

Scientific report for the project PN-II-ID-PCE-2011-3-0571, between april 2012 – december 2016, Stages I, II, III, IV, and V, cumulative

The list with the publications produced by the members of the project over its course is listed below. The names of the authors from the project are bold. We published a total number of 11 papers, seven of them ISI-indexed, with impact factor (1-7 below), with a cumulated impact factor of **19,795** as of november 2016. This list includes only papers published under the supervision of the project director (with project director as the last author). There are four more published papers, one experimental and three mathematical, which are indexed but without impact factor (8-11 below). We still have from the project two manuscripts with experimental results and another one with modeling of the diabetic thymus that we currently attempt to publish. With respect to dissemination of the results, most members of the project had the chance to present their results at national and international conferences. We more than fulfilled the objectives of the project. The homepage of the project is updated. The list of the papers is available on the homepage of the project:

<http://simtim.umft.ro>

and on PubMed:

[https://www.ncbi.nlm.nih.gov/pubmed/?term=Mic+FA+\[AUTH\]](https://www.ncbi.nlm.nih.gov/pubmed/?term=Mic+FA+[AUTH])

The papers published over the course of the project

1. Modeling the development of the post-natal mouse thymus in the absence of bone marrow progenitors. **Zaharie D, Moleriu RD, Mic FA**. Sci Rep. 2016 Nov 8;6:36159. doi: 10.1038/srep36159. PMID: 27824070, impact factor/2015 – 5,228;

<http://www.nature.com/articles/srep36159>

2. Data on expression of lipoxygenases-5 and -12 in the normal and acetaminophen-damaged liver.

Suciu M, Gruia AT, Nica DV, Azghadi SM, Mic AA, Mic FA. Data Brief. 2016 Mar 31;7:1199-203. doi: 10.1016/j.dib.2016.03.079. PMID: 27408922, no impact factor for 2015;

<http://www.sciencedirect.com/science/article/pii/S2352340916301871>

3. Mesenchymal stromal cells support the viability and differentiation of thymocytes through direct contact in autologous co-cultures. **Azghadi SM, Suciu M, Gruia AT, Barbu-Tudoran L, Cristea MI, Mic AA, Muntean D, Nica DV, Mic FA**. Histochem Cell Biol. 2016 Aug;146(2):153-65. doi:

10.1007/s00418-016-1430-y. PMID: 27085705, impact factor/2015 – 2,78;

<http://link.springer.com/article/10.1007%2Fs00418-016-1430-y>

4. Mesenchymal Stromal Cells Differentiating to Adipocytes Accumulate Autophagic Vesicles Instead of Functional Lipid Droplets. **Gruia AT, Suciu M, Barbu-Tudoran L, Azghadi SM**, Cristea MI, Nica DV, Vaduva A, Muntean D, **Mic AA, Mic FA**. J Cell Physiol. 2016 Apr;231(4):863-75. doi:

10.1002/jcp.25177. PMID: 26332160, impact factor/2015 – 4,155;

<http://onlinelibrary.wiley.com/doi/10.1002/jcp.25177/abstract>

5. Acetaminophen-induced liver injury: Implications for temporal homeostasis of lipid metabolism and eicosanoid signaling pathway. **Suciu M, Gruia AT**, Nica DV, **Azghadi SM, Mic AA, Mic FA**.

Chem Biol Interact. 2015 Dec 5;242:335-44. doi: 10.1016/j.cbi.2015.10.019. PMID: 26522476, impact factor/2015 – 2,618;

<http://www.sciencedirect.com/science/article/pii/S0009279715300971>

6. Insights into the mechanisms of thymus involution and regeneration by modeling the glucocorticoid-induced perturbation of thymocyte populations dynamics. **Moleriu RD, Zaharie D, Moatar-Moleriu LC, Gruia AT, Mic AA, Mic FA**. J Theor Biol. 2014 May 7;348:80-99. doi:

10.1016/j.jtbi.2014.01.020. PMID: 24486233, impact factor/2015 – 2,049;

<http://www.sciencedirect.com/science/article/pii/S002251931400037X>

7. Accumulation of tissue macrophages and depletion of resident macrophages in the diabetic thymus in response to hyperglycemia-induced thymocyte apoptosis. **Barbu-Tudoran L**, Gavriliuc OI, Paunescu V, **Mic FA**. J Diabetes Complications. 2013 Mar-Apr;27(2):114-22. doi:

10.1016/j.jdiacomp.2012.10.007. PMID: 23153674, impact factor/2015 – 2,955;

[http://www.jdcjournal.com/article/S1056-8727\(12\)00297-8/abstract](http://www.jdcjournal.com/article/S1056-8727(12)00297-8/abstract)

8. Diabetes impairs thymocyte proliferation and causes thymocyte apoptosis with subsequent thymus involution in mouse. **ANI A. MIC, ALEXANDRA T. GRUIA, MARIA SUCIU, SEYED MOHAMMAD REZA AZGHADI, FELIX A. MIC**. Annals of the Romanian Society for Cell Biology, Vol. XIX, Issue 3, 2015, pp. 21 – 33;

<http://www.annalsofrscb.ro/numar%20in%20curs/19%203/index%2019%203.html>

9. Particularities of evolutionary parameter estimation in multi-stage compartmental models of thymocyte dynamics. **Daniela Zaharie, Lavinia Moatar-Moleriu, Viorel Negru.** GECCO '13 Proceedings of the 15th annual conference on Genetic and evolutionary computation, Amsterdam, The Netherlands — July 06 - 10, 2013, pages 303-310, doi: 10.1145/2463372.2463408; <http://dl.acm.org/citation.cfm?doid=2463372.2463408>

10. Evolutionary Estimation of Parameters in Computational Models of Thymocyte Dynamics. **Lavinia Moatar-Moleriu, Viorel Negru, Daniela Zaharie.** Chapter in the book Large-Scale Scientific Computing, 9th International Conference, LSSC 2013, Sozopol, Bulgaria, June 3-7, 2013. Revised Selected Papers, Editors: Ivan Lirkov, Svetozar Margenov, Jerzy Waśniewski, ISBN: 978-3-662-43879-4 (Print) 978-3-662-43880-0 (Online)

<http://link.springer.com/book/10.1007/978-3-662-43880-0>

Volume 8353 of the series Lecture Notes in Computer Science pp 272-280, Date: 26 June 2014

http://link.springer.com/chapter/10.1007/978-3-662-43880-0_30

11. - Stability analysis and its impact on the parameters estimation for a logistic growth model.

Lavinia Moleriu, Radu Moleriu, Daniela Zaharie

Annals of the West University of Timisoara, Mathematical-Informatics series, vol. 51, No. 2, (2013), 57– 71. DOI: 10.2478/awutm-2013-0016.

<http://www.math.uvt.ro/anmath/index.php/ami/article/view/1081>

Results per stage

Stage V, 2016

Objectives - to publish at least one ISI-indexed, impact factor paper, from these results with members of the project as principal authors;

Activities of the stage

1. Mathematical modeling of the experimental data regarding the thymocyte dynamics during diabetes and the inclusion of the stromal component of the thymus in the model.
2. Mathematical modeling (with differential equations and/or cellular automata) of the dynamics of the eicosanoid mediators, polyunsaturated free fatty acids, and the interactions between the thymocytes and the stromal component of the thymus, in physiological and pathological (diabetes) conditions.

Results

We published more papers than assumed in the stage plan and we entirely fulfilled the objective

of the stage.

Papers

We succeeded in publishing papers which we struggled to publish over the past two years.

1. The best publication is the one published in Scientific Reports, which presents a detailed mathematical model of pre-natal and post-natal thymus development. All three authors are members of the project.

Modeling the development of the post-natal mouse thymus in the absence of bone marrow progenitors.

Zaharie D, Moleriu RD, Mic FA. Sci Rep. 2016 Nov 8;6:36159. doi: 10.1038/srep36159.

PMID: 27824070, impact factor/2015 – 5,228;

<http://www.nature.com/articles/srep36159>

2. The second paper published by our team is an experimental paper, in which we proved the relationship between thymic mesenchymal stromal cells and thymocytes. All main authors and 6 out of the 9 authors are members of the project.

Mesenchymal stromal cells support the viability and differentiation of thymocytes through direct contact in autologous co-cultures. **Azghadi SM, Suci M, Gruia AT, Barbu-Tudoran L,** Cristea MI,

Mic AA, Muntean D, Nica DV, **Mic FA.** Histochem Cell Biol. 2016 Aug;146(2):153-65. doi:

10.1007/s00418-016-1430-y. PMID: 27085705, impact factor/2015 – 2,78;

<http://link.springer.com/article/10.1007%2Fs00418-016-1430-y>

3. The third paper is an experimental analysis of the differentiation of mesenchymal stromal cells to adipocytes, a side project of ours in collaboration with other lab members. All main authors and 6 out of the 10 authors are members of the project.

Mesenchymal Stromal Cells Differentiating to Adipocytes Accumulate Autophagic Vesicles Instead of Functional Lipid Droplets. **Gruia AT, Suci M, Barbu-Tudoran L, Azghadi SM,** Cristea MI, Nica

DV, Vaduva A, Muntean D, **Mic AA, Mic FA.** J Cell Physiol. 2016 Apr;231(4):863-75. doi:

10.1002/jcp.25177. PMID: 26332160, impact factor/2015 – 4,155;

<http://onlinelibrary.wiley.com/doi/10.1002/jcp.25177/abstract>

4. The fourth paper is one that is connected to a previous publication from 2015, also a side project of ours in collaboration with other lab members. Five out of the 10 authors and the first and last authors are members of the project.

Data on expression of lipoxigenases-5 and -12 in the normal and acetaminophen-damaged liver.

Suci M, Gruia AT, Nica DV, **Azghadi SM, Mic AA, Mic FA.** Data Brief. 2016 Mar 31;7:1199-203.

doi: 10.1016/j.dib.2016.03.079. PMID: 27408922.

<http://www.sciencedirect.com/science/article/pii/S2352340916301871>

Stage IV, 2015

Objectives - to publish at least one ISI-indexed, impact factor paper, from these results with members of the project as principal authors;

Activities of the stage:

1. The dynamics of the main four thymocytes populations in the diabetic thymus and the thymus that which involutes and regenerates under the influence of dexamethasone.
2. Obtaining experimental data on the dynamics of eicosanoid mediators in the thymus which involutes and regenerates.
3. Obtaining experimental data *Prezentarea datelor experimentale referitoare la dinamica acizilor grasi nesaturati in timusul care involueaza si se regenereaza.*

Results

We fulfilled the stage objectives.

Papers

1. We published in the Annals of the Romanian Society for Cell Biology a paper which showed the dynamics of the mouse thymocytes populations in the diabetic thymus. All authors are members of the project.

Title - Diabetes impairs thymocyte proliferation and causes thymocyte apoptosis with subsequent thymus involution in mouse

Authors - ANI A. MIC, ALEXANDRA T. GRUIA, MARIA SUCIU, SEYED MOHAMMAD REZA AZGHADI, FELIX A. MIC.

Journal - Annals of the Romanian Society for Cell Biology, Vol. XIX, Issue 3, 2015, pp. 21 – 33

<http://www.annalsofrscb.ro/numar%20in%20curs/19%203/index%2019%203.html>

2. We published a paper in Chemico-Biological Interactions, IF-2.5, in which we investigated the dynamics of the enzymes of the lipid metabolism and eicosanoids during the acetaminophen-induced liver damage and regeneration. Five of the six authors (the first and the last authors) are members of the project

Title - Acetaminophen-induced liver injury: Implications for temporal homeostasis of lipid metabolism and eicosanoid signaling pathway.

Authors - Suciú M, Gruia AT, Nica DV, Azghadi SM, Mic AA, Mic FA.

Journal - Chem Biol Interact. 2015 Oct 30;242:335-344.

<http://www.ncbi.nlm.nih.gov/pubmed/26522476>

3. We published a paper in Journal of Cellular Physiology Molecular, IF-3.8, in which we investigated the structure and function of lipid droplets in rat mesenchymal stem cells differentiating to adipocytes. Out of the ten authors, six (and all main authors) are members of the project.

Title - Mesenchymal Stromal Cells Differentiating to Adipocytes Accumulate Autophagic Vesicles Instead of Functional Lipid Droplets.

Authors - Gruia AT, Suciu M, Barbu-Tudoran L, Azghadi SM, Cristea MI, Nica DV, Vaduva A, Muntean D, Mic AA, **Mic FA**.

Journal - J Cell Physiol. 2015 Sep 1. doi: 10.1002/jcp.25177.

<http://www.ncbi.nlm.nih.gov/pubmed/26332160>

4. We have a manuscript submitted to Histochemistry and Cell Biology (HCB-3314-15-Drenckhahn) that deals with the interaction between mesenchymal stem cells (as part of the thymic micro-environment) and thymocytes. This manuscript is about to be re-submitted after the reviewers requested some minor changes in order to be accepted. There are good chances that this manuscript will be accepted. Four out of the six authors (and all main authors) are members of the project.

Title - Trophoblasts support the viability and differentiation of thymocytes in autologous co-cultures with mesenchymal stromal cells.

Authors - Seyed Mohammad Reza Azghadi, Maria Suciu, Alexandra Teodora Gruia, Lucian Barbu-Tudoran, Mirabela Iustina Cristea, Ani Aurora Mic, Danina Muntean, Dragos Vasile Nica, **Felix Aurel Mic**.

5. We have submitted to Journal of Immunology (15-00408-FLR) a revised version of a manuscript which describes the dynamics of thymocyte populations in the pre-natal and post-natal mouse thymus, based on our experimental findings. Since april 2015 we have performed experiments to address the issues raised by the reviewer. All authors are members of the project.

Title - The thymocyte populations of the post-natal mouse thymus could develop in the absence of bone marrow progenitors - a mathematical model

Authors - Daniela Zaharie, Radu D. Moleriu, Felix A. Mic

Conferences, Workshops

1. **Mic Aurel Felix** presented a poster with the title „**Gompertzian modeling of the pre-natal and post-natal thymus formation and the analysis of its dependence of bone marrow progenitors**”,

authors **Daniela Zaharie, Radu Dumitru Moleriu, Felix Aurel Mic**, at the conference Cellular Dynamics & Models, 3rd - 6th March 2015, held by Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, USA, http://meetings.cshl.edu/abstracts/comp2015_absstat.html

2. **Mic Aurel Felix** participated with the oral presentation called „**Gompertzian modeling of thymocyte populations formation the pre-natal and post-natal murine thymus and its relationship with the bone marrow progenitors**” at the 2nd Symposium on Complex Biodynamics & Networks, 11-13th May 2015, Tsuruoka, Japan; <http://www.c-bio.org/2015/speakers.html>

3. **Mic Ani Aurora** presented a poster with the title „**Diabetes impairs thymocyte proliferation and causes thymocyte apoptosis with subsequent thymus involution in mouse**”, authors **Ani A. Mic**, Alexandra T. Gruia, Maria Suciu, Seyed Mohammad Reza Azghadi, Felix A. Mic, at the National Conference of the Romanian Society for Cellular Biology with international participation and the XXXIII Annual Scientific Session of the RSCB, June 11-14-th, 2015, Baia Mare, Romania;

4. **Seyed Mohammad Reza Azghadi** presented a poster with title „**BMSCs-derived adipocytes are not structurally and functionally similar with adipocytes from the adipose tissue**”, authors Alexandra Teodora Gruia, **Seyed Mohammad Reza Azghadi**, Maria Suciu, Ani Aurora Mic, Felix Aurel Mic, at the International Symposium Young Researchers in BioSciences, July 22 – 25-th 2015, Cluj Napoca, Romania.

Stage III, 2014

Objectives - to publish one ISI-indexed, impact factor paper, from these results with members of the project as principal authors;

Activities of the stage:

1. Modeling the inverted CD4+single-positive/CD8+single-positive thymocyte ratio in the regenerated thymus.
2. Modeling the apoptosis of thymocytes in the involuting and regenerating thymus under the influence of glucocorticoids.

Results

We fulfilled the stage objectives.

Papers

1. We published a paper in the Journal of Theoretical Biology that shows a mathematical model of the involuting and regenerating thymus, which addresses the role of apoptosis in these events and explains the mechanism of the inverted ratio of CD4+single-positive/CD8+single-positive thymocytes in the regenerated thymus. All authors are members of the project.

Insights into the mechanisms of thymus involution and regeneration by modeling the glucocorticoid-induced perturbation of thymocyte populations dynamics.

Moleriu RD, Zaharie D, Moatar-Moleriu LC, Gruia AT, Mic AA, Mic FA.

J Theor Biol. 2014 May 7;348:80-99.

<http://www.sciencedirect.com/science/article/pii/S002251931400037X>

2. We have resubmitted a revision of our manuscript to the journal Differentiation in which we document the involvement of trogocytosis in the interactions between mesenchymal stem cells from thymus and thymocytes in vivo. All main authors are members of the project.

Trogocytosis supports the viability and differentiation of thymocytes in autologous co- cultures with mesenchymal stromal cells .

Seyed Mohammad Reza Azghadi, Maria Suci, Alexandra Teodora Gruia, Lucian Barbu-Tudoran, Mirabela Iustina Cristea, Ani Aurora Mic, Virgil Paunescu, Danina Muntean, Felix Aurel Mic.

Differentiation, DIFF-D-14-00074R1

3. We have submitted a manuscript to Molecular and Cellular Endocrinology that is currently Under Review, that deals with the molecular mechanism of glucocorticoid's action on thymocyte homeostasis in the diabetic thymus. All main authors are members of the project.

Corticosterone perturbs the apoptotic gene machinery of thymocytes in the diabetic thymus leading to persistent organ involution.

Ani A. Mic, Alexandra T. Gruia, Maria Suci, Seyed Mohammad Reza Azghadi, Oana I. Gavriiuc, Valentin L. Ordodi, Virgil Paunescu, Felix A. Mic.

Molecular and Cellular Endocrinology, MCE-D-14-00600

4. We have submitted a manuscript to Comparative Medicine that shows in mouse the detailed changes in the thymocyte subpopulations during thymus involution in diabetes and the mechanisms by which they occur. All main authors are members of the project.

Diabetes impairs thymocyte proliferation and causes thymocyte apoptosis with subsequent thymus involution.

Ani A. Mic, Oana I. Gavriiuc, Alexandra T. Gruia, Maria Suci, Valentin L. Ordodi, Virgil Paunescu, Felix A. Mic.

Comparative Medicine - CM-14-000127

5. We have finished the experimentation and the Gompertzian modeling for another manuscript in which we model the apoptosis of thymocytes and the dynamics of thymocyte populations in the pre-natal and post-natal thymus in mice. We intend to submit the manuscript to Journal of Immunology and all authors on it are members of the project.

Gompertzian modeling of thymocyte homeostasis in the murine thymus shows that post-natal thymus is independent of the inflow of bone marrow progenitors.

Daniela Zaharie, Moleriu Radu Dumitru, Moleriu Lavinia Cristina, Felix Aurel Mic

Conferences, Workshops

1. We have presented two posters at the EMBO Workshop „Complex Systems in Immunology”, Singapore, december 2-4, 2013. All authors were members of the project.

- Insights into the mechanisms of thymus involution and regeneration by modeling the glucocorticoid-induced perturbation of thymocyte populations dynamics.

Moleriu RD, Zaharie D, Moatar-Moleriu LC, Gruia AT, Mic AA, Mic FA.

- Gompertzian modeling of thymus evolution reveals different dynamics of thymocyte generation in pre- and post-natal periods.

Daniela Zaharie, Radu Dumitru Moleriu, Lavinia Cristina Moatar-Moleriu, Alexandra Teodora Gruia, Ani Aurora Mic, Felix Aurel Mic.

<http://events.embo.org/13-systems-immunology/programme.html>

2. We have presented two posters at the Young Researchers in Biosciences (International Symposium) Cluj Napoca, july 23-27, 2014.

- Stromal macrophages dynamics in diabetic thymus.

Alexandra Teodora Gruia, Lucian Barbu-Tudoran, Ani Aurora Mic, Valentin Laurentiu Ordodi, Oana Isabella Gavriiliuc, Maria Suciu, Virgil Paunescu, Felix Aurel Mic.

- Membrane Communication of MSCs and Thymocytes in Autologous Co-culture Generates Mature T-cells in vitro.

Seyed Mohammad Reza Azghadi, Alexandra Teodora Gruia, Lucian Barbu-Tudoran, Ani Aurora Mic, Valentin Laurentiu Ordodi, Maria Suciu, Virgil Paunescu, Felix Aurel Mic.

3. We have presented an oral communication at the National Conference of the Romania Society of Cell Biology, Targu-Mures, Romania, june 4-7, 2014.

Components of the inflammatory and stress reaction cause thymus involution in experimental diabetes.

Suciu Maria, Alexandra Teodora Gruia, Seyed Muhammad Reza Azghadi, Oana Gavriiuc, Ani Aurora Mic, Valentin Ordodi, Virgil Paunescu, Felix Aurel Mic.

Stage II, 2013

Objectives – to publish one ISI-indexed, impact factor paper, from these results with members of the project as principal authors;

Activities of the stage:

Finishing the mathematical model of the first stages of thymus regeneration and the inverted CD4+ single-positive/CD8+ single-positive ratio in the regenerated thymus.

Results

We fulfilled the stage objectives.

Papers

1. We published a paper in the conference volume of the GECCO '13 Proceedings of the 15th annual conference on Genetic and evolutionary computation, Amsterdam, The Netherlands — July 06 - 10, 2013, pages 303-310, doi: 10.1145/2463372.2463408, (<http://www.sigevo.org/gecco-2013/>).

Particularities of Evolutionary Parameter Estimation in Multi-stage Compartmental Models of Thymocyte Dynamics. Daniela Zaharie, Lavinia Moatar-Moleriu, Viorel Negru

The first two authors are members of the project. The paper is indexed in the main databases and is available at <http://dl.acm.org/citation.cfm?doid=2463372.2463408>

Conferences, Workshops

1. We published a paper in the conference volume of the 9th International Conference on "Large-Scale Scientific Computations" June 3-7, 2013, Sozopol, Bulgaria. Chapter in the book Large-Scale Scientific Computing, 9th International Conference, LSSC 2013, Sozopol, Bulgaria, June 3-7, 2013. Revised Selected Papers, Editors: Ivan Lirkov, Svetozar Margenov, Jerzy Waśniewski, ISBN: 978-3-662-43879-4 (Print) 978-3-662-43880-0 (Online)

<http://link.springer.com/book/10.1007/978-3-662-43880-0>

Volume 8353 of the series Lecture Notes in Computer Science pp 272-280, Date: 26 June 2014

The first and the last authors are members of the project.

Evolutionary Estimation of Parameters in Computational Models of Thymocyte Dynamics.

Lavinia Cristina Moatar-Moleriu, Viorel. Negru, Daniela Zaharie

Stage I, 2012

Objectives - to publish two ISI-indexed papers from these results with members of the project as principal authors;

Activities of each stage:

1. Experiments to get more biological data to be used in mathematical modeling. New data on the apoptosis, proliferation and the transfer of thymocytes between main subpopulations, and the dynamics of medullary and stromal cells of the thymus.
2. Generation of a mathematical model of the first stages of thymus regeneration and the inverted CD4+ single-positive/CD8+ single-positive ratio in the regenerated thymus.

Results:

We fulfilled the stage objectives.

Papers

1. In this stage we submitted to publication a paper that we got eventually approved on the dynamics of macrophages in the diabetic thymus. The main authors are members of the project.

Accumulation of tissue macrophages and depletion of resident macrophages in the diabetic thymus in response to hyperglycemia-induced thymocyte apoptosis.

Barbu-Tudoran L, Gavriiliuc OI, Paunescu V, Mic FA.

Journal of Diabetes and its Complications. 2013 Mar-Apr;27(2):114-22.

<https://www.ncbi.nlm.nih.gov/pubmed/23153674>

2. We have completed and submitted to publication (at **Molecular Systems Biology**) another paper that deals with the mathematical modeling of glucocorticoid-induced thymus involution and regeneration. All authors are members of the project.

Mathematical modeling with perturbation functions of the drug's mechanism of action on thymocyte populations during glucocorticoid-induced thymus involution and regeneration.

Daniela Zaharie , Radu Dumitru Moleriu, Lavinia Cristina Moleriu, Ioan Nicolae Casu, Alexandra Teodora Gruia, Ani Aurora Mic Virgil Paunescu, Felix Aurel Mic.

Conferences, Workshops

1. We have presented a paper at SYNASC 2012, the 14th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing, held at Universitatea de Vest Timisoara, Romania,

between 26-29 september, 2012. All three authors are members of the project.

- Stability analysis and its impact on the parameters estimation for a logistic growth model.

Lavinia Moleriu, Radu Moleriu, Daniela Zaharie

Annals of the West University of Timisoara, Mathematical-Informatics series, vol. 51, No. 2, (2013), 57– 71. DOI: 10.2478/awutm-2013-0016.

<http://www.math.uvt.ro/anmath/index.php/ami/article/view/1081>

2. We have presented a paper at “The 13th International Conference on Mathematics and its Applications ICMA2012”, Politechnica University of Timisoara, Romania, section Probability and Statistics. Applications in Health and Clinical Research, held in Timisoara, november 1-3, 2012. The author is a member of the project.

Inferring evolution models from experimental data on populations of thymocytes.

Lavinia Cristina Moatar-Moleriu

Proceedings of the XIII-th Conference on Mathematics and its Applications, University Politehnica of Timisoara, 263–270 (2012)



Project director, Dr. Mic Aurel Felix