecule, *Int. J. Quant. Chem. Biophy. Quarterly*, 73 (2), **1999**, 85-96

Book Chapters

1. L Tsaprouni & G. V. Gkoutos, Towards a phenotypic Semantic Web, *Molecules*, 2008 *in press*

2. P. Schofield, B. Rozell & G. V. Gkoutos, Towards a Disease Ontology, Anatomy Ontologies, *Springer* Verlag, **2007**

3. G.V.Gkoutos, Γενετική, Βιοπληροφορική και Οντολογία: Από το Γονότυπο στο Φαινότυπο, *Κοινωνία & Υγεία VI*, 153-170, **2006**

4. Brown, S.D.M., Lad, H., Green, E., Gkoutos, G., Gates, H., Hrabé de Angelis, M. and The EUMORPHIA consortium. EUMORPHA and the European Mouse Phenotyping Resource for Standardised Screens (EMPReSS). In *Standards of Mouse Model Phenotyping* . Eds. Hrabé de Angelis, M., Chambon, P., Brown, S., **2006** Wiley-VCH, Weinheim, pp309-317

5. G. V. Gkoutos & H. S. Rzepa, *Molecules*, **2001**

Conference papers, posters, announcements

Over 70

Awards & Honours

- Merck Sharp & Dohme travel award (**2000**)
- ChemInt Award (**2000**)
- CMPTPI Award (**2001**)
- Permission to publish articles in an unchanged format in IJC (electronic journal) (**2002**)
- Distinguished scientist award, Ministry Of National Defence, Greece, military exempt till the maximum allowed limit (**2002**)
- International Mammalian Genome Society Award (**IMGC 2003**)
- Principle investigator and editor of PATO (**2003**)
- US Department of Energy PSB Award (**PSB 2004**)
- MRC award (**2005**)
- RIKEN award (**2007**)

Oral Presentations

Conferences

- Henry S. Rzepa & G. V. Gkoutos, Formalisation of the Chemical Markup, XML, and the Worldwide Web, Chemistry and the Internet (ChemInt2000), **2000**, Georgetown University, Washington DC
- G. V. Gkoutos, Ontologies and phenotypes, 1st Phenotype Ontology Meeting, **2002**, Rockville, Maryland
- G. V. Gkoutos, Generating consistent ways of expressing phenotypes, 2nd Phenotype Ontology Meeting, **2003**, Banbury Conference Centre, New York
- G. V. Gkoutos, Phenotyping Sensory Systems, Human and Mouse Sensory Systems, **2003**, Oxford
- G. V. Gkoutos, Mouse Behavior Phenotype Protocols (ECFLP), Mouse Behaviour Meeting, **2003**, Rome
- G. V. Gkoutos, Data Integration and the Semantic Web, 1st Mouse Phenotype Ontology meeting, **2003**, Oxford
- Invited Speaker at the European Conference on Computational Biology (ECCB), **2003**, Paris, allocated PhD student Eain Green due to unavailability to attend
- G. V. Gkoutos, Invited Speaker, Phenotype And Trait Ontology, 3rd Phenotype Ontology Meeting, **2003**, Maine
- G. V. Gkoutos, Communities building ontologies: Tensions, Reality and Examples, **2003**, Slough
- G. V. Gkoutos, Concept Assay Relation Explorer (CRAVE) – A tool for phenotype representation, **2003**, Slough
- G. V. Gkoutos, A glance at the future of Ontologies and Mouse genetics, EUMORPHIA 2nd General Assembly, **2004**, Munich
- G. V. Gkoutos, Creating a global mouse SOP depository, Behaviour and Cognition meeting, **2004**, Rome
- G. V. Gkoutos, Invited Speaker, Ontologies for the Description of Mouse Phenotypes, Bio-Ontologies, International Society for Computational Biology (ISMB)/ European Conference on Computational Biology (ECCB), **2004**, Glasgow
- G. V. Gkoutos, Invited Speaker, Standardising Phenotypic Expressions, SOFG conference, Phenotype Breakout session, **2004**, Philadelphia
- G. V. Gkoutos, Creating a pathology ontology – vision and realities, Pathology Expert Panel, **2005**, Amsterdam
- G. V. Gkoutos, Annotating phenotypes strategy, EUMORPHIA 3rd General Assembly, **2005**, Madrid
- G. V. Gkoutos, A comprehensive approach to annotate phenotypes, 4th Phenotype Ontology Meeting, **2005**, Cold Spring Harbor, New York
- G. V. Gkoutos, Behaviour Ontology – a first example of a phenotype ontology, 1st cBio Conference, **2005**, Stanford University
- G. V. Gkoutos, Gene Ontology and PATO, Gene Ontology and FlyBase Conference, **2006**, St. Croix
- G. V. Gkoutos, N-ary Relations and Qualities, 5th Phenotype Ontology Meeting, **2006**, Cambridge
- G. V. Gkoutos, Ontology and Sociology – Building Community Ontologies, Ontogenesis Network Symposium, **2006**, Oxford

