

## *Curriculum vitae June 28, 2016*

### **Personal:**

*Name:* Dr. Martin Reczko  
*Born:* 23. 1. 1965 in Schleswig, Germany  
*Family*  
*Status:* married, one child  
*email:* mreczko@gmail.com



### **Educational background:**

1985 - 1991 Study of computer science at the University of Stuttgart  
Main focus: artificial intelligence  
Supplemental subject: technical cybernetics  
Diploma in computer science, subject of thesis:  
"Capabilities of neural networks for noise suppression in medical real time signals" (conducted at Hewlett-Packard)

1991 - 1996 PhD position at the German Cancer Research Center in Heidelberg,  
Department of molecular biophysics  
Subject of dissertation:  
"Artificial neural networks in molecular biology"  
PhD in Computer Science from the Institute of  
Parallel and Distributed High Performance Systems,  
University of Stuttgart

### **Employment:**

1995 - today Chief technology officer and co-founder of Synaptic Ltd. located in the Science and Technology Park of Crete, Heraklion. The companies activities are the development and application of machine learning and optimization methods for computational molecular biology focusing on functional RNA analysis and industrial quality control.

3/1998-12/2001 PostDoc Position at the Democritus University of Thrace within the EU program "Training and Mobility of Researchers" network project:  
"Advanced Signal Processing for Magnetic Resonance Imaging Spectroscopy" in Xanthi, Greece.

9/2002- 6/2008 Position as a principle investigator (equivalent to a research associate professor) for Bioinformatics at the Institute of Computer Science, Foundation for Research and Technology – Hellas (FORTH) in Heraklion, Greece.

7/2008-12/2011 Visiting researcher at the Biomedical Sciences Research Center “Alexander Fleming” in Athens, Greece.

1/2012-today PostDoc position in the Functional Genomics Lab at the Biomedical Sciences Research Center “Alexander Fleming”.

11/2013-today      Biostatistician for the experimental protocol evaluation board at the Biomedical Sciences Research Center “Alexander Fleming”.

12/2015-today      Interim deputy Head of Node for ELIXIR-Greece at the Biomedical Sciences Research Center “Alexander Fleming”.

**Awards:**

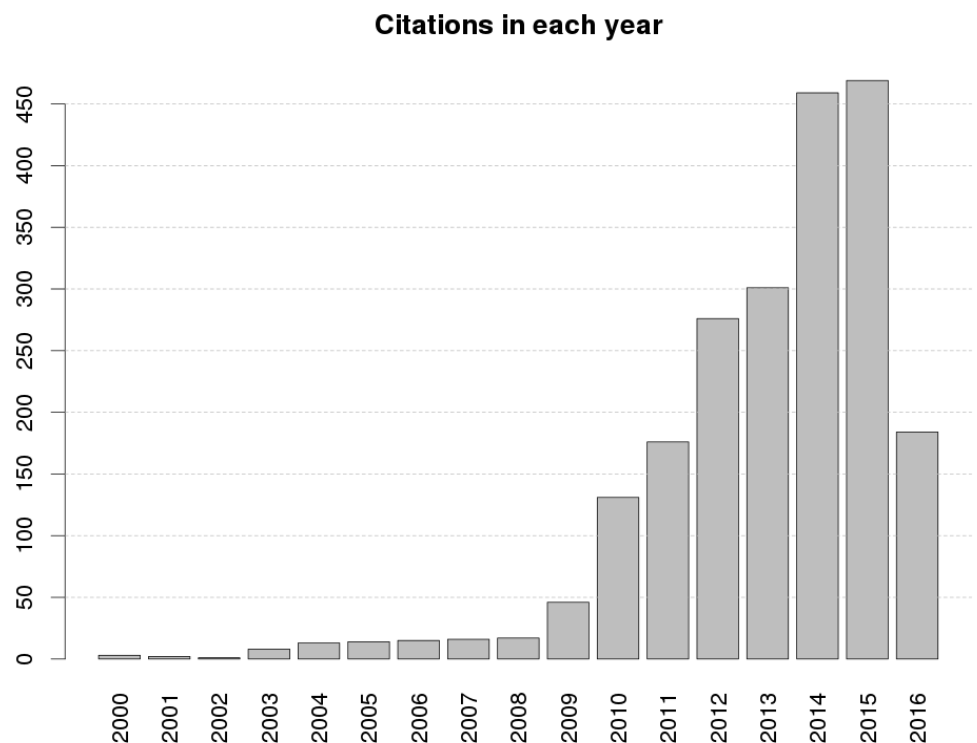
1995    with A. Hatzigeorgiou:  
 Neural Network Best Poster Paper Award  
 World Congress on Neural Networks, Washington D.C., USA.

