Curriculum Vitae for Imad Abugessaisa

(January 7, 2021)

1. Personal Details

- *Academic title*: Ph.D.
- *Job title*: Senior research scientist
- *Address*: 1-7-22 Suehiro-cho, Tsurumi-Ku, Yokohama, Kanagawa, 230-0045, **JAPAN**
- *Email*: imad.abugessasia@riken.jp

2. Current Appointment

RIKEN Center for Integrative Medical Sciences
Laboratory for Large-Scale Biomedical Data Technology
1-7-22 Suehiro-cho, Tsurumi-Ku, Yokohama, Kanagawa, 230-0045
Japan

3. Education and qualifications

Academic degrees		
Degree	**University**	**Year**
B.Sc. (Computer Science)	The Future university, **Sudan**	1994-1999
M.Sc. (Computer & Information Science)	Gazera university, **Sudan**	2000-2002
M.Sc. (Geoinformatics)	Linköpings universitet, **Sweden**	2003-2005
Ph.D. (Computer Science)	Linköpings universitet, **Sweden**	2003-2008 *Dissertation on 12th June 2008*
Courses		
Course	**University / Institute**	**Year**
Basic Web Technology Skills for courseware Development	American University of Beirut, **Lebanon**	2001
Project/ Resource Capacity management in contract R&D Research	UNESCO	2002
Effective leadership program	Leadership management Institute, Texas, **USA** (course conducted in Stockholm, Sweden)	2011-2012
High performance computing for next generation sequencing	Principe Felipe Research Center, **Spain**	2012
Systems Biology of Disease	Institute for Systems Biology, Seattle, **USA**	2015
Protégé Ontology	Stanford University, **USA**	2015

4. Professional Experience

Title of post	Institute	Place	From	To
Senior research scientist	RIKEN	Japan	20200501	onwards
Research scientist	RIKEN	Japan	20140301	20200430
Associated	Department of Medicine, Karolinska Institutet	Sweden	20140301	20200501
Assistant professor (FOASS)	Department of Medicine, Karolinska Institutet	Sweden	20120301	20140228
Postdoc Fellow	Department of Medicine, Karolinska Institutet	Sweden	20100301	20120229
Guest lecturer[1]	Dublin Institute of Technology	Ireland	20101115	20101217
R&D specialist-SDI	Future Position X	Sweden	20081001	20100228
Researcher	SICS East Swedish ICT AB	Sweden	20080601	20081031
Guest lecturer	The University of Malawi	Malawi	20070828	20070930
Guest researcher	Università Basilicata	Italy	20070501	20070517
Guest lecturer	The University of Malawi	Malawi	20060828	20060930
Ph.D. candidate	Linköpings universitet	Sweden	20030903	20080612
Lecturer	The Future university	Sudan	20021223	20030830
Project supervisor	The Future university	Sudan	20000201	20021222

5. Academic services

- ***Editor-in-Chief***
1. Practical Guide to Life Science Databases; major reference work is currently under development and will be published by Springer.
- ***Editorial board***
1. Member of the editorial board of the International Journal on Advances in Intelligent Systems.
2. Member of the European Society for Translational Medicine (EUSTM) Expert Panel on Data Management.
3. Member of the Editorial Board of Expert Reviews of Immunology Vaccines and Informatics
4. Member of the Editorial Board of Journal of Information, Pak Publishing Group
- ***Reviewer International journal***
1. Nature, Scientific reports
2. Journal of Biomedical Informatics
3. Bioinformatics | Oxford Academic
4. Database | Oxford Academic
5. Accident Analysis & Prevention – Elsevier 2009-

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[1] Distance course

6. International Journal of Applied Earth Observation and Geoinformation– Elsevier 2011
7. BMC System Biology
8. BMC Journal of Translational Medicine
9. 15th Americas Conference on Information Systems, San Francisco, California, August 6 - 9, 2009.
- ***Program committee member for conference***
1. IADIS, Multi-conference on Computer Science and Information Systems, 2009 Portugal, 2010- Germany, 2011, Italy.
2. Program committee member of COLLA 2011 – onwards
3. International Conference on Advanced Collaborative Networks.

