

LISTĂ LUCRĂRI ȘTIINȚIFICE

A. Teza de doctorat

New methods in microarray statistical processing for genomic research from Independent Component Analysis and Higher Order Statistics, Inginerie Electronică și Telecomunicații, 2010

B. Cărți și capitole din cărți

1. **R. Malutan**, M. Borda, B. Belean, *Traitement du signal génomique - Travaux pratiques*, UT Press, Cluj Napoca 2011, 57p, ISBN 978-973-662-608-1

C. Lucrări științifice indexate ISI/BDI (2000-2011)

(Autorii, titlul lucrării, conferința/revista, locul și data publicării, paginile, ISBN/ISSN, indexările)

1. **Malutan, R.**, Gómez, P., Borda, M., *Independent component analysis algorithms for microarray data analysis*, Intelligent Data Analysis Journal, Vol. 14(2), pp. 193 – 206, ISSN: 1088-467X, 2010, DOI: 10.3233/IDA-2010-0416 (indexată ISI Web of Science)
2. **R. Malutan**, P. Gómez Vilda, I. Berindan Neagoe and M. Borda, *Hybridization Dynamics Compensation in Microarray Experiments*, Advances in Intelligent and Soft Computing, ISSN 1867-5662, Vol. 93, pp. 255-261, 2011 DOI: 10.1007/978-3-642-19914-1_34 (indexata Springerlink <http://www.springerlink.com/content/n5612118j0466213/>)
3. **R. Malutan**, P. Gómez, M. Borda, *Oligonucleotide Microarray Probe Correction by FixedPoint ICA Algorithm*, Lecture Notes in Computer Science IWANN 2009, ISSN: 0302-9743, ISBN: 3-642-02480-7, vol. 5518, pp. 988 - 991, 2009 DOI: 10.1007/978-3-642-02481-8_150 (indexată ISI Web of Science, Springerlink <http://www.springerlink.com/content/g22273r53g396200/>)
4. **R. Malutan**, P. Gomez Vilda, M. Borda, F. Diaz, *Estimation Reliability Of Microarray Data Using High Order Statistics*, Acta Tehnica Napocensis, ISSN 121-6542, vol. 48(4), pp. 23-26, 2007 (indexata BDI <http://users.utcluj.ro/~atn/>)
5. **Malutan R.**, Borda M., Gomez P., Diaz F., *Hybridization modelling in estimation of oligonucleotide microarray expression*, Scientific Bulletin of the Politehnica University of Timisoara, Transactions on Electronics and Communications, ISSN 1583-3380, vol.50(64/2), pp.29-33, 2006 (indexata BDI <http://shannon.etc.upt.ro/bulletin/bulletin.html>)
6. P. Gómez, F. Díaz, R. Martínez, **R. Malutan**, V. Rodellar, C. G. Puntonet, *Robust Preprocessing of Gene Expression Microarrays for Independent Component Analysis*, Lecture Notes in Computer Science ICA 2006, ISSN 0302-9743, ISBN 3-540-32630-8, vol. 3889, pp.714-721, 2006, DOI: 10.1007/11679363_89 (indexată ISI Web of Science, Springerlink <http://www.springerlink.com/content/m7u8u185r56x6u40/>)
7. F. Díaz, **R. Malutan**, P. Gómez Vilda, V. Rodellar, and C. G. Puntonet, *Robust Processing of Microarray Data by Independent Component Analysis*, Lecture Notes

in Computer Science, IWANN 2005, ISSN 0302-9743, ISBN: 3-540-26208-3, vol. 3512, pp. 1051-1058, 2005 DOI: 10.1007/11494669_129 (indexată ISI Web of Science, Springerlink <http://www.springerlink.com/content/rmtvbe6t0efm3t8b/>)

D. Lucrări științifice publicate in reviste și volume de conferințe cu referenți (neindexate) (2000 - 2011 – selecție de 20 de articole):

(Autorii, titlul lucrării, conferința/revista, locul și data publicării, paginile, ISBN/ISSN)

1. **R. Malutan**, P. Gómez, M. Borda, *Methods of low-level analysis for oligonucleotide microarrays*, Days of the "Prof. Dr. Ion Chiricuta" Oncology Institute - 80 years of fight against cancer, 1-3 October, Cluj - Napoca, Romania, 2009
2. P. Gómez, **R. Malutan**, *Microarray Signal Detection and Evaluation: Overview and Challenges*, Days of the "Prof. Dr. Ion Chiricuta" Oncology Institute - 80 years of fight against cancer, 1-3 October, Cluj - Napoca, Romania, 2009
3. **Malutan R.**, Bricier A., Borda M., Gómez P., *Microarray gridding based on Harris corner detector*, Proceedings of 19th International EURASIP Conference Biosignal2008, Brno, Cehia, ISBN 978-80-214-3613-8, paper 124, 2008
4. **R. Malutan**, P. Gomez Vilda, M. Borda, *Independent Component Analysis Algorithms For Microarray Data Analysis*, Proceedings of The Sixth International Conference on Bioinformatics of Genome Regulation and Structure, Novosibirsk, Russia, ISBN 978-5-91291-005-0, pp. 151, 2008
5. Belean, B., Fazakas, A., **Malutan, R.**, Borda, M., *Hardware implementation of microarray image segmentation*, Proceedings of IEEE International Conference on Automation, Quality and Testing, Robotics, Cluj-Napoca, Romania, ISBN 978-1-4244-2577-8, Vol. 3, pp. 292-295, 2008 DOI: 10.1109/AQTR.2008.4588930 (indexata ISI Web of Science, IEEE Explore)
6. **R. Măluțan**, A. Bricier, M. Borda, P. Gómez Vilda, *Microarray image processing using Harris corner detector method*, Scientific Bulletin of the Politehnica University of Timisoara, Transactions on Electronics and Communications, ISSN 1583-3380, vol.53(67/2), pp. 135-138, 2008
7. **R. Malutan**, P. Gómez, F. Díaz, R. Martinez, V. Rodellar, M. Borda, *Modeling Diachronical Hybridization Microarray Data*, Proceedings of IEEE International Workshop on Nonlinear Signal and Image Processing, Bucharest, Romania, ISBN 978-973-708-254-1, pp. 174-178, 2007
8. V. Rodellar, F. Díaz, B. Belean, **R. Malutan**, B. Stetter, P. Gómez, R. Martínez, E. García, J. Peláez, *Genomic Microarray Image Processing on a FPGA for Portable Remote Applications*, Proceedings of IEEE 3rd Southern Conference on Programmable Logic, Mar del Plata, Argentina, ISBN 978-1-4244-0606-7, pp. 13-17, 2007 DOI: 10.1109/SPL.2007.371717 (indexata ISI Web of Science, IEEE Explore)
9. Gomez, P.; Diaz, F.; Belean, B.; **Malutan, R.**; Stetter, B.; Martinez, R.; Rodellar, V.; *Robust cDNA microarray image processing on a hand-held device*, Proceedings of IEEE International Conference on Reconfigurable Computing and FPGA's, San Luis Potosí, México, ISBN: 1-4244-0690-0, pp. 244-251, 2006 DOI: 10.1109/RECONF.2006.307776 (indexata ISI Web of Science, IEEE Explore)
10. Gómez, P., Díaz, F., Belean, B., **Malutan, R.**, Stetter, B., Martínez, R., Rodellar, V., *An FPGA-based genetic microarray processing device*, Proceedings on 13th IEEE Int. Conf. on Electronics, Circuits and Systems, Nice, France, ISBN 1-4244-0395-2, pp.

363 – 366, 2006 DOI: 10.1109/ICECS.2006.379800 (indexata ISI Web of Science, IEEE Explore)

11. Diaz, F.; **Malutan, R.**; Gomez, P.; Martinez, R.; Stetter, B.; Fe Paz, M.; Garcia, E.; Pelaez, J.; *Estimating Oligo-nucleotide Microarray Expression by Hybridization Process Modelling*, IEEE/NLM Life Science Systems and Applications Workshop, Maryland, USA, ISBN: 1-4244-0278-6, pp 1-2, 2006 DOI: 10.1109/LSSA.2006.250398 (indexata ISI Web of Science, IEEE Explore)
12. Diaz F., **Malutan R.**, Gomez P., Rodellar V., Martinez R., and Borda M., *Low-pass frequency-domain filtering-of oligonucleotide microarray data images*, Proceedings on 7th IEEE International Symposium on Signals Circuits Systems, ISSCS 2005, Iasi, Romania, ISBN: 0-7803-9029-6, vol 2, pp. 477-480, 2005 DOI: 10.1109/ISSCS.2005.1511281 (indexata ISI Web of Science, IEEE Explore)
13. **R. Malutan**, F. Díaz, P. Gómez, R. Martínez, M. Borda M., *Estimation of the Microarray Gene Expression Levels based on Correlation*, Proceedings on International Workshop on Genomic Signal Processing, GSP2005, Bucuresti, Romania, ISBN: 10-973-708-131-5, pp. 34 –40, 2005
14. **R. E. Malutan**, P. Gómez Vilda, and M. E. Borda, *Microarray image classification and recognition for cancer treatment.K-Means clustering of public data base from breast cancer treatment*, Scientific Bulletin of the Politehnica University of Timisoara, Transactions on Electronics and Communications, ISSN: 1583-3380, vol. 49(63/2), pp. 337-342, 2004

E. Brevete

1. Belean, B., Borda, M., Terebeș, R., **Malutan, R.**, *Metodă și arhitectură hardware pentru adresarea automată a imaginilor microarray*, cerere de brevet national, OSIM nr. A10018, 13.09.2010

F. Granturi/contracte de cercetare (2000-2011)

1. Grant de cercetare CNCSIS 276/2007, tip TD – „Noi metode de procesare statistica in prelucrarea genomica”, Director grant: drd.ing. Raul Malutan
2. Grant de cercetare CNCSIS 909/2007, tip IDEI – „Sistem de achizitie si prelucrare de imagini genomice livrate de microarray-uri cDNA”, Director grant: Prof. dr. ing. Monica Borda; membru în echipa de cercetare;
3. Grant de cercetare CNCSIS/2006, cod CNCSIS 1038, tip A - Metode moderne în analiza și prelucrarea imaginilor, 2006. Director grant: Prof. dr. ing. Monica Borda; membru în echipa de cercetare.

As.dr.ing Măluțan Raul