- G. V. Gkoutos, The use of Formal Ontology in creating Domain Specific Knowledge representations, **2006**, Bethesda
- G. V. Gkoutos, Assay Controlled Vocabularies, Priorities for Mouse Functional Genomic Research Across Europe, **2006**, Munich
- G. V. Gkoutos, Representation of phenotype, National Center for Biomedical Ontology , **2006**, Stanford
- G. V. Gkoutos, Genetics, Bioinformatics and Philosophy – From Genotype to Phenotype, EIE, **2006,** Athens
- G. V. Gkoutos, Decomposing Phenotype Ontologies, EUMODIC, **2007,** UK
- G. V. Gkoutos, Advances on logical definitions, CASIMIR, **2007,** Greece
- G. V. Gkoutos, Aristotelian definitions for pre-coordinated phenotypes, 21st International Mouse Genome Conference (IMGS), **2007,** Japan
- G. V. Gkoutos, Database Integration, European Mouse Consortium , **2007,** Italy
- G. V. Gkoutos, Worm Phenotype analysis, Worm annual meeting, **2008,** USA
- G. V. Gkoutos, From Genotype to Phenotype, EBI, **2008,** UK
- G. V. Gkoutos, Bridging Ontologies, University of Oxford, **2008,** UK
- G. V. Gkoutos, Unifying medical records, ENE, **2009**, Greece

Invited Lectures

- G. V. Gkoutos, A robot-based resource discovery tool for adding molecular meta-information and value to web-based documents, Luton University, **2002**, Postgraduate School, Luton
- G. V. Gkoutos, Bioinformatics for Drug discovery, University of Bradford, **2003**, Bradford (invited by Dr. Pletsas)
- G. V. Gkoutos, Use of ontologies in Phenotypic descriptions, MRC, **2003,** Oxford (invited by Dr Nadia Rodrigues)
- G. V. Gkoutos, Mouse Behavioral Ontology, Dept. of Behavioural Sciences, MGU, **2003**, Oxford (invited by Dr. Pat Nolan),
- G. V. Gkoutos, XML in Chemo-Bioinformatics, University of Essex, **2004**, Essex (invited by Prof. Reynolds)
- G. V. Gkoutos, PATO and philosophy, Dept. of Mammalian Genetics, **2004**, Oxford (invited by Dr. Valter Tucci)
- G. V. Gkoutos, Characterising behaviour and cognition, Brain and Cognitive Dept. MIT, **2004,** Boston, (invited by Prof. Glenda Lassi)
- G. V. Gkoutos, Towards a Phenotypic Semantic Web, MRC, **2004,** Oxford (invited by Dr Nadia Rodrigues)
- G. V. Gkoutos, Chemo-Bioinformatics Today, University of Bradford, **2005**, Bradford (invited by Dr. Pletsas)
- G. V. Gkoutos, Phenotype Annotations, University of Cambridge, Cambridge, **2006**, (invited by Dr. Drysdale)
- G. V. Gkoutos, PATO and Philosophy, European Bioinformatics Institute (EBI), **2006**, (invited by Prof Ashburner)
- G. V. Gkoutos, PATO and Pathology, Department of Anatomy, University of Cambridge, **2006**, (invited by Dr. Schofield)
- G. V. Gkoutos, Immunological Trait Analysis, NHLI, Imperial College, **2007**, (invited by Dr. Tsaprouni)
- G. V. Gkoutos, Measurements and traits, MRC, **2007**, (invited by Dr. Hancock)
- G. V. Gkoutos, Οντολογίες Γονίδιων, EIE, **2008**, (invited by Prof Kolisis)

- G. V. Gkoutos, Βήματα προς την πραγμάτωση ενός φαινοτυπικού σημασιολογικού ιστού, ΕΙΕ, **2008**, (invited by Prof Kolisis)
- G. V. Gkoutos, One Pathology – One medicie, University of Oxford, **2000**, (invited by Prof. J. Bard)

Consortia

- **National Center for Biomedical Ontology** (http://bioontology.org/)
- **Phenotype Consortium**
- **Ontogenesis Network** (http://www.ontonet.org/)
- **InterPhenome (**http://www.interphenome.org/)
- **CASIMIR** (Co-ordination And Sustainability of International Mouse Informatics Resources)
- **FlyBase Consortium** (http://www.flybase.org/)
- **PathBase Consortium (**http://www.pathbase.net/)
- **Gene Ontology** (http://www.geneontology.org)
- **EUMORPHIA & EUMODIC** (http://www.eumorphia.org)

Resources

As part of my research, I was involved in the creation of numerous molecular and biological resources, examples of which are presented in the list below.

- **EMPReSS** is the European Mouse Phenotyping Resource of Standardised Screens resource and presents the first integrated comprehensive validated platform for a first line phenotyping of the mouse as a model. Available online: http://empress.har.mrc.ac.uk/
- **EuroPhenome** is a database of phenotype annotation, data and analysis for mouse models (still in development). Available online: http://www.eumorphia.org/europhenome_browser/servlet/europhenome.Query
- **Flybase** is a database of the genetics and genomics of the fruit fly *Drosophila melanogaster*, and related species. Available online: http://www.gen.cam.ac.uk/Research/flybase.htm
- **CRAVE browser database** is a resource for storing accessing and viewing phenotype ontologies. Available online: http://informatics.har.mrc.ac.uk/software/crave.html
- **Phenotype Annotation Tools** is a collection of tools that allow the annotation of mouse phenotypes. Available online: http://www.mgu.har.mrc.ac.uk/servlet/eumorphia.annotation.Annotator http://www.mgu.har.mrc.ac.uk/servlet/eumorphia.annotation.Decoder
- **Chameleon** is a resource for accessing databases, particularly suited to those containing hierarchical data, such as ontologies. Available online: http://informatics.har.mrc.ac.uk/software/chameleon.html

- **Mutabase** is a database of Mouse Models of Human Disease. It also presents that fist example of an annotated data via a consistent ontological manner (includes 30.000 annotated mice resulting to 600.000 annotations). Available online: http://www.mgu.har.mrc.ac.uk/mutabase
- **LIMaS** is a Laboratory Information Management System (LIMaS), which facilitates efficient storage and retrieval of experiments and covers the slide set production process, track clone sets, and track samples. Available online: http://www.mgu.har.mrc.ac.uk/facilities/microarray/limas
- **ChemDig** is a database management system and an internet robot that traverses biological and molecular document collections performing added value operations as well as transforming collections to biological and molecular consistent XML equivalents. For more information and example please see at: http://www.ch.ic.ac.uk/rzepa/motm/
- **ChemDaylight** is database based on the Daylight resource that indexes, stores and performs advance chemical search on molecular components. For more information on the Daylight resource please see at: http://www.daylight.com/products/databases/
- **MRC Mutagenesis** is a database of MRC mutagenesis programme is to generate and make available approximately 100 F1 progeny of mutagenised animals per week for genome-wide dominant phenotypic screens. Available online: http://www.mut.har.mrc.ac.uk/
- **ChiMeraL** is a Chemical Markup Language (CML) manipulation and transformation resource which employs XML technologies and methods for combined chemistry/data/spectral manipulation. Available online: http://www.ch.ic.ac.uk/rzepa/chimeral/
- **Wisp** is a database Data Management System (DMS) to store sequencing data performed by the Genotyping, Mutation detection and Sequencing (GEMS) core at Medical Research Council. Available online: http://informatics.har.mrc.ac.uk/software/wisp.html
- **PATOdb** is a novel database management system (DMS) that has the ability to store phenotype ontologies. Available online: http://informatics.har.mrc.ac.uk/
- **WILLO** is a Data Management System (DMS) to capture and store genotyping data for mutant mouse lines. Available online: http://informatics.har.mrc.ac.uk/software/willo.html
- **Chem eXist** is a XML database that indexes, stores and search molecular data represented using chemical markup (CML) and XML documents. http://www.ch.ic.ac.uk/rzepa/xml/
- **PhenoDb** is database management system to store phenotypic sequencing data as well as linked to GO and annotated gene products (still in development).

Research Projects

Current

- **cBIO** The National Center for Biomedical Ontology
  - Coordinators: Prof Michael Ashburner, University of Cambridge; Prof. Mark Musen, University of Berkeley; Prof Monte Westerfield, University of Oregon; Dr. Georgios V. Gkoutos, University of Cambridge
  - Funding Body: National Institute of Health (NIH)

- Project information: http://bioontology.org/overview.html

- **The Ontogenesis Network**
  - Coordinators: Dr. David Shotton, Department of Zoology, University of Oxford
  - Funding Body: EPSRC

- **EUMORPHIA** http://www.eumorphia.org
  - Coordinators: Prof Steve Brown, Medical Research Council
  - Research Theme: EoI- NR53, contract number QLG2-CT-2002-00930

- **CASIMIR**
  - Coordinators: Dr Paul Schofield, University of Cambridge
  - Research Theme: LSH-2004-1.1.0-2

- **Enfin**
  - Coordinators: Dr Ewan Birney, European Bioinformatics Institute
  - Research Theme: LSH-2004-1.1.4-1

- **EUMODIC** http://www.eumorphia.org
  - Coordinators: Prof Steve Brown, Medical Research Council
  - Research Theme: EoI- NR54

- **e-CARDIUM**
  - Coordinators: Prof Ludwig Neyses, University of Manchester
  - Research Theme: LSH-2004-2.1.1-1

- **The FlyBase Project**
  - Coordinators: Prof Michael Ashburner, University of Cambridge
  - Funding Body: NIH

- **PathBase Consortium (**http://www.pathbase.net)
  - Coordinators: Dr Paul Schofield, University of Cambridge
  - Research Theme: : QLRI-1999-00320

- **PATO**
  - Coordinators: Prof. Michael Ashburner and Dr. Georgios Gkoutos, Department of Genetics, University of Cambridge
  - Funding Body: BBSRC

- **RICORDO**
  - Coordinators: Dr Bernard De Bono, EBI and Dr. Georgios, Department of Genetics, University of Cambridge
  - Funding Body: FP7-ICT-2009

Collaborations

Our work is based on a large collaborator network, below is a small representative list.

- Prof. Michael Ashburner. Dept. of Genetics, University of Cambridge, UK

- Prof. Suzanna Lewis, Director of Bioinformatics, University of California, USA
- Prof. Janan Eppig, The Jackson Laboratory, Maine, USA
- Dr. John Hancock. Head of Bioinformatics, Medical Research Council, UK
- Dr. Duncan Davidson. Dept. of Human Genetics, University of Edinburgh, UK
- Prof Alan Rector, Medical Informatics, University of Manchester, UK
- Prof Kollias, Director of Fleming Institute, Athens
- Dr. Pat Nolan, Dept. of Behavioural Sciences, MGU, UK
- Dr. Rachel Drysdale, Dept. of Genetics, University of Cambridge, UK
- Prof Steve Brown, Director, Medical Research Council, UK
- Dr. Paul Schofield, Dept. of Anatomy, University of Cambridge
- Prof F. Colisis, Director, NHRF, Greece
- Dr. Michael Cheeseman. Dept. of Pathology, Medical Research Council, UK
- Prof. Judith Blake, The Jackson Laboratory, Maine, USA
- Dr. Rachel Drysdale, Dept. of Genetics, University of Cambridge
- Dr. Hamid Meziane, IGBMC, France
- Dr. Loukia Tsaprouni, Dept of Thoracic Medicine, Imperial College
- Dr. David Shotton, Dept. of Zoology, University of Oxford
- Dr. Aidinis, Fleming Institute, Athens
- S. Köhler, Institute for Medical Genetics, Universitätsklinikum Charité, , Germany
- Dr. Robert Stevens, BioHealth Informatics Group, University of Manchester, UK
- Dr. Michael Cheeseman. Dept. of Pathology, Medical Research Council, UK
- Dr. Dimitrios Pletsas, Dept. of Pharmacology, University of Bradford, UK
- Prof Mark Musen, Director, Stanford Medical Informatics, Stanford University, USA
- Dr. Sonsoles Martin Santamaria, Universidad San Pablo-CEU, Spain
- Prof. Glenda Lassi, Brain and Cognitive Dept. MIT, Boston, USA
- Dr Chris Mungall, University of California, Berkeley, USA
- Prof Barry Smith, Dept. of Philosophy, University of Buffalo & Director of IFOMIS, Germany
- Dr. Valter Tucci, Dept. Neurobiology, School of Medicine, Boston University, USA
- Dr. Loukia Tsaprouni, NHLI, Imperial College, UK
- Prof. Henry Rzepa, Dept. of Chemistry, Imperial College, UK
- Dr. Peter Robinson, Institute for Medical Genetics, Universitätsklinikum Charité, , Germany

Meeting Organisation

- Part of the organizing team of the 5th World Congress of Theoretical Oriented Chemists (**WATOC99**), London
- Organizer of 1st Mouse Phenotype Ontology meeting, Oxford
- Organizer of 3rd Phenotype Ontology meeting, Mayne
- Organizer of 5th Phenotype Ontology meeting, Cambridge
- Organizer of European Comprehensive First Line Phenotyping (**EFCLP**) Bioinformatics meeting, London
- Organizer of EUMORPHIA Summer School, Oxford
- Chaired Sessions
    - 1st Mouse Phenotype Ontology meeting, Oxford
    - 3rd Phenotype Ontology Meeting, Maine
    - EUMORPHIA - Annual Conference (Bioinformatics Session), Slough
- Workshops
    - Semantic Web Workshop (EIE, 2006)
    - EUMORPHIA Summer School (2005)

- Bioinformatics Workshop (MRC, 2004)

Research funding sources

1999 – 2002	EPSRC research studentship (UK)
1999 – 2002	Merck Sharp & Dohme funding award (USA)
2001	Chemical Structure Association Award (CSA)
2002 – 2005	European Commission funding (contract number:QLG2-CT-2002-00930)
2002 – 2005	Medical Research Council (MRC) funding (UK)
2005 – 2008	Cambridge University (UK)
2005 – 2008	National Institutes of Health (NIH) funding (USA) (http://grants2.nih.gov/grants/guide/pa-files/PAR-05-063.html)
2007 -	European Union
2008 –	Cambridge University (UK)
2008 -	National Institutes of Health (NIH) funding (USA)
2008 -	Biotechnology and Biological Sciences Research Council (BBSRC, UK)

Manuscript Reviews

Internet Journal of Chemistry (Editor Steve Bachrach)
Bioinformatics (Editor, Abbi Cliff)
Genomics, Proteomics & Bioinformatics (Editor Xin Zhang)
Journal of Chemical Information and Computer Science (JCICS)
Current Bioinformatics (Editor J. Cupta)
Mammalian Genome (Editor Steve Brown)
BioMed Central (Editor Peter Newmark)
- includes several journals e.g.
  - BMC Bioinformatics
  - BMC Medical Informatics
Medical Science Monitor (Co-editor Mark R. Graczynski)
Genome Biology
etc.

Academic Activities

- Supervision (BSc final year projects, MSc and PhD projects)
- Teaching, Tutoring (2nd and 3rd Year Undergraduate Bioinformatics Courses)
- Seminars, lectures, tutorials and demonstrations