6. Students and researchers under my supervision

Role	Name	Outcome/achievement
(main supervisor) Karolinska Institutet	Dr Fredrik Swartz (Medical doctor)	(1) V Kannan, **F Swartz**, NA Kiani, G Silberberg, G Tsipras, D Gomez-Cabrero, et al (2016), C*onditional disease development extracted from longitudinal health care cohort data using layered network construction*, Sci
(main supervisor in (1) & (2) co-supervisor in (3) Karolinska Institutet	Dr Giorgos Tsipras (Medical doctor)	(1) V Kannan, F Swartz, NA Kiani, G Silberberg, **G Tsipras**, D Gomez-Cabrero, et al (2016), C*onditional disease development extracted from longitudinal health care cohort data using layered network construction*, Sci Rep. 2016 May 23;6:26170. doi: 10.1038/srep26170. (2) Abugessaisa I, Saevarsdottir S, **Tsipras G**, et al. (2014), Accelerating translational research by clinically driven development of an informatics platform--a case study. PLoS One. 2014 Sep 9;9(9):e104382. doi: 10.1371/journal.pone.0104382. (3) The role of CD4+CD28null T cells in the pathogenesis of ischemic heart
(main supervisor) Karolinska Institutet	Mr. Kim Ng	(1) Mouse breeding and tracking database system
(main supervisor) Karolinska Institutet	Ms. Noemi Boix Chova	(1) Hernández-de-Diego R, **Boix-Chova N**, Gómez-Cabrero D, et al (2014), STATegra EMS: an Experiment Management System for complex next-generation omics experiments.,BMC Syst Biol. 2014;8 Suppl 2:S9. doi: 10.1186/1752-0509-8-S2-S9. Epub

7. Description of current research

- **Active research**
  - I. Functional annotation of mammalian genomes (**FANTOM5 & 6**)
    https://www.nature.com/collections/jcxddjndxy
    http://fantom.gsc.riken.jp/
    http://fantom.gsc.riken.jp/5/sstar/Main_Page
  - II. Single-cell RNA sequence data analysis and integration (**SCPortalen | SkewC**)
    http://single-cell.clst.riken.jp/
  - III. Development of a reference set of Transcription start site for human and mouse (**refTSS**)
    http://reftss.clst.riken.jp/
  - IV. Human aging and frailty
  - V. Mycetoma [Neglected tropical diseases]

8. Current collaborators

- *Tropical disease and Global health research*

Wendy van de Sande, Ph.D., Assoc. Prof. Erasmus University Medical Center, the **Netherlands**

1. Hata Katsura, D.V.M., PhD., Senior Director, Eisai Co., Ltd., Japan
2. Takaaki HORII, Ph.D., Principal Scientist, Global Health Research Section, Eisai Co., Ltd., **Japan**

Ahmed Hassan Fahal, MD, Professor, Mycetoma Research Centre, **Sudan**

Alexandro Bonifaz, MD, Professor, Hospital General De Mexico. "Dr. Eduardo Liceaga"., **Mexico**

Jeff Errington, Professor, Director of the Centre for Bacterial Cell Biology, Newcastle University, **U.K**

Litvintseva, Anastasia P., (Ph.D.), senior advisor on research at the Mycotic Diseases Branch, Centers of Disease Control and Prevention (CDC), **USA**

1. Sean Doyle, Professor. Biotechnology Programme Coordinator, Maynooth University**, Ireland**.
2. Kevin Kavanagh, Professor of National University of **Ireland**, Maynooth, Maynooth (NUI Maynooth)

- *Human aging research*

Luigi Ferrucci, MD, Ph.D. The National Institute on Aging, NIH, **USA**

The Hospital Center Florence Piero Palagi, ITALY

Stefania Bandinelli, MD, Ph.D., InCHIANTI Group, Piero Palagi Hospital, **Italy**

- *Single-cell research*

1. Juha Kere, MD, Professor, Karolinska Institutet, **Sweden**
2. Shintaro Katayama, Ph.D., Karolinska Institutet, **Sweden**

1. Kuniya Abe, Ph.D. RIKEN BioResource Research Center Technology and Development Team for Mammalian Genome Dynamics, **Japan**
2. Cody Kime, Organoid Young Investigator, RIKEN Center for Biosystems Dynamics Research, **Japan**

- *Genomic research*

1. Guillaume Bourque, Professor McGill Genome Center, **Canada**
2. David Bujold, McGill University**, Canada**
3. David Brownlee, McGill University**, Canada**

9. Publication list

- **Peer-reviewed journals and preprints**

1. Böttcher,M., Tada,T., Moody,J., Kondo,M., Ura,H., **Abugessaisa,I.**, Kasukawa,T.,Hon,C-C., Nagao,K. Carninci,P., Abe,A.(2020), **Single cell transcriptomics, scRNA-Seq and C1 CAGE, discovered distinct phases of pluripotency during naïve-to-primed conversion in mice,** bioRxiv 2020.09.25.313239; doi: https://doi.org/10.1101/2020.09.25.313239.