2000    For Synaptic Ltd.:  
 1st Award New entrepreneur of Heraklion County and  
 2nd Award New entrepreneurs of Crete region  
 from the Greek State Organization of Small and Medium Enterprises.

**Languages:**

Native German; fluent English; Certificate of Attainment in Greek, Level C

**Citation analysis:**



Sum of Times Cited without self-citations: 2122  
 Average citation per publication: 52.59  
 h-index: 18

*(source: Web Of Science, June 28, 2016)*

## **Publications:**

### **Reviewed Journals:**

1. "A Positive Regulatory Loop between a Wnt-Regulated Non-coding RNA and ASCL2 Controls Intestinal Stem Cell Fate" (2016)  
A. Giakountis, P. Moulos, V. Zarkou, C. Oikonomou, V. Harokopos, A. Hatzigeorgiou, M. Reczko, P. Hatzis  
*Cell Rep.* 15(12):2588-96.
2. "Neuroprotection requires the functions of the RNA-binding protein HuR" (2015)  
A. Skliris, O. Papadaki, P. Kafasla, I. Karakasiliotis, O. Hazapis, M. Reczko, S. Grammenoudi, J. Bauer, D. Kontoyiannis  
*Cell Death and Differentiation* 22(5):703-18
3. "Next-Generation Sequencing Analysis Reveals Differential Expression Profiles of MiRNA-mRNA Target Pairs in KSHV-Infected Cells" (2015)  
C. Viollet, D. Davis, M. Reczko, J. Ziegelbauer, F. Pezzella, J. Ragoussis, R. Yarchoan  
*PLoS ONE* 10(5): e0126439.
4. "The molecular biology of the olive fly comes of age" (2014)  
E. Sagri, M. Reczko, K. Tsoumani, M. Gregoriou, V. Harokopos, A. Mavridou, S. Tastsoglou, K. Athanasiadis, J. Ragoussis, K. Mathiopoulos  
*BMC Genetics* 15 (Suppl 2), S8
5. "Olive fly transcriptomics analysis unveils mechanisms of spinosad resistance" (2014)  
E. Sagri, M. Reczko, M. Gregoriou, K. Tsoumani, N. Zygouridis, K. Salpea, F. Zalom, J. Ragoussis, K. Mathiopoulos  
Olive fly transcriptomics analysis implicates energy metabolism genes in spinosad resistance.  
*BMC Genomics* 15 (1), 714
6. "Integrated analysis of microRNA and mRNA expression and association with HIF binding reveals the complexity of microRNA expression regulation under hypoxia" (2014)  
C. Camps, H. Saini, D. Mole, H. Choudhry, M. Reczko, J. Guerra-Assunção, Y. Tian, F. Buffa, A. Harris, A. Hatzigeorgiou, A. Enright, J. Ragoussis  
*Molecular Cancer* 13 (1), 28
7. "DIANA-microT web server v5. 0: service integration into miRNA functional analysis workflows" (2013)  
M. Paraskevopoulou, G. Georgakilas, N. Kostoulas, I. Vlachos, T. Vergoulis, M. Reczko, C. Filippidis, T. Dalamagas, A. Hatzigeorgiou  
*Nucleic Acids Research* 41 (W1), W169-W173
8. "Identification of microRNA-221/222 and microRNA-323-3p association with rheumatoid arthritis via predictions using the human tumour necrosis factor transgenic mouse model" (2012)  
I. Pandis, C. Ospelt, N. Karagianni, M. Denis, M. Reczko, C. Camps, A. Hatzigeorgiou, J. Ragoussis, S. Gay, G. Kollias  
*Annals of the Rheumatic Diseases* 71 (10), 1716-1723

