Madan Babu Mohan

Date of Birth: 14 Nov 1979 (34 years)
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1. EMPLOYMENT & EDUCATION

2010-now	MRC Laboratory of Molecular Biology, UK	**Programme Leader (Tenured), Regulatory Genomics and Systems Biology** Core Funded by the Medical Research Council, UK Director of Studies, Trinity College, University of Cambridge, Cambridge, UK Executive Editor, Nucleic Acids Research, Oxford University Press Associate Editor, Molecular BioSystems, Royal Society of Chemistry Press
2006-2010	MRC Laboratory of Molecular Biology, UK	**Group Leader (Tenure-track), Regulatory Genomics and Systems Biology** Schlumberger Fellow of Darwin College, University of Cambridge, UK EMBO Young Investigator
2005-2006	NCBI, National Institutes of Health, USA	**Visiting Fellow** National Institutes of Health visiting fellowship Advisor: Dr. L. Aravind (Senior Investigator, NIH, USA) "Evolution of Biological Networks"
2001-2004	MRC Laboratory of Molecular Biology and Trinity College, University of Cambridge, UK	**PhD in Computational Genomics** LMB-Cambridge International Fellowship. Trinity College External Research Studentship, Overseas Research Studentship Advisor: Dr. Sarah Teichmann (Fellow, Trinity College & MRC Programme Leader) "Structure, Evolution and Dynamics of Transcriptional Regulatory Networks" Awarded the Max Perutz prize for outstanding research Rouse Ball Fellowship for outstanding thesis from Trinity College
1997-2001	Anna University, Center for Biotechnology, Chennai, India	**Bachelors of Technology** (Biotechnology) Funded by Indian Institute of Sciences fellowship Awarded the University Gold Medal (CGPA: 9.8/10)
2000 1999	Indian Institute of Science, Bangalore, India	**Indian Academy of Sciences Summer Fellowship** Advisor: Prof. P. Balaram (FINAS & Director, IISc, India) "Computational analysis of protein structures" Published two research papers (in JMB & Proteins)
2000 1999 1998	Anna University, Center for Biotechnology, Chennai, India	**Undergraduate Research** Advisor: Prof. K. Sankaran (Professor, Anna University, India) "Bacterial lipoproteins and apyrase" Published two research papers (in FEBS letters & Bioinformatics)

2. ACADEMIC AWARDS (selected from 15)

- Protein Science Young Investigator Award (2014) – Protein Society, USA
- Lister Institute Research Prize (2014) – Lister Institute of Preventive Medicine, UK
- Colworth Medal (2014) – Biochemical Society, UK
- Director of Studies, Trinity College (2011-2015) – Trinity College, University of Cambridge, UK
- Molecular BioSystems Award (2011) – Royal Society of Chemistry, UK and American Chemical Society, USA
- Balfour Prize (2011) - British Genetics Society, UK
- EMBO Young Investigator (2010) – European Molecular Biology Organization, Germany
- Biochemical Society Early Career Award (2009) – Biochemical Society, UK
- Genomics Pioneers Special Award (2008) - Awarded by HUGO, UK, GeneLogic and Ocimum Biosolutions, USA
- Schlumberger Interdisciplinary Research Fellow (2007) – Fellow of Darwin College, University of Cambridge, UK
- Max Perutz Prize (2004) - For outstanding research carried out at the MRC Laboratory of Molecular Biology, UK
- University Gold Medal (2001) - For securing the first position in Anna University, India (CGPA: 9.8/10)

3. ACHIEVEMENTS, OFFERS, SCHOLARSHIPS & FELLOWSHIPS (selected from 15)

- Offered to join as a Section Head at the MRC Clinical Science Center and a full Professorship at Imperial College (2012)
- Elected member of F1000
- Elected as council member for the Human Genome Organization.
- NIH Visiting Fellowship (2005-2006) - Funding for post doctoral research at the NCBI, USA ($100,000)
- Elected fellow of the Cambridge Commonwealth Trust (2004-)
- Visiting Fellowship at the NIH (2004, 2003) - Funding for three months as visiting scientist to work at the NIH, USA ($10,000)
- LMB Cambridge Fellowship (2001 – 2004) - Fellowship to do a PhD at the MRC-LMB, Cambridge University (£40,000)
- Honorary External Research Studentship (2001-2004) – Recognition of merit by Trinity College, Cambridge, UK (£2,000)
- Cambridge Overseas Research Scholarship – UK Government (2001-2004) – Full support for fees during PhD (£30,000)
- Indian Institute of Science Young Fellowship (1997-2000) – Funding for undergraduate study (Rs 15,000)
- Indian Academy of Sciences Summer Research Fellowships (1999 and 2000) - Funding for research work (Rs 10,000)
- National Merit Scholarship, Indian Government (1997) - For exceptional performance in class XII public examination

4. SOURCES OF RESEARCH SUPPORT (selected from over 25)

- HFSP International Grant (June 2010 – Aug 2014; ~ £100,000 p.a.)
- ERC/ERASYSBIO+ (Mar 2010 – Aug 2013; ~ £80,000 p.a.)
- Medical Research Council, UK - Tenure Track Group Leader (funding for up to 4 positions ~ £40,000 p.a., per position)
- EMBO Young Investigator Award (Jan 2010 – Jan 2013; ~ £12,000 p.a.)
- Schlumberger Interdisciplinary Research Fellowship, UK (personal support – Oct 2007 – Oct 2009; ~ £15,000 p.a.)
- Marie Curie and FEBS fellowship (funding for Dr Natalia de Groot – post-doc fellowship starting Oct 2010; ~£35,000 p.a.)
- Marie Curie and Beatriu de Pinos (funding for Dr Marc Torrent – post-doc fellowship from 2012; ~£30,000 p.a. and £35k p.a.)
- EMBO Fellowship (funding for Dr Sreenivas Chavali – post-doc fellowship starting Oct 2011; ~£30,000 p.a.)
- MRC Centenary Award (Funding for Mr AJ Venkatakrishnan; ~£30,000 for one year)
- Fonds National de la Research Luxembourg (funding for Mr Charles Ravarani – PhD studentship 2011; ~£25,000 p.a.)
- Gates Scholarship, LMB Fellowship, Knox Fellowship (for Mr Guilhem Chalancon – PhD studentships 2012; ~£25,000 p.a.)
- LMB Scholarship (for Mr Kai Kruse, Mr Tilman Flock, AJ Venkatakrishnan – PhD studentships for 3 years; ~£25,000 each)
- Boehringer Ingelheim Fonds fellowship (for Mr Tilman Flock – PhD studentships for 3 years; ~£30,000)
- National Science Foundation, USA (funding for Ms K Weber - PhD studentship starting Oct 2007; ~$30,000 p.a.)
- MRC studentship, UK (funding for Mr A Wuster - PhD studentship starting Oct 2006; ~ £20,000 p.a.)
- Cambridge European Trust, Europe and UK (funding for Mr B Lang – PhD studentship starting Oct 2008; ~ £6,000 p.a.)
- Wiener-Anspach foundation, Belgium (funding for Dr R Janky - post-doctoral fellowship starting Jan 2008; ~ £30,000 p.a.)
- Royal Society Short Term Incoming Fellowship, UK – to host Dr Matthias Futschik (Sep 2007 – Nov 2007; £3,000)
- Cambridge Commonwealth Trust, UK and India (funding for Mr S Janga – PhD studentship starting Jan 2008; ~ £8,000 p.a.)

5. INVITED LECTURES AND PRESENTATIONS (selected from 160 invited presentations from over 20 countries)

[+]Selected instances of Keynote speaker / Prize lecture

- [+]Protein Society Award Lecture; Lister Prize Award lecture; Colworth Medal Lecture - 2014
- [+]Spetses Summer School, Greece; GN Ramachandran Meeting, India; American Physical Society - 2013
- [+]Danny Thomas Lecture; American Biophysical Society; Biochemical Society; Gordon Conference; Protein Society – 2012
- [+]Royal Society of Chemistry's MBS Award Lecture – Genomics and Systems Biology: California, USA – Mar 2011
- [+]Balfour Award Lecture - A time invariant principle of genome evolution: Royal Society, London, UK –Nov 2011
- [+]International Conference on Complex Networks – Biological Networks: Sao Paulo, Brazil – Oct 2010
- [+]Complex Disease Analysis: A time invariant principle of genome evolution: Leuven, Brussels – Aug 2010
- Gordon Research Conference – Intrinsically Unstructured Proteins: North Carolina, USA – Jul 2010
- [+]EMBO Young Investigator Award Lecture: Heidelberg, Germany – May 2010
- [+]Early Career Award Lecture at the Biochemical Society meeting on Systems Biochemistry: York, UK – Mar 2010
- Keystone Symposium - Biological interactions, function and disease: Keystone, USA – Jan 2010

6. PEER REVIEWER

Journals:
Peer reviewer: Nature, Science, Cell, Nature Genetics, Nature Neuroscience, Science Signalling, Nature Nanotechnology, PNAS, Structure, PLoS Biology, Nature Methods, Nature Protocols, Molecular Systems Biology, Genome Research, Blood, Genome Biology, PLoS Computational Biology, Journal of Molecular Biology, Trends in Genetics, Trends in Microbiology, Nucleic Acids Research, PEDS and several others (15 other journals).

Grant agencies, prize committee and PhD thesis examiner:
Expert Reviewer: Invited to be on the college of reviewers for Canadian Research Council; National Science Foundation USA; German-Israeli Science Foundation; Israel Science Foundation; Department of Biotechnology India; SHARCNET Canada; Medical Research Council, Biotechnology and Biological Sciences Research Council and Engineering and Physical Sciences Research Council UK; EMBO short-term fellowship, Germany; CNRS ATIP program France; Newton Trust, UK; Netherlands organisation for scientific research, Netherlands
Evaluator: Helmholtz Association's Schrodinger prize, Wolfson, Corpus Christi and Darwin College junior research fellowships, UK
Thesis examiner (25 PhD students): U. Cambridge, UK (12); U. Ghent, Belgium (1); IISc, Indian (5); U. Manipal, India (3); UCL, UK (2); Imperial, UK (1); U. Bergen, Norway (1).

7. EDITORIAL ACTIVITIES

- Section Editor, Current Opinion in Structural Biology (2015)
- Executive Editor, Nucleic Acids Research (2010-); Edited over 650 research articles
- Associate Editor, Molecular BioSystems (2010-); Edited over 500 research articles
- Editor, Molecular BioSystems special issue on Intrinsically Disordered Proteins (2012; Edited 45 articles)
- Academic Editor, PLoS Biology (2009-2010)
- Editor, Molecular Biosystems special issue on Computational and Systems Biology (2009; Edited 49 articles)
- Editorial board member, Molecular Biosystems, a Royal Society Chemistry Journal (2008-2010)
- Editorial member, Biology Direct (2008-); Associate Editor, PLoS Computational Biology (2009-2010)

8. MEMBER OF CONFERENCE ORGANIZING COMMITTEE (selected from 10)

- Gordon Research Conference on Intrinsically Unstructured Proteins (Vice Chair, 2012; Chair, 2014)
- Cold Spring Harbour Asia Conference on Systems Biology (Co-organiser, 2013)
- Systems Biology session co-chair at the 17th International Biophysics Congress, Beijing, China (2011)
- Quantitative Biology: from complex networks to simple models, Montauk Sep 2010, USA (Co-organiser)
- Scientific advisory member for BioSysBio 2008 and 2009, UK
- Programme committee member for RECOMB regulatory genomics, Oct 2008; Dec 2009, Boston, USA; Dec 2010, USA
- Dialogue on Reverse Engineering Assessment & Methods, New York Academy of Sciences, Dec 2007, New York, USA
- Co-chair for PLoS regulation track of ISMB 2007, Aug 2007, Vienna, Austria; Regulatory Genomics, RECOMB, Dec 2010, USA

9. NEWS ON OUR RESEARCH (selected from over 50)

- MRC Press release (Science, 2008; Mol Cell 2012a; Mol Cell 2012b; Nature 2013; NSMB 2014)
- RSC's Molecular BioSystems: New insights into genome organisation and unstructured proteins (PNAS, 2008; Science, 2008)
- Nature Reviews in Microbiology: Bacterial Evolution: Unravelling Regulatory Networks (JMB, 2006)
- American Society of Microbiology: Environment Profoundly Shape Bacterial Gene Expression Patterns (JMB, 2006)
- Journal of Cell Biology: Rewiring the cell - Research roundup (Nature, 2004)
- Nature Reviews Genetics: Systems biology and Genetics (Mol Cell, 2012, Nature, 2004; Mol. Sys. Biol. 2009; PNAS 2010)
- Faculty of 1000: Important papers (Nature, 2004, Science, 2005; NAR, 2007; Mol Cell 2008; Science 2008; Gen Res, 2009)
- Science: Editor's choice - Endocytosis at the hub - (EMBO Journal, 2004) and When proteins get fat (Bioinformatics, 2002)

10. TEACHING EXPERIENCE

- Supervision of undergraduate students in Biochemistry and Molecular Biology & Cell and Developmental Biology (6 hours per week during term time from Oct 2011 – Oct 2015)
- 2 hour lecture on protein disorder, regulation and disease to Part III Systems Biology students (2010-2014)
- 2 hour lecture on interaction networks and protein disorder to PhD students at the Wellcome Trust course (Oct 2010)
- 3 hour lecture on biological networks and transcription networks to Part III Systems Biology students (Sep 2010-2014)
- 2 hour lecture on computational approaches to investigate problems in biology, LMB PhD students lecture (2010, 2011, 2012)
- 2 hour lecture on genome evolution and gene regulation to Genetics Department students and PLM lecture series (Nov 2008)
- 3 hour lecture + 2 hour discussion on systems biology at the Spetses Summer School (2009 and 2013)
- 1 hour lecture on transcriptional networks to PhD students in University College London (2009)
- 3 hour lecture on protein evolution at the Mahabaleshwar Summer School on Proteins, India (Jan 2010)
- Lecturer and instructor for the 17th European Meeting of PhD Students in Evolutionary Biology, Portugal (Aug 2011)

11. PAST & PRESENT MEMBERS OF RESEARCH GROUP (26 July 2006 till now)

Senior Staff (1)
Dr Balaji Santhanam (Permanent staff; Senior Investigator Scientist)

Supervision of Post-doctoral scientists (10)
Dr Rekin's Janky (2008–2012; currently an Independent Scientist in ULB, Belgium); Dr Robert Weatheritt (2013-2017); Dr Natalie de Groot (2010–2013); Dr Sreenivas Chavali (2010-2015); Dr Marija Buljan (2011-2013); Dr Sven Sewitz (2011-2012; currently a post-doc in Cambridge); Dr Marc Torrent (2011-2014; will start as an Assistant Professor in Barcelona); Dr Marion Ouedraogo (2013-2015) Dr Subhajyoti De (joint mentor from 2007-2009; currently an Assistant Professor in UC Denver, USA); Dr Joerg Gsponer (joint mentor from 2007-2009; currently an Assistant Professor in UBC, Canada).

Supervision of PhD Students (14)
Past (8 students)
Dr Arthur Wuster (2006–2009; currently at Genentech); Dr Sarath Chandra Janga (2008–2011; currently an Assistant Professor at Indiana University, USA); Dr Nitish Mittal (joint with Dr Nilanjan Roy, Oct 2008–2009; currently a post-doc at the ETH Zurich); Dr Katie Weber (joint with Dr Mario de Bono, Oct 2007-2010; currently working for the US government); Dr Benjamin Lang (Oct 2008-2012; post-doc at EMBL); Dr A J Venkatakrishnan (Oct 2009–2012; post-doc at Stanford); Dr Kai Kruse (Oct 2010–2013; started his own genomics company); Dr Charles Ravarani (Oct 2010-2014; post-doc in my group)
Present (6 students)
Mr Guilhem Chalancon (Oct 2011-2014); Mr Tilman Flock (Oct 2012-2015); Ms Natasha Latysheva (Oct 2013-2015); Mr Alexey S Morgunov (2013-16); Mr Daniel Perez (2013-16); Mr Johannes T Habrecht (2014-17).

Second supervisor for Dr M Kayikci, Dr V Charoensawan, Dr A Seshasayee, Dr M Buljan, Dr A Deonarine and Mr B Bentley

Supervision of Bachelors and Masters student thesis research
Ms Liz Ing-Simmons (2012) – Part III student in Systems Biology; Mr Benjamin Lang (2006, 2007) – Bachelors in Biology student
Ms Marie Schrynemackers (2008-2009) – Masters in Bioengineering student; Mr Guilhem Chalancon (2009-2011) – Masters in Systems Biology student; Mr Charles Ravarani (2010) – M. Phil in Computational Biology student; Mr Robin van der Lee (2010-2011) – M. Phil in Biology student; Mr Raphael Peer (2014-2015) – M. Sc Computational Biology student

Supervision of associate or visiting scientists and summer students
Dr Alexandre Cristino (visiting scientist, 2008; University of Sao Paulo, Brazil); Ms Marie Schrynemackers (master's student, 2008; ULG, Belgium); Mr Pradeep Kota (summer student, 2007; University of North Carolina, USA); Mr Roland Pache (visiting PhD student, 2007; CRG, Barcelona, Spain); Dr Matthias Futschick, PhD (visiting scientist, 2007; ITB, Berlin, Germany); Dr Monika Fuxreiter (2010; Scientific Staff, EMZIM, Hungary); Ms Elisabetta Cacace (summer student; 2012); Mr James Scott-Brown (summer student; 2012); Anna Vilar-Pique (2012 – visiting PhD student).

M. Madan Babu, PhD
Programme Leader, MRC Laboratory of Molecular Biology, Hills Road, Cambridge CB2 0QH, UK
Director of Studies, Trinity College, University of Cambridge, Cambridge CB2 1TQ, UK
Executive Editor, Nucleic Acids Research, UK
Associate Editor, Molecular BioSystems, UK
11th November 2014, Cambridge, UK

LIST OF PUBLICATIONS

BOOK

01. Bacterial gene regulation and transcription networks, edited by M. Madan Babu, Horizon Scientific Press (Jan 2013).

LIST OF PUBLISHED MANUSCRIPTS (117 publications; ~8784 citations in total)
h-index: 41 (41 publications with 41 or more citations each; source: Scopus, Google Scholar & ISI combined)
*indicates corresponding author
[1] indicates equal contribution
[+]Featured article (cover page or news article or commentary in other journals)

117. Morgunov AS*, Madan Babu M*. (2014) Optimizing membrane protein biogenesis through non-optimal codon usage. ***Nat Struct Mol Biol***, *in press*.

116. Fishbain S, Inobe T, Israeli E, Chavali S, Yu H, Zokarar A, Madan Babu M, Matouschek A. The sequence composition of disordered regions affects protein half-life by controlling the initiation step of proteasomal degradation. ***Nat Struct Mol Biol***, *in press*.

115. Weatheritt RJ, Gibson TJ, Madan Babu M*. (2014) Asymmetric mRNA localization contributes to fidelity and sensitivity of spatially localized systems. ***Nat Struct Mol Biol***, 21(9):833-9.

114. Tompa P*, Davey NE, Gibson TJ, Madan Babu M*. (2014) A million peptide motifs for the molecular biologist, ***Molecular Cell***, 55(2):161-9.

113. van der Lee R*, Lang B, Kruse K, Gsponer J, Sánchez de Groot N, Huynen MA, Matouschek A, Fuxreiter M, Madan Babu M*. (2014) Intrinsically disordered segments affect protein half-life in the cell and during evolution, ***Cell Reports***, 8(6):1832-44.

112. Hagai T, Azia A, Madan Babu M*, Andino R*. (2014) Use of host-like peptide motifs in viral proteins is a prevalent strategy in host-virus interactions, ***Cell Reports***, 7(5):1729-39

111. Venkatakrishnan AJ, Flock T, Prado DE, Oates ME, Gough J, Madan Babu M*. (2014) Structured and disordered facets of the GPCR fold, ***Curr Opin Str Biol***, 27:129-37.

110. Flock T, Weatheritt R*, Latysheva N and Madan Babu M*. (2014) Controlling entropy to tune the functions of intrinsically disordered regions in proteins, ***Curr Opin Str Biol***, 26:62-72.

109. Van der Lee R*, Buljan M, Lang B, Weatheritt R, Daughdrill G, Dunker A, Fuxreiter M, Gough J, Gsponer G, Jones D, Kim P, Kriwacki R, Oldfield C, Pappu R, Tompa P, Uversky V, Wright P and Madan Babu M*. (2014) Classification of Intrinsically Disordered Regions and Proteins, ***Chem Rev***, 114(13):6589-631. (**11 citations**)

108. Mitrea DM, Grace CR, Buljan M, Yun MK, Pytel NJ, Satumba J, Nourse A, Park CG, Madan Babu M, White SW, Kriwacki RW. (2014) Structural polymorphism in the N-terminal oligomerization domain of NPM1, ***PNAS***, 111(12):4466-71.

107. Weatheritt R* and Madan Babu M*. (2013) The hidden codes that shape protein evolution. ***Science***, 342(6164):1325-6.

106. Wickramasinghe VO, Savill JM, Chavali S, Jonsdottir AB, Rajendra E, Gruner T, Laskey RA, Madan Babu M and Venkitaraman AR. (2013) Human Inositol Polyphosphate Multikinase Regulates Transcript-Selective Nuclear mRNA Export to Preserve Genome Integrity. ***Molecular Cell***, 51(6):737-50.

105. Cumberworth A, Lamour G, Madan Babu M*, Gsponer J*. (2013) Promiscuity as a functional trait: intrinsically disordered regions as central players of interactomes. ***Biochem J***, 454(3):361-9.

104. Dunker AK, Madan Babu M, ... Uversky V. (2013) What's in a name. Why these proteins are intrinsically disordered. ***Intrinsically Disordered Proteins***, 1:0 - 4; http://dx.doi.org/10.4161/idp.24157.

103. Marcotte E, Boone C, Madan Babu M, Gavin AC. (2013) Network Biology editorial 2013. ***Molecular BioSystems***, 9(7):1557-8.

102. Buljan M*, Chalancon G, Dunker AK, Bateman A, Balaji S, Fuxreiter M, Madan Babu M*. (2013) Alternative splicing of intrinsically disordered regions and rewiring of protein interactions. ***Curr Opin Str Biol,*** 23(3):443-50. (**23 citations**)

101. Campiteli MG, Comin CH, Costa Lda F, Madan Babu M, and Cesar RM. (2013) A methodology to infer gene networks from spatial patterns of expression: an application to fluorescence in situ hybridization images. ***Molecular BioSystems***, 9(7):1926-30.

100. Venkatakrishnan AJ*, Lebon G, Xavier G, Tate C, Schertler G, Madan Babu M*. (2013) Molecular signatures of G protein-coupled receptors. ***Nature***, 494(7436):185-94. (**214 citations**)
Research highlight in Nature Reviews Drug Discovery
Faculty of 1000
MRC Press Release

99. Gsponer J* and Madan Babu M*. (2012) Cellular strategies to regulate functional and non-functional protein aggregation. ***Cell Reports***, 2(5):1425-37. (**23 citations**)
Faculty of 1000

98. [+]Madan Babu M*, Kriwacki R* and Pappu RV*. (2012) Versatility from protein disorder. ***Science***, 337(6101):1460-61. (**59 citations**).

97. Chalancon G, Kruse K, Madan Babu M*. (2012) Reconfiguring regulation: How cells adapt to changing environments? ***Science***, 335(6072):1050.

96. [+]Buljan M*, Chalancon G, Eustermann S, Wagner G, Fuxreiter M, Bateman A, Madan Babu M*. (2012) Tissue-specific splicing of disordered segments that embed binding motifs rewires protein interaction networks. ***Molecular Cell***, 46(6):871-83. (**78 Citations**)
Research highlight in Nature Reviews Genetics
Faculty of 1000
MRC Press Release

95. [+]Charoensawan V, Janga SC, Bulyk ML, Madan Babu M and Teichmann SA. (2012) DNA sequence preferences of transcriptional activators correlate more strongly than repressors with nucleosomes. ***Molecular Cell***, 47(2):183-92.

94. Chandra T, Kirchner K, .. Madan Babu M, Bazett-Jones D, Tavare S, Edwards P, Lowe S, Kimura H, Gilbert D and Narita M. Independence of Repressive Histone Marks and Chromatin Compaction during Senescent Heterochromatic Layer Formation. ***Molecular Cell***, 47(2):203-14.

93. Parigi G, … Madan Babu M, Luchinat C, Tzakos A. (2012). Recognition Pliability is coupled to Structural Heterogeneity: a Calmodulin - Intrinsically Disordered Binding Region Complex. ***Structure***, 20(3):522-33.

92. [+]Chalancon G*, Ravarani C, Balaji S, Martinez-Arias A, Aravind L, Jothi R, Madan Babu M*. (2012) Interplay between gene expression noise and regulatory network architecture. ***Trends in Genetics***, 28(5):221-32. (**48 citations**)
Featured as a cover article

91. Flock T*, Venkatakrishnan AJ, Vinothkumar KR, Madan Babu M*. (2012) Deciphering membrane protein structures from protein sequences. ***Genome Biology***, 13(6):160.

90. [+]Kruse K*, Sewitz, S, Madan Babu M*. (2013) A complex network framework for unbiased statistical analyses of DNA-DNA contact maps. ***Nucleic Acids Research***, 41(2):701-10.
Featured article

89. de Groot N*, Torrent M, Vilar-Pique A, Lang B, Ventura S, Gsponer J, Madan Babu M* (2012) Evolutionary selection for protein aggregation. ***Biochemical Society Transactions***, 40(5):1032-7

88. [+]Hebenstreit D, Deonari A, Madan Babu M and Teichmann SA. (2012). Duel of the Fates: The Role of Transcriptional Circuits and Noise in CD4+ Cells. ***Curr Opin Cell Biol***, 24(3):350-8.
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87. [+]Madan Babu M*. (2012). Intrinsically Disordered Proteins. ***Molecular BioSystems***, 8(1):21.
Editorial for a special issue of 45 papers

86. Moeller A, Xie SQ, Hosp F, Lang B, Phatnani HP, James S, Ramirez F, Collin GB, Naggert JK, Madan Babu M, Greenleaf AL, Selbach M, Pombo A. (2012). Proteomic analysis of mitotic RNA polymerase II reveals novel interactors and association with proteins dysfunctional in disease. ***Mol Cell Proteomics***, 11(6):M111.011767

85. Trott J, Hayashi K, Surani A, Madan Babu M* and Martinez-Arias A*. (2012). Dissecting ensemble networks in ES cell populations reveals micro-heterogeneity underlying pluripotency. ***Molecular BioSystems***. 8(3):744-52.

84. Escudero L*, da Costa L, Kicheva A, Briscoe J, Freeman M and Madan Babu M*. (2011). Epithelial organisation revealed by a network of cellular contacts. ***Nature Communications***, 2:526. doi:10.1038/ncomms1536.

83. Chalancon G*, Kruse K* and Madan Babu M*. (2011) Metabolic networks and their applications. ***Wiley Encyclopedia of Systems Biology***, Springer Publications, New York.

82. Chalancon G*, Kruse K* and Madan Babu M*. (2011) Metabolic networks, structure and dynamics. ***Wiley Encyclopedia of Systems Biology***, Springer Publications, New York.

81. Chalancon G* and Madan Babu M*. (2011) Structure and evolution of transcriptional regulatory networks in ***Bacterial Stress Response***, American Society for Microbiology press, Washington DC.

80. Madan Babu M*, van der Lee R, de Groot N, Gsponer J*. (2011) Intrinsically Disordered Proteins: Regulation and Disease, ***Curr Opin Str Biol***, 21(3):432-40. (**127 citations**)

79. Chavali S, de Lima Morais D, Gough J and Madan Babu M (2011) Evolution of eukaryotic genome architecture. ***Bioessays***, 33(8):592.

78. Seshasayee ASN* and Madan Babu M*. (2011). Unanticipated inter and intra-kingdom cross-talk involving small-molecules, ***Environmental Microbiology Reports***, 3(1), 1–26.

77. Sucgang R et al .. Madan Babu M, .. Grigoriev IV. (2011) Comparative genomics of the social amoebae *Dictyostelium discoideum* and *Dictyostelium purpureum*. ***Genome Biol***, 12(2):R20. (**56 citations**)

76. Rossmann M, Sukumaran M, Penn AC, Veprintsev DB, Madan Babu M, Greger IH. (2011) Subunit-selective N-terminal domain associations organize the formation of AMPA receptor heteromers. ***EMBO J***, 30(5):959-71. (**35 citations**)

75. [+]Kapitzky L, Beltrao P, Berens TJ, Gassner N, Zhou C, Wüster A, Wu J, Madan Babu M, Elledge SJ, Toczyski D, Lokey RS, Krogan NJ. (2010) Cross-species chemogenomic profiling reveals evolutionarily conserved drug mode of action. ***Mol Syst Biol***, 6:451. (**41 citations**)
Featured article.

74. Mittal R, Sukumaran SK, Selvaraj SK, Wooster DG, Madan Babu M, Schreiber AD, Verbeek JS, Prasadarao NV. (2010). Fcγ receptor I alpha chain (CD64) expression in macrophages is critical for the onset of meningitis by Escherichia coli K1. ***PLoS Pathogens***, 6(11):e1001203.

73. Weber KP, De S, Kozarewa I, Turner DJ, Madan Babu M, de Bono M. (2010). Whole genome sequencing highlights genetic changes associated with laboratory domestication of C. elegans. ***PLoS One***, 5(11):e13922. (**30 citations**)

72. Wuster A, Venkatakrishnan AJ, Schertler GFX and Madan Babu M. (2010). Spial: Analysis of sub-type specific features in multiple sequence alignments of proteins. ***Bioinformatics***, 26(22):2906-7.

71. Chalancon G* and Madan Babu M*. (2010) Time to scale up. ***Nature Nanotechnology***, 5(9):631-3.

70. [+]De S* and Madan Babu M*. (2010) A time-invariant principle of genome evolution. ***PNAS***, 107:13004-9.
Research highlight in Nature Reviews Genetics

69. De S* and Madan Babu M*. (2010) Genomic neighbourhood and the regulation of gene expression, ***Current Opinion in Cell Biology***, 22(3):326-33.

68. [+]Madan Babu M*. (2010) Early Career Award Lecture: Structure, evolution and dynamics of gene regulatory networks, ***Biochemical Society Transactions***. 38(5):1155-78.
Featured as a cover article

67. Chalancon G* and Madan Babu M*. (2010) Structure and evolution of prokaryotic transcriptional networks, ***Bacterial Stress Response***, American Society for Microbiology press (Ed: Storz G and Henge R)

66. [+]Shruthi S, Madan Babu M and Sankaran K. (2010) TAT-pathway dependent lipoproteins as a niche based adaptation in bacteria, ***Journal of Molecular Evolution***, 70:359-70.

65. [+]Pardo, M[1], Lang B[1], Lu Y, Prosser H, Bradley A, M. Madan Babu[1] and Choudhary JS[1]. (2010) An expanded Oct4 interaction network: Implications for stem cell biology, development and disease, ***Cell Stem Cell***, 6:382-395. (**211 citations**).
Featured as the cover article
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64. Wuster A* and Madan Babu M*. (2010) Transcriptional control of the quorum sensing response in yeast, ***Molecular BioSystems***, 6(1):134-41.

63. [+]Madan Babu M* and Mori H*. (2009) Computational and systems biology, ***Molecular BioSystems*** 5: 1391.

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