2. **Abugessaisa**, **I**., S. Noguchi, M. Cardon, A. Hasegawa, K. Watanabe, M. Takahashi, H. Suzuki, S. Katayama, J. Kere & T. Kasukawa (2020) **Quality assessment of single-cell RNA sequencing data by coverage skewness analysis**. *bioRxiv*, 2019.12.31.890269.

3. Woogeng, I. N., **I. Abugessaisa**, A. Tachibana, Y. Sahara, C.-C. Hon, A. Hasegawa, B. Kaczkowski, N. Sakai, M. Nishida, H. Hu, H. Sanyal, J. Sho, T. Kasukawa, M. Takasato, P. Carninci, A. Maeda, M. Mandai, E. Arner, M. Takahashi & C. Kime (2020) I**nducing Human Retinal Pigment Epithelium-like Cells from Somatic Tissue**. *bioRxiv*, 2020.07.27.215103.

4. **Abugessaisa, I.**, Ramilowski, J., Lizio, M., Severin, J., Hasegawa, A., Harshbarger, J., Kondo, A., Noguchi, S., Yip, C., Ooi, J., Tagami, M., Hori, F., Agrawal, S., Hon, C., Cardon, M., Ikeda, S., Ono, H., Bono, H., Kato, M., Hashimoto, K., Bonetti, A., Kato, M., Kobayashi, N., Shin, J.W, de Hoon, M., Hayashizaki, Y..; Carninci, P.; Kawaji, H.; Kasukawa, T.,(2020), **FANTOM enters 20th year: expansion of transcriptomic atlases and functional annotation of non-coding RNAs,** Nucleic Acids Res. 2020 Nov 19:gkaa1054. doi: 10.1093/nar/gkaa1054. Epub ahead of print. [**PMID**: 33211864].

5. Ramilowski, J. A., C. W. Yip, S. Agrawal, J. C. Chang, Y. Ciani, I. V. Kulakovskiy, M. Mendez, J. L. C. Ooi, J. F. Ouyang, N. Parkinson, A. Petri, L. Roos, J. Severin, K. Yasuzawa, **I. Abugessaisa**, A. Akalin, I. V. Antonov, E. Arner, A. Bonetti, H. Bono, B. Borsari, F. Brombacher, C. J. F. Cameron, C. V. Cannistraci, R. Cardenas, M. Cardon, H. Chang, J. Dostie, L. Ducoli, A. Favorov, A. Fort, D. Garrido, N. Gil, J. Gimenez, R. Guler, L. Handoko, J. Harshbarger, A. Hasegawa, Y. Hasegawa, K. Hashimoto, N. Hayatsu, P. Heutink, T. Hirose, E. L. Imada, M. Itoh, B. Kaczkowski, A. Kanhere, E. Kawabata, H. Kawaji, T. Kawashima, S. T. Kelly, M. Kojima, N. Kondo, H. Koseki, T. Kouno, A. Kratz, M. Kurowska-Stolarska, A. T. J. Kwon, J. Leek, A. Lennartsson, M. Lizio, F. López-Redondo, J. Luginbühl, S. Maeda, V. J. Makeev, L. Marchionni, Y. A. Medvedeva, A. Minoda, F. Müller, M. Muñoz-Aguirre, M. Murata, H. Nishiyori, K. R. Nitta, S. Noguchi, Y. Noro, R. Nurtdinov, Y. Okazaki, V. Orlando, D. Paquette, C. J. C. Parr, O. J. L. Rackham, P. Rizzu, D. F. Sánchez Martinez, A. Sandelin, P. Sanjana, C. A. M. Semple, Y. Shibayama, D. M. Sivaraman, T. Suzuki, S. C. Szumowski, M. Tagami, M. S. Taylor, C. Terao, M. Thodberg, S. Thongjuea, V. Tripathi, I. Ulitsky, R. Verardo, I. E. Vorontsov, C. Yamamoto, et al. (2020) **Functional annotation of human long noncoding RNAs via molecular phenotyping**. *Genome Res,* 30**,** 1060-1072. [**PMID**: 32718982]

6. Alam, T., S. Agrawal, J. Severin, R. S. Young, R. Andersson, E. Arner, A. Hasegawa, M. Lizio, J. A. Ramilowski, **I. Abugessaisa**, Y. Ishizu, S. Noma, H. Tarui, M. S. Taylor, T. Lassmann, M. Itoh, T. Kasukawa, H. Kawaji, L. Marchionni, G. Sheng, A. R R Forrest, L. M. Khachigian, Y. Hayashizaki, P. Carninci & M. J. L. de Hoon (2020) **Comparative transcriptomics of primary cells in vertebrates**. *Genome Res,* 30**,** 951-961. [**PMID**: 32718981]

7. **Abugessaisa, I***., Noguchi, S*., Hasegawa, A., Kondo, A., Kawaji, H., Carninci, P., Kasukawa, T., (2019), refTSS: A reference dataset for human and mouse transcription start sites, **Journal of Molecular Biology**, 431(13):2407-2422, [**PMID:** 31075273]

8. Kouno, T., J. Moody, A. T.-J. Kwon, Y. Shibayama, S. Kato, Y. Huang, M. Böttcher, E. Motakis, M. Mendez, J. Severin, J. Luginbühl, I. **Abugessaisa, A**. Hasegawa, S. Takizawa, T. Arakawa, M. Furuno, N. Ramalingam, J. West, H. Suzuki, T. Kasukawa, T. Lassmann, C.-C. Hon, E. Arner, P. Carninci, C. Plessy & J. W. Shin (2019) C1 CAGE detects transcription start sites and enhancer activity at single-cell resolution. **Nature Communications**, 10, 360. , [**PMID:** 30664627]

    Abugessaisa I, Noguchi S, Böttcher M, Hasegawa A, Kouno T, Kato S, Tada Y, Ura H, Abe K, Shin JW, Plessy C, Carninci P, Kasukawa T (2017) SCPortalen: human and mouse single-cell centric database, *Nucleic Acids Research,* [**PMID:** 29045713]

9. Lizio, M., **Abugessaisa, I**., Noguchi, S., Kondo, A., Hasegawa, A., Hon, C., de Hoon, M., Severin, J., Oki, S., Hayashizaki, Y., Carninci, P., Kasukawa, T., Kawaji, H., (2018), Update of the FANTOM web resource: expanded resource of transcriptome atlas, *Nucleic Acids Research,* [**PMID:** 30407557]

10. Quistrebert, J., Hässler, S., Bachelet,D., Mbogning,C., Musters, A., Tak,P.P., Wijbrandts,C.A., Herenius,M., Bergstra, S.T., Akdemir,G., Johannesson,M., Combe, B., Fautrel,B., Chollet-Martin, S., Gleizes,A., Donnellan,N., Deisenhammer,F., Davidson,J., Hincelin-Mery, A., Dönnes,P., Fogdell-Hahn,A., De Vries, N., Huizinga, T., **Abugessaisa,I**., Saevarsdottir,S., Hacein-Bey-Abina, S., Pallardy, M., Broët,P., Mariette, X., on behalf of the ABIRISK Consortium, (2018), Incidence and risk factors for adalimumab and infliximab anti-drug antibodies in rheumatoid arthritis: a European retrospective multicohort analysis,*Seminars in Arthritis and Rheumatism*, [**PMID:** 30420245]

11. de Rie D., **Abugessaisa I**., Alam T., Arner E., Arner P., Ashoor H., Astrom G., Babina M., Bertin N., Burroughs A.M., Carlisle A.J., Daub C.O., Detmar M., Deviatiiarov R., Fort A., Gebhard C., Goldowitz D., Guhl S., Ha T.J., Harshbarger J., Hasegawa A., Hashimoto K., Herlyn M., Heutink P., Hitchens K.J., Hon C.C., Huang E., Ishizu Y., Kai C., Kasukawa T., Klinken P., Lassmann T., Lecellier C.-H., Lee W., Lizio M., Makeev V., Mathelier A., Medvedeva Y.A., