Curriculum Vitæ – Eduardo Gade Gusmao

05.12.2017

1   Personal Information

Full name: Eduardo Gade Gusmao.

Full official name in native alphabet: Eduardo Gade Gusmão.

Date of birth: 02/12/1987.

Place of birth: Recife, Pernambuco, Brazil.

Citizenship: Brazilian.

2   Contact

Address: R. Maria Carolina 505, Apt. 801. Boa Viagem 51020-220. Recife, Pernambuco, Brazil.

E-mail: eduardogade@gmail.com

Phone (mobile): +55 (81) 9 9845-3484

Skype ID: eduardo.gade.gusmao

3   Research Interests

- NGS-based technologies (among others, RNA-seq, DNase-seq, ChIP-seq & ATAC-seq).
- Functional/Epigenetic analyses of regulatory landscapes and their DNA sequence motifs.
- 3D chromatin structure (among others, Hi-C, ChIA-PET, PLAC-seq & HiChIP).
- Computational modelling and treatment of NGS-based genomic signals.
- Statistical learning (among others, Markov models, Bayesian methods & mixture models).
- Methods for experimental artifact removal and "omics" data integration.

4   Education and Positions

01/02/2018 – Current: **Postdoctoral Research Fellow**
Center for Molecular Medicine, University of Cologne – Cologne, Germany.
Principal Investigator: Prof. Dr. Argyris Papantonis.
Keywords: Regulatory genomics, chromatin conformation, machine learning.

01/01/2017 – 31/08/2017:   **Postdoctoral Research Fellow**
Dana-Farber Cancer Institute, Harvard School of Public Health – Boston, MA, USA.
Principal Investigator: Prof. Dr. Xiaole Shirley Liu.
Keywords: Single-cell, regulatory genomics, machine learning.

01/09/2016 – 31/12/2016:   **Visiting Research Fellow**
Dana-Farber Cancer Institute, Harvard School of Public Health – Boston, MA, USA.
Principal Investigator: Prof. Dr. Xiaole Shirley Liu.
Keywords: Single-cell, regulatory genomics, machine learning.

02/11/2012 – 15/12/2016:   **Ph.D. in Life Sciences**
RWTH Aachen University – Aachen, Germany.
Title: Analysis of computational footprinting methods for next-generation sequencing experiments.
Advisors: Prof. Dr. Thomas Berlage & Prof. Dr. Ivan G. Costa.
Grade: 1.0 (Magna Cum Laude).

Keywords: DNase-seq, ChIP-seq, hidden Markov models, transcription factor binding sites.

01/03/2011 – 07/12/2012: **M.Sc. in Computer Science**
Federal University of Pernambuco, Center of Informatics – Recife, Pernambuco, Brazil.
Title: Prediction of transcription factor binding sites by integrating different epigenetic features.
Advisors: Prof. Dr. Ivan G. Costa & Prof. Dr. Marcilio C. P. de Souto.
Grade: A (Excellent) – GPA: 4.0/4.0.
Keywords: Hidden Markov models, chromatin accessibility, histone modifications.

01/08/2006 – 21/02/2011: **B.Sc. in Computer Science**
Federal University of Pernambuco, Center of Informatics – Recife, Pernambuco, Brazil.
Title: Study of methods to identify single nucleotide polymorphism interactions.
Advisors: Prof. Dr. Katia S. Guimarães.
Grade: 89.9% – GPA: 3.67/4.0.
Keywords: Single nucleotide polymorphism, epistasis, information entropy, linkage disequilibrium.

5 Publications

5.1. First Author Publications:

22/02/2016: **Gusmao, E.G.**, Allhoff, M., Zenke, M. & Costa, I.G. Analysis of computational footprinting methods for DNase sequencing experiments. *Nature Methods*, 13(4):303-309, 2016.

01/08/2014: **Gusmao, E.G.**, Dieterich, C., Zenke, M. & Costa, I.G. Detection of active transcription factor binding sites with the combination of DNase hypersensitivity and histone modifications. *Bioinformatics (Oxford Press)*, 30(22):3143-3151, 2014.

11/06/2014: **Gusmao, E.G.** & de Souto, M.C.P. Issues on sampling negative examples for predicting prokaryotic promoters. *Proceedings of the 2014 International Joint Conference on Neural Networks*, 494-501, 2014.

17/08/2012: **Gusmao, E.G.**, Dieterich, C. & Costa, I.G. Prediction of transcription factor binding sites by integrating DNase digestion and histone modification. *Lecture Notes in Computer Science*, 7409:109-119, 2012.

5.2. Collaborations:

XX/XX/2017: **ENCODE-DREAM *in vivo* transcription factor binding site prediction challenge consortium.**: Analysis of *in silico* methods to identify protein-DNA binding proteins. Submitted to: *Developmental Cell*.

XX/XX/2017: Almeida, D.C., Joussen, S., Franzen, J., Fernandez-Rebollo, E., **Gusmao, E.G.**, Ploenzke, M., Heilmann, S., Hoffmann, P., Hoffmann, A., Zenke, M., Costa, I.G. & Wagner, W.: The impact of IFN-γ licensing on mesenchymal stem cells molecular signature. Submitted to: *Scientific Reports*.

XX/XX/2017: Zirkel, A., Nikolić, M., Soadis, K., Mallm, J.-P., Brant, L., Becker, C., Altmueller, J., Franzen, J., Koker, M., **Gusmao, E.G.**, Costa, I.G., Ullrich, R.T., Wagner, W., Nuernberg, P., Rippe, K. & Papantonis, A.: Topological demarcation by HMGB2 is disrupted early upon senescence entry across cell types and induces CTCF clustering. Submitted to: *Developmental Cell*. Preprint: http://biorxiv.org/content/early/2017/04/14/127522.

06/06/2017: Axelsson, A.S., Mahdi, T., Nenonen, H.A., Singh, T., Hänzelmann S., Wendt, A., Bagge, A., Reinbothe, T.M., Millstein, J., Yang, X., Zhang, B., **Gusmao, E.G.**, Shu, L., Szabat, M., Tang, Y., Wang, J., Salö, S., Eliasson, L., Artner, I., Fex, M., Johnson, J.D., Wollheim, C.B., Derry, J.M.J., Mecham, B., Spégel, P., Mulder, H., Costa, I.G., Zhang, E. & Rosengren, A.H. Sox5 regulates Beta-cell phenotype and is reduced in type 2 diabetes. *Nature Communications*, 8:15652, 2017.

15/09/2016: Kolovos, P., Georgomanolis, T., Koeferle, A., Larkin, J.D., Brant, L., Nikolić, M., **Gusmao, E.G.**, Zirkel, A., Knoch, T.A., Costa, I.G., van Ijcken, W.F., Cook, P.R., Grosveld, F.G. & Papantonis, A. Binding of nuclear factor kappa B to non-canonical consensus sites reveals its multimodal role during the early inflammatory response. *Genome Research*, 26(11):1478-1489, 2016.

01/12/2015: Schemionek, M., Herrmann, O., Reher, M.M., Chatain, N., Schubert, C., Costa, I.G., Hänzelmann, S., **Gusmao, E.G.**, Kintsler, S., Braunschweig, T., Hamilton, A., Helgason, G.V., Copland, M., Schwab, A., Müller-Tidow, C., Li, S., Holyoake, T.L., Brümmendorf, T.H. & Koschmieder, S. Mtss1 is a critical epigenetically regulated tumor suppressor in CML. *Leukemia*, 30(4):823-832, 2015.

17/10/2015: Lin, Q., Chauvistré, H., Costa, I.G., **Gusmao, E.G.**, Mitzka, S., Hänzelmann, S., Baying, B., Klisch, T., Moriggl, R., Hennuy, B., Smeets, H., Homann, K., Benes, V., Seré, K. & Zenke, M. Epigenetic program and transcription factor circuitry of dendritic cell development. *Nucleic Acids Research*, 43(20):9680-9693, 2015.

04/03/2015: Hänzelmann, S., Beier, F., **Gusmao, E.G.**, Koch, C.M., Hummel, S., Charapitsa, I., Joussen, S., Benes, V., Brümmendorf, T.H., Reid, G., Costa, I.G. & Wagner, W. Replicative senescence is associated with nuclear reorganization and with DNA methylation at specific transcription factor binding sites. *Clinical Epigenetics*, 7(1):19-33, 2015.

29/04/2014: Ullius, A., Lüscher-Firzlaf, J., Costa, I.G., Walsemann, G., Forst, A.H., **Gusmao, E.G.**, Kapelle, K., Kleine, H., Kremmer, E., Vervoorts, J. & Lüscher, B. The interaction of MYC with the trithorax protein ASH2L promotes gene transcription by regulating H3K27 modification. *Nucleic Acids Research*, 42(11):6901-6920, 2014.

11/11/2011: Araújo, F.R.B., **Gusmao, E.G.** & Guimarães, K.S. A case-control study of non-parametric approaches for detecting SNP-SNP interactions. *Proceedings of the 30th International Conference of the Chilean Computer Science Society*, 19-27, 2011.

5.3. Conference Abstracts:

09/11/2016: Gusmao, E.G., Li, Z. & Costa, I.G. Prediction of transcription factor binding sites using computational footprinting data. *Proceedings of the 2016 RECOMB/ISCB Conference on Regulatory and Systems Genomics with DREAM Challenges*, Phoenix, AZ, USA, 2016.

09/09/2015: Gusmao, E.G. & Costa, I.G. Computational approaches to correct biases by next-generation sequencing techniques. *Otto Warburg International Summer School and Research Symposium*, Berlin, Germany, 2015.

11/07/2015: Gusmao, E.G. & Costa, I.G. HINT-BC – HMM-based identification of transcription factor footprints on bias-corrected DNase-seq data. *Proceedings of the 23rd Annual International Conference on Intelligent Systems for Molecular Biology and 14th European Conference on Computational Biology (ISMB/ECCB 2015) & Regulatory Genomics Special Interest Group (RegGenSIG 2015),* Dublin, Ireland, 2015.

13/11/2014: Gusmao, E.G. & Costa, I.G. Are computationally predicted footprints result of DNase I cleavage bias? *Proceedings of the 2014 RECOMB/ISCB Conference on Regulatory and Systems Genomics*, San Diego, CA, USA, 2014.

04/11/2013: Gusmao, E.G. & Costa, I.G. Search of cell-specific transcription factor binding sites with DNase hypersensitivity and histone modifications. *Proceedings of the International Conference of the AB3C and Brazilian Symposium on Bioinformatics (X-meeting/BSB 2013),* Recife, Pernambuco, Brazil, 2013.

22/04/2013: Gusmao, E.G. & Costa, I.G. Improving TFBS prediction by integrating epigenetic features. *Proceedings of the 5th Bioinformatics and Stem Cells Satellite Workshop*, Cologne, Germany, 2013.

12/09/2012: Costa, I.G & **Gusmao, E.G.** Prediction of transcription factor binding sites by integrating DNase digestion and histone modification. *Proceedings of the 11th European Conference on Computational Biology (ECCB 2012)*, Basel, Switzerland, 2012.

22/10/2009: Rego, T.G., Araújo Filho, C.R., **Gusmao, E.G.**, de Souto, M.C.P. & Costa, I.G. Classification complexity in gene marker selection for cancer diagnosis. *Proceedings of the 5th International Conference of the Brazilian Association for Bioinformatics and Computational Biology (AB3C 2009)*, Angra dos Reis, Rio de Janeiro, Brazil, 2009.

6   Prizes & Awards

09/12/2016: Best Publication at the Day of Medical Research of RWTH Aachen University Medical School. Publication: Gusmao, E.G., et al. Nature Methods, 13(4):303-309, 2016. Award: € 2000.

09/11/2016: Publication Elected for Top-10 2015/2016 Reading List at the RECOMB/ISCB Conference on Regulatory and Systems Genomics. Publication: Gusmao, E.G., et al. Nature Methods, 13(4):303-309, 2016.

09/11/2016: Top-3 Methods at the ENCODE-DREAM in vivo Transcription Factor Binding Site Prediction Challenge.

17/10/2016: Travel Award to RECOMB/ISCB Conference on Regulatory and Systems Genomics. Award: US$ 1500.

03/01/2014: Best Research Group at the Day of Medical Research of RWTH Aachen University Medical School.

06/11/2013: Best Oral Presentation at International Conference of the AB3C and Brazilian Symposium on Bioinformatics (X-meeting/BSB). Title: "Search of Cell-Specific Transcription Factor Binding Sites with DNase Hypersensitivity and Histone Modifications".

7   Editorial & Journal Positions

22/11/2017 – Today: Reviewer at *International Conference on Biological Information and Biomedical Engineering (BIBE)*.

10/03/2017 – Today: Reviewer at *International Conference on Fuzzy Systems and Data Mining (FSDM)*.

21/02/2017 – Today: Reviewer at *Nucleic Acids Research*.

06/02/2017 – Today: Reviewer at *International Conference on Biomedical Engineering and Biotechnology (ICBEB)*.

13/03/2015 – Today: Reviewer at *International Joint Conference on Neural Networks (IJCNN)*.

16/01/2015 – Today: Reviewer at *Bioinformatics (Oxford)*.

8   Teaching Experience

23/01/2017 – 05/05/2017:   **Guest Lecturer in Harvard University**
Academic discipline: Introduction to Computational Biology and Bioinformatics (STAT115/215).

23/01/2017 – 28/04/2017:   **Guest Lecturer in Harvard University**
Academic discipline: Big Data Statistics in Genomic and Genetic Research (STAT316).

18/04/2016 – 04/07/2016:   **Lecturer in RWTH Aachen University**
Academic discipline: Practical Course in Bioinformatics 2016 (SOSE2016).

29/06/2015 – 13/05/2015:   **Lecturer in RWTH Aachen University**
Academic discipline: Practical Course in Bioinformatics 2015 (SOSE2015).

17/05/2013 – 01/08/2016:   **Course Instructor in RWTH Aachen University**
Short Course: Computational Biomedicine Practical Seminar (SOSE2013).

31/12/2011 – 30/07/2011:   **Teaching Assistant in Federal University of Pernambuco**
Academic discipline: Biological Sequence Processing (IN1101).

31/12/2007 – 01/01/2007:   **Teaching Assistant in Federal University of Pernambuco**
Academic discipline: Logic for Computer Science (IF673).

01/01/2007 – 31/12/2007:   **Teaching Assistant in Federal University of Pernambuco**
Academic discipline: Vectorial and Linear Algebra for Computer Science (MA531).

9   Mentoring Experience

02/01/2017 – Current: **Matthew Ploenzke**
Type: Ph.D. student rotation.
Title: *De novo* transcription factor enrichment analysis with deep learning.

02/03/2015 – 31/08/2015:   **Ahmad Badar**
Type: Scientific initiation.
Title: Electronic filters for the computational detection of TFBS footprints.

10   Contributed Talks

09/12/2016: "Analysis of computational footprinting methods for DNase sequencing experiments" at *Day of Medical Research of RWTH Aachen University Medical School* – Aachen, Germany.

09/11/2016: "Prediction of active transcription factor binding sites using computational footprinting data" at *RECOMB/ISCB Conference on Regulatory and Systems Genomics with DREAM Challenges* – Phoenix, AZ, USA.

09/09/2015: "Computational approaches to correct biases generated by next-generation sequencing techniques" at *Otto Warburg International Summer School and Research Symposium* – Berlin, Germany.

11/07/2015: "HINT-BC: HMM-based identification of transcription factor footprints on bias-corrected DNase-seq data" at *International Conference on Intelligent Systems for Molecular Biology and European Conference on Computational Biology (ISMB/ECCB)* – Dublin, Ireland.

13/11/2014: "Are computationally predicted footprints result of DNase I cleavage bias?" at *RECOMB/ISCB Conference on Regulatory and Systems Genomics with DREAM Challenges* – San Diego, CA, USA.

04/11/2013: "Search of cell-specific transcription factor binding sites with DNase hypersensitivity and histone modifications" at *International Conference of the AB3C and Brazilian Symposium on Bioinformatics (X-meeting/BSB)* – Recife, Pernambuco, Brazil.

22/04/2013: "Improving TFBS prediction by integrating epigenetic features" at *5th Bioinformatics and Stem Cells Satellite Workshop* – Cologne, Germany.

16/08/2012: "Prediction of transcription factor binding sites by integrating DNase digestion and histone modification" at *Brazilian Symposium on Bioinformatics* – Campo Grande, Mato Grosso do Sul, Brazil.

26/11/2010: "Study of methods to identify interactions between polymorphisms" at *18th Congress of Undergraduate Research from UFPE* – Recife, Pernambuco, Brazil.

29/06/2010: "Study of methods to identify interactions between polymorphisms" at *14th Undergraduate Research Workshop* – Recife, Pernambuco, Brazil.

11   Professional Experience

01/01/2017 – 31/08/2017: **Postdoctoral Research Fellow**
Dana-Farber Cancer Institute, Harvard School of Public Health – Boston, MA, USA.
Advisor: Prof. Dr. Xiaole Shirley Liu.

01/09/2016 – 31/12/2016: **Visiting Research Fellow**
Dana-Farber Cancer Institute, Harvard School of Public Health – Boston, MA, USA.
Advisor: Prof. Dr. Xiaole Shirley Liu.

02/11/2012 – 31/07/2016: **Research Assistant**
Helmholtz Institute for Biomedical Engineering, RWTH Aachen University Medical School – Aachen, Germany.
Advisor: Prof. Dr. Ivan G. Costa.

01/08/2010 – 31/01/2011: **Software Developer**
Integrated System of Academic Management (SIG@) – Recife, Pernambuco, Brazil.
Supervisor: Ana Paula Carvalho.

01/02/2009 – 31/12/2010: **Undergraduate Research Assistant**
Federal University of Pernambuco – Recife, Pernambuco, Brazil.
Advisor: Prof. Dr. Katia S. Guimarães.

12   Software

01/06/2014:   **RGT: Regulatory Genomics Analysis Toolbox**
Available at http://www.regulatory-genomics.org/

21/10/2010:   **MultiSNP: Multi-Approach SNP-SNP Interaction Analysis Tool**
Available at https://jaqueira.cin.ufpe.br/pit/faces/index.jsp

13   Short-term Courses

13/10/2014 – 14/10/2014: "Proteomics Informatics Primer Workshop" (12h). RWTH Aachen University Medical School – Aachen, Germany.

02/09/2013 – 12/10/2013: "Epigenetic Control of Gene Expression with Dr. Marnie Blewitt" (48h). The University of Melbourne – Coursera (distance learning). Grade: 100%.

24/06/2013 – 28/06/2013: "Computational Statistics for Genome Biology (CSAMA)" (40h). Department of Economics, Management and Quantitative Methods, University of Milan – Bressanone-Brixen, Italy.

07/01/2013 – 29/03/2013: "Introduction to Genetics and Evolution with Dr. Mohamed Noor" (72h). Duke University – Coursera (distance learning). Grade: 97:5%.

13/08/2012 – 14/08/2012: "Bioinformatics Tools for Next Generation Sequencing" (8h). Brazilian Bioinformatics School – Campo Grande, Mato Grosso do Sul, Brazil.

13/08/2012 – 14/08/2012: "Biological Databases" (8h). Brazilian Bioinformatics School – Campo Grande, Mato Grosso do Sul, Brazil.

18/06/2012 – 10/08/2012: "Introduction to Sociology with Dr. Mitchell Duneier" (50h). Princeton University – Coursera (distance learning).

14/04/2012 – 15/06/2012: "Scientific Computing with Python" (20h). Pycursos (distance learning).

09/01/2012 – 12/03/2012: "Security in Linux" (40h). Fuctura Institute – Recife, Pernambuco, Brazil.

01/08/2011 – 29/08/2011: "Networks in Linux" (25h). Fuctura Institute – Recife, Pernambuco, Brazil.

16/05/2011 – 20/06/2011: "System Management in Linux" (30h). Fuctura Institute – Recife, Pernambuco, Brazil.

14/02/2011 – 15/03/2011: "Molecular Biology Short Course" (80h). Education Portal (distance learning).

07/02/2011 – 11/02/2011: "Bioinformatics: Tools and Applications" (45h). Federal University of Pernambuco – Recife, Pernambuco, Brazil.

31/01/2011 – 04/02/2011: "Bioinformatics Summer Course" (40h). University of São Paulo – São Paulo, São Paulo, Brazil.

17/01/2011 – 28/01/2011: "Introduction to Python" (40h). Federal University of Pernambuco – Recife, Pernambuco, Brazil.

15/11/2010 – 15/11/2010: "Perl for Bioinformatics and Computational Biology" (3h). AB3C – Ouro Preto, Minas Gerais, Brazil.

31/09/2010 – 01/10/2010: "Methods for Sequence Alignment" (8h). Brazilian Bioinformatics School – Buzios, Rio de Janeiro, Brazil.

31/09/2010 – 01/10/2010: "Methods for Comparative Genomics" (8h). Brazilian Bioinformatics School – Buzios, Rio de Janeiro, Brazil.

31/09/2010 – 01/10/2010: "Structural Bioinformatics of Proteins" (8h). Brazilian Bioinformatics School – Buzios, Rio de Janeiro, Brazil.

31/09/2010 – 01/10/2010: "Probability and Statistics in Bioinformatics" (8h). Brazilian Bioinformatics School – Buzios, Rio de Janeiro, Brazil.

26/07/2010 – 30/07/2010: "Bioinformatics Winter Course" (33h). University of São Paulo – São Paulo, Ribeirão Preto, Brazil.

02/02/2009 – 13/02/2009: "Introduction to .NET with C#" (30h). Federal University of Pernambuco – Recife, Pernambuco, Brazil.

03/09/2007 – 15/09/2007: "Introduction to C and C++" (30h). Federal University of Pernambuco – Recife, Pernambuco, Brazil.

14   Conferences

07/05/2017 – 09/05/2017: "Genome Engineering Practical Workshop" (Attendance). Cambridge, MA, USA.

18/04/2017 – 18/04/2017: "10X Genomics User Group Meeting" (Attendance). Cambridge, MA, USA.

03/03/2017 – 03/03/2017: "Genomic Approaches Towards Precision Cancer Medicine Symposium" (Attendance). Boston, MA, USA.

09/12/2016 – 09/12/2016: "Day of Medical Research of RWTH Aachen University Medical School" (Attendance & invited oral presentation). Aachen, Germany.

06/11/2016 – 09/11/2016: "RECOMB/ISCB Conference on Regulatory and Systems Genomics with DREAM Challenges" (Attendance & accepted abstract [poster presentation]). Phoenix, AZ, USA.

20/10/2016 – 20/10/2016: "Harvard Medical School Epigenetics Symposium" (Attendance). Boston, MA, USA.

06/09/2015 – 11/09/2015: "Otto Warburg International Summer School and Research Symposium" (Attendance & accepted abstract [oral presentation]). Berlin, Germany.

10/07/2015 – 14/07/2015: "International Conference on Intelligent Systems for Molecular Biology and European Conference on Computational Biology (ISMB/ECCB)" (Attendance & accepted abstract [poster presentation & oral presentation]). Dublin, Ireland.

09/11/2014 – 14/11/2014: "RECOMB/ISCB Conference on Regulatory and Systems Genomics" (Attendance & accepted abstract [poster presentation]). San Diego, CA, USA.

06/10/2014 – 07/10/2014: "Computational Biomedicine for Translational Research Symposium (CBTR)" (Attendance). Aachen, Germany.

03/11/2013 – 06/11/2013: "International Conference of the AB3C and Brazilian Symposium on Bioinformatics (X-meeting/BSB)" (Attendance & accepted abstract [oral presentation]). Recife, Pernambuco, Brazil.

09/09/2013 – 11/09/2013: "AICES - ACCES - Computational Biology Symposium" (Attendance). Aachen, Germany.

19/07/2013 – 19/07/2013: "Helmholtz Symposium" (Attendance & poster presentation). Aachen, Germany.

22/04/2013 – 22/04/2013: "5th Bioinformatics and Stem Cells Satellite Workshop" (Attendance & accepted abstract [oral presentation]). Cologne, Germany.

13/08/2012 – 17/08/2012: "Brazilian Symposium on Bioinformatics (BSB)" (Attendance & accepted paper [oral presentation]). Campo Grande, Mato Grosso do Sul, Brazil.

22/02/2011 – 24/02/2011: "International Seminar on Electronic Equipment Leavings" (Attendance). Recife, Pernambuco, Brazil.

24/11/2010 – 26/11/2010: "18th Congress of Undergraduate Research from UFPE" (Attendance & accepted abstract [oral presentation]). Recife, Pernambuco, Brazil.

25/11/2010 – 25/11/2010: "1st Brazilian-German Meeting of Plant Systems Biology and Bioenergy" (Attendance). Recife, Pernambuco, Brazil.

15/11/2010 – 18/11/2010: "6th International Conference of the Brazilian Association for Bioinformatics and Computational Biology" (Attendance). Ouro Preto, Minas Gerais, Brazil.

21/10/2010 – 23/10/2010: "1st Undergraduate Research Meeting and Scientific Forum" (Attendance). Recife, Pernambuco, Brazil.

31/08/2010 – 03/09/2010: "Brazilian Symposium on Bioinformatics (BSB) and International Workshop on Genomic Databases" (Attendance). Buzios, Rio de Janeiro, Brazil.

28/06/2010 – 30/06/2010: "14th Undergraduate Research Workshop" (Attendance & accepted abstract [oral presentation]). Recife, Pernambuco, Brazil.

05/06/2008 – 06/06/2008: "4th Seminar in Information Technology" (Attendance). Recife, Pernambuco, Brazil.

15   Further Competences

1. **Language Skills:**
    a. Portuguese (native proficiency).
    b. English (full professional proficiency – IELTS Score: 8.0/9.0 with 9.0 on reading, as of 15.09.2012).
    c. Spanish (high proficiency).
    d. German (intermediate proficiency).
    e. Italian (basic proficiency).
    f. French (basic proficiency).
    g. Dutch (basic proficiency).
2. **Programming Skills:**
    a. Unix-based & windows operating systems (full professional proficiency).
    b. Python, R / bioconductor, Java & Matlab (full professional proficiency).
    c. Bash shell script, C-shell, Z-shell & GNU Awk (full professional proficiency).
    d. IBM LSF cluster & SLURM cluster (full professional proficiency).
    e. C, C++ & C# (high proficiency).
    f. Perl & Ruby (intermediate proficiency).
3. **Web Programming Skills:**
    a. HTML, CSS, JSP, JSF, Javascript, Ajax & .NET (intermediate proficiency).
4. **Database Skills:**
    a. Oracle, SQL & mySQL (intermediate proficiency).
5. **Other Competences:**
    a. LaTeX, graphical software (e.g. Inkscape), microsoft office & libre office (full professional proficiency).

16   References

1. **Prof. Dr. Ivan G. Costa**
Department: IZKF Research Group in Computational Biology and Bioinformatics, Helmholtz Institute for Biomedical Engineering.
Institute: Aachen University Medical School, Aachen, Germany.
Address: Pauwelsstr. 19, 52074 Aachen, Germany.
Phone: +49 (0) 241 8080270
E-mail: ivan.costa@rwth-aachen.de
Homepage: http://costalab.org

2. **Prof. Dr. Martin Zenke**
Department: Cell Biology Research Group, Helmholtz Institute for Biomedical Engineering.
Institute: Aachen University Medical School, Aachen, Germany.
Address: Pauwelsstr. 30, 52074 Aachen, Germany.
Phone: +49 (0) 241 8080760
E-mail: martin.zenke@rwth-aachen.de
Homepage: http://www.molcell.rwth-aachen.de/

3. **Prof. Dr. Marclio C.P. de Souto**
Department: Constraints and Machine Learning Team, Core Informatics Laboratory.
Institute: University of Orleans, Orleans, France.
Address: LIFO Bat. 3IA, Rue Leonard de Vinci, B.P. 6759, F-45067 Orleans Cedex 2, France.
Phone: +33 02 38417292
E-mail: marcilio.desouto@univ-orleans.fr
Homepage: http://www.univ-orleans.fr/lifo/Members/Marcilio.DeSouto/

4. **Prof. Dr. Argyris Papantonis**
Department: Center for Molecular Medicine Cologne.
Institute: University of Cologne, Cologne, Germany.
Address: Robert-Koch-Str. 21, 50931 Cologne, Germany.
Phone: +49 (0) 221 478 96987
E-mail: argyris.papantonis@uni-koeln.de
Homepage: http://zmmk-sbc.uni-koeln.de

5. **Prof. Dr. Wolfgang Wagner**
Department: Stem Cell Biology and Cellular Engineering, Helmholtz Institute for Biomedical Engineering.
Institute: Aachen University Medical School, Aachen, Germany.
Address: Pauwelsstr. 20, 52074 Aachen, Germany.
Phone: +49 (0) 241 8088611
E-mail: wwagner@ukaachen.de
Homepage: http://bit.ly/2rdH85J

6. **Prof. Dr. Xiaole Shirley Liu**
Department: Department of Biostatistics and Computational Biology.
Institute: Dana-Farber Cancer Institute, Harvard School of Public Health, Boston, MA, USA.
Address: Center for Life Science Building, 3 Blackfan Circle, Boston, MA 02115, USA.
Phone: +1 (617) 632-2472
E-mail: xsliu@jimmy.harvard.edu
Homepage: http://liulab.dfci.harvard.edu/