9. "DIANA miRPath v. 2.0: investigating the combinatorial effect of microRNAs in pathways" (2012)  
I. Vlachos, N. Kostoulas, T. Vergoulis, G. Georgakilas, M. Reczko, M. Maragkakis, M. Paraskevopoulou, K. Prionidis, T. Dalamagas, A. Hatzigeorgiou  
*Nucleic Acids Res.* 40 (W1), W498-W504
10. "DIANA-LncBase: experimentally verified and computationally predicted microRNA targets on long non-coding RNAs" (2012)  
M. Paraskevopoulou, G. Georgakilas, N. Kostoulas, M. Reczko, M. Maragkakis, T. Dalamagas, A. Hatzigeorgiou  
*Nucleic Acids Res.* 41(Database issue):D239-45
11. "The Effect of Smoke Combined with the Multicancer Marker, Rs6983267, Located at Region 3 of Chromosome 8q24 in Prostate Cancer Patients" (2012)  
A. Papanikolopoulou, O. Landt, M. Reczko, K. Ntoumas, S. Bolomitis, S. I. Tyritzis, C. Konstantinides, N. Drakoulis  
*Metabolomics* 2:1-7.
12. "Functional microRNA targets in protein coding sequences" (2012)  
M. Reczko, M. Maragkakis, P. Alexiou, I. Grosse, A. Hatzigeorgiou  
*Bioinformatics* 28:771-6
13. "Use of mutagenesis, genetic mapping and next generation transcriptomics to investigate insecticide resistance mechanisms" (2012)  
P. Kalajdzic, S. Oehler, M. Reczko, N. Pavlidi, J. Vontas, A. Hatzigeorgiou, C. Savakis  
*PLoS One* 2012;7(6):e40296.
14. "Accurate microRNA target prediction using detailed binding site accessibility and machine learning on proteomics data" (2011)  
M. Reczko, M. Maragkakis, P. Alexiou, G. Papadopoulos, A. Hatzigeorgiou.  
*Front. Gene.* 2:103
15. "TarBase 6.0: capturing the exponential growth of miRNA targets with experimental support" (2012)  
T. Vergoulis, I. Vlachos, P. Alexiou, G. Georgakilas, M. Maragkakis, M. Reczko, S. Gerangelos, N. Koziris, T. Dalamagas, A. Hatzigeorgiou  
*Nucleic Acids Res.* 40(Database issue):D222-9
16. "A computational exploration of bacterial metabolic diversity identifying metabolic interactions and growth-efficient strain communities" (2011)  
E. Tzamali, P. Poirazi, I. Tollis, M. Reczko  
*BMC Systems Biology* 5:167
17. "Polymorphisms of the NRAMP1 gene: distribution and susceptibility to the development of pulmonary tuberculosis in the Greek population" (2011)  
M. Stagas, G. Papaetis, D. Orphanidou, C. Kostopoulos, S. Syriou, M. Reczko, N. Drakoulis  
*Medical Science Monitor* 17(1):PH1-6
18. "DIANA-microT Web server upgrade supports Fly and Worm miRNA target prediction and bibliographic miRNA to disease association" (2011)  
M. Maragkakis, T. Vergoulis, P. Alexiou, M. Reczko, K. Plomaritou, M. Gousis, K. Kourtis, N. Koziris, T. Dalamagas, A. Hatzigeorgiou  
*Nucl. Acids Res.* 39(suppl 2): W145-W148

19. "Association study of rs6983267 at 8q24 with prostate cancer in the greek population" (2010)  
N. Drakoulis, A. Papanikolopoulou, O. Landt, M. Reczko  
*European Journal of Oncology Pharmacy* 4(2), 12-13
20. "Encoding of spatio-temporal input characteristics by a CA1 pyramidal neuron model." (2010)  
E. Pissadaki, K. Sidiropoulou, M. Reczko, P. Poirazi  
*PLoS Computational Biology* 6(12)
21. "Association of the eNOS E298D polymorphism and the risk of myocardial infarction in the greek population. " (2010)  
C. Dafni, N. Drakoulis, O. Landt, D. Panidis, M. Reczko, D. Cokkinos  
*BMC Medical Genetics* 11(1)
22. "Computational classification of microRNAs in next-generation sequencing data. " (2010)  
J. Riback, A. Hatzigeorgiou, M. Reczko  
*Theoretical Chemistry Accounts* 125(3-6), 637-642
23. "Lost in translation: an assessment and perspective for computational microRNA target identification" (2009)  
P. Alexiou P, M. Maragkakis, G.L. Papadopoulos, M. Reczko, A. Hatzigeorgiou  
*Bioinformatics* 25:3049-3055
24. "Accurate microRNA target prediction correlates with protein repression levels" (2009)  
M. Maragkakis, P. Alexiou, G. Papadopoulos, M. Reczko, T. Dalamagas, G. Giannopoulos, G. Goumas, E. Koukis, K. Kourtis, V. Simossis, P. Sethupathy, T. Vergoulis, N. Koziris, T. Sellis, P. Tsanakas, A. Hatzigeorgiou  
*BMC Bioinformatics* 10:295
25. "DIANA-mirPath: Integrating human and mouse microRNAs in pathways" (2009)  
G. Papadopoulos ,P. Alexiou , M. Maragkakis, M. Reczko, A. Hatzigeorgiou  
*Bioinformatics* 25:1991-3
26. "Computational Identification of Bacterial Communities" (2009)  
E. Tzamali, P. Poirazi, I. Tollis, M. Reczko  
*International Journal of Biological and Life Sciences* 1(4):185-191
27. "DIANA-microT web server: elucidating microRNA functions through target prediction." (2009)  
M. Maragkakis, M. Reczko, V.A. Simossis, P. Alexiou, G.L. Papadopoulos, T. Dalamagas, G. Giannopoulos, G. Goumas, E. Koukis, K. Kourtis, T. Vergoulis, N. Koziris, T. Sellis, P. Tsanakas , A. Hatzigeorgiou  
*Nucleic Acids Res.* 37:W273-6
28. "The database of experimentally supported targets: a functional update of TarBase" (2009)  
G. Papadopoulos, M. Reczko, V. Simossis, P. Sethupathy, A. Hatzigeorgiou  
*Nucleic Acids Res.* 37:D155-8
29. "Prediction of novel microRNA genes in cancer-associated genomic regions: a combined computational and experimental approach" (2009)  
A. Oulas, A. Boutla, K. Gkirtzou, M. Reczko, K. Kalantidis, P. Poirazi  
*Nucleic Acids Res.* 37(10), 3276–3287

30. "MicroRNAs and Cancer: The Search Begins!" (2009)  
A. Oulas, M. Reczko, P. Poirazi  
*IEEE Transactions on Information Technology in Biomedicine*, 13:67 - 77
31. "Discrete clusters of viral encoded miRNAs are associated with complementary strands of the genome and the 7.2- kb stable intron in murine cytomegalovirus" (2007)  
A. Buck, J. Santoyo-Lopez, K. Robertson, D. Kumar, M. Reczko, P. Ghazal  
*Journal of Virology* 81:13761-13770
32. "Bidirectional Long Short Term Memory Networks for Predicting the Subcellular Localization of Eukaryotic Proteins" (2006)  
T. Thireou, M. Reczko  
*IEEE Transactions on Computational Biology and Bioinformatics*, 4(3):441-6
33. " Visualization of Functional Aspects of microRNA Regulatory Networks Using the Gene Ontology" (2006)  
A. Symeonidis, I. Tollis, M. Reczko  
*Lecture Notes in Computer Science* 4345:13-24
34. "Using Treemaps to Visualize Phylogenetic Trees" (2005)  
A. Arvelakis, M. Reczko, A. Stamatakis, A. Symeonidis, I. Tollis  
*Lecture Notes in Computer Science* 3745:283 - 293
35. "Prediction of Subcellular Localization of Eukaryotic Proteins Using Sequence Signals and Composition" (2004)  
M. Reczko, A. Hatzigeorgiou  
*PROTEOMICS* 4(6):1591-1596
36. "Finding Signal Peptides in human Protein Sequences using Recurrent Neural Networks" (2002)  
M. Reczko, E. Staub, P. Fiziev, A. Hatzigeorgiou  
*Lecture Notes in Computer Science, Springer* 2452:60-67
37. "DIANA-EST: a statistical analysis" (2001)  
A. Hatzigeorgiou, P. Fiziev, M. Reczko  
*Bioinformatics* 17(10): 913-191
38. "Improved MR image reconstruction from sparsely sampled scans based on neural networks" (2001)  
M. Reczko, D.A. Karras, B.G. Mertzios, D. Graveron-Demilly, D. Van Ormondt.  
*Pattern Recognition Letters* 22:35-46
39. "Prediction of human transnational initiation sites using a multiple neural network approach" (2000)  
C. Derst, M. Reczko, A. Hatzigeorgiou.  
*Int. J. Comput. Syst. Signals* 1(2):169-179
40. "Neural Networks in MR Image Estimation from Sparsely Sampled Scans" (1999)  
M. Reczko, D. A. Karras, B.G. Mertzios, D. Graveron-Demilly, D. van Ormondt  
*Lecture Notes in Artificial Intelligence* 1715: 75-86

41. "Prediction of water-binding sites on proteins using neural networks" (1998)  
L. Ehrlich, M. Reczko, H. Bohr, R. Wade.  
*Protein Engineering* 11: 11-19
42. "An update of the DEF database of protein fold class predictions" (1997)  
M. Reczko, D. Karras, H. Bohr.  
*Nucleic Acid Research* 25:235
43. "Prediction of Hypervariable CDR-H3 Loop Structures in Antibodies" (1995)  
M. Reczko, A.C.R. Martin, H. Bohr, S. Suhai.  
*Protein Engineering* 8(4):389-395
44. "A Parallel Neural Network Simulator on the Connection Machine CM-5" (1995)  
M. Reczko, A. Hatzigeorgiou, N. Mache, A. Zell, S. Suhai.  
*CABIOS* 11:309-315
45. "The DEF Data Base of Sequence Based Protein Fold Class Prediction" (1994)  
M. Reczko, H. Bohr.  
*Nucleic Acid Research* 22:3616-3619
46. "Protein Secondary Structure Prediction with Partial Recurrent Neural Networks" (1993)  
M. Reczko.  
*SAR and QSAR in Environmental Research* 1:153-159

#### **Popularization Journals:**

47. "Novel Neural Networks for Proteomics" (2004)  
M. Reczko  
*Screening: Trends in Drug Discovery* 6(4):18-19

#### **Reviewed Proceedings, Books:**

48. "RNA-Sequencing reveals differential gene expression between visceral and subcutaneous adipose tissue in Greek women undergoing abdominal surgery" (2014)  
E. Katsareli, C. Amerikanou, K. Rouskas, M. Reczko, AC. Dimopoulos, S. Glentis, D. Bielser, I. Padioleau, L. Romano-Palumbo, A. Planchon, I. Griniatsos, T. Diamantis, ET. Dermitzakis, I. Ragoussis, AS. Dimas, GV. Dedoussis  
*47th European Human Genetics Conference (Milan, Italy)*.
49. "Association of microRNA-221/222 and -323-3p with rheumatoid arthritis via predictions using the human TNF transgenic mouse model" (2012)  
I. Pandis, C. Ospelt, N. Karagianni, M. Denis, M. Reczko, C. Camps, A. Hatzigeorgiou, J. Ragoussis, S. Gay, G. Kollias  
*Arthritis Research & Therapy*, 14:P59

50. "Assessing epigenetic regulation of gene expression in chronic versus acute inflammatory response in Rheumatoid Arthritis" (2012)  
C. Nikolaou, Y. Pandis, V. Koliaraki, M. Reczko, J. Ragoussis, G. Kollias  
*Proceedings of the 7th conference of the Hellenic Society for Computational Biology & Bioinformatics - HSCBB12FORTH, Heraklion, Crete, Greece, 4-6/10/2012*
51. "Methods for Dynamical Inference in Intracellular Networks" (2007)  
E. Tzamali, P. Poirazi, M. Reczko  
*In S.A. Krawetz [ed.] "Bioinformatics for Systems Biology: second edition to Introduction to Bioinformatics." Humana press, Totowa, NJ, pp.541-561.*
52. "Methods for Structural Inference and Functional Module Identification in Intracellular Networks" (2007)  
M. Manioudaki, E. Tzamali, M. Reczko, P. Poirazi  
*In S.A. Krawetz [ed.] "Bioinformatics for Systems Biology: second edition to Introduction to Bioinformatics." Humana press, Totowa, pp.517-539.*
53. "DIANA-microH: Support Vector Machines for Predicting microRNA Hairpins" (2006)  
K. Szafranski, M. Megraw, M. Reczko, P. Ioannidis, A. Hatzigeorgiou  
*BIOCOMP'06- The 2006 Int. Conf. on Bioinformatics & Computational Biology*
54. "Long Short Term Memory Networks for Protein Localization Prediction" (2004)  
T. Thireou, M. Reczko  
*Proceedings of the 12th International Conference on Intelligent Systems for Molecular Biology and 3rd European Conference on Computational Biology, August 2004, p. 176.*
55. "Signal Peptide Prediction on DNA Sequences with Artificial Neural Networks" (2004)  
A. Hatzigeorgiou, M. Reczko  
*IEEE Int. Workshop on BioMedical Circuits & Systems, 1-3 December, Singapore*
56. "Breast cancer, microarrays and biomedical informatics: The Prognochip Project" (2004)  
G. Potamias, A. Analyti, D. Kafetzopoulos, M. Tsiknakis, D. Plexousakis, P. Poirazi, M. Reczko, Y. Tollis, E. Stathopoulos, S. Vassilaros  
*First International Advanced Research Workshop on In Silico Oncology: Advances and Challenges (1ST IARWISO), Sparta, Greece, September 2004*
57. "Improved MRI Reconstruction from Reduced Scans k-space by Incorporating Neural Network Prior Knowledge in the Bayesian Restoration" (2001)  
M. Reczko, D. A. Karras, B.G. Mertzios, D. Graveron-Demilly, D. van Ormondt  
*In Proceedings of the 23rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC 2001), Istanbul, Turkey, October 25-28.*
58. "MR Image Reconstruction from Sparsely Sampled Scans Based on Multilayer Perceptrons and Using Regularization Technique" (2000)  
D.A. Karras, M. Reczko, B.G. Mertzios, D. Graveron-Demilly, D. van Ormondt.  
*In Proceedings of the IEEE-INNS-ENNS International Joint Conference on Neural Networks, IJCNN-2000, Como, Italy, July 24-27, vol. I, pp. 336-341*

59. "Neural Network Reconstruction of MR Images from Noisy and Sparse k-Space Samples" (2000)  
D.A. Karras, M. Reczko, B.G. Mertzios, D. Graveron-Demilly, D. van Ormondt, R.C. Papademetriou.  
*In Proceedings of the Fifth International Conference on Signal Processing, (ICSP 2000), pp. 2115-2118, Beijing, China, August 21-25*
60. "Protein fold class prediction: new methods of statistical classification" (1999)  
J. Grassmann, M. Reczko, S. Suhai, L. Edler.  
*In Proc. Int. Conf. Intell. Syst. Mol. Biol (ISMB 1999), pp. 106-12.*
61. "Feature Recognition on Expressed Sequence Tags in Human DNA" (1999)  
A. Hatzigeorgiou, M. Reczko.  
*In Proc. of the Intern. Joint Congress on Neural Networks, INNS Press.*
62. "Finding the Reading Frame in Protein Coding Regions on DNA Sequences: A Combination of Statistical and Neural Network Methods" (1999)  
A. Hatzigeorgiou, H. Papanikolaou, M. Reczko.  
*In Computational Intelligence for Modeling, Control and Automation, Ed. M. Mohammadian, IOS Press, Vienna, pp. 148-153.*
63. "Finding Sequencing Errors on DNA Coding Regions Based on Frame Prediction from a Combination of Statistical and Neural Network Methods" (1997)  
A. Hatzigeorgiou, M. Reczko  
*In Georgia Tech International Conference on Bioinformatics: Gene Discovery in silico. Atlanta. Georgia, USA, pp. 39-40.*
64. "Functional Site Prediction on the DNA sequence by Artificial Neural Networks" (1996)  
A. Hatzigeorgiou, N. Mache, M. Reczko.  
*In Proceedings IEEE International Joint Symposia in Intelligence and Systems (IJSIS '96), IEEE Computer Society Press, pp. 12-17.*
65. "Gene Identification with Neural Networks" (1996)  
A. Hatzigeorgiou, M. Reczko.  
*In Proceedings Computational Engineering in Systems Applications, IMACS'96 , Lille, ISBN:2-9502908-9-2 , Vol. 1, pp. 140-143.*
66. "Multistate Time-Delay Neural Networks for the recognition of POL II promoter sequences" (1996)  
N. Mache, M. Reczko, P. Levi, A. Hatzigeorgiou  
*In Proc. Int. Conf. Intell. Syst. Mol. Biol (ISMB 1996).*
67. "Recognition of Protein Coding Regions and Reading Frames in DNA using Neural Networks" (1995)  
A. Hatzigeorgiou, M. Reczko.  
*In World Congress on Neural Network, Ed: H. Szu, Vol. 3, INNS Press , pp. 136-138.*
68. "The Gene Sequence Analysis System DIANA" (1995)  
A. Hatzigeorgiou, T. Harrer, N. Mache, M. Reczko.  
*In 'Bioinformatics: from Nucleic Acids and Proteins to Cell Metabolism', GBF Braunschweig, VCH. pp. 19-28.*

69. "Fold Class Prediction by Neural Networks" (1994)  
M. Reczko, H. Bohr, S. Subramaniam, S. Pamidighantam, A. Hatzigeorgiou.  
*In Protein Structure by Distance Analysis, IOS Press, Amsterdam, pp. 227-286.*
70. "Recurrent Neural Networks for Protein Distance Matrix Prediction" (1994)  
M. Reczko, H. Bohr.  
*In Protein Structure by Distance Analysis, IOS Press, Amsterdam, pp. 87-97.*
71. "Applications of Artificial Neural Networks in Genome Research" (1994)  
M. Reczko, S. Suhai.  
*In Computational Methods in Genome Research, Plenum, New York, pp. 191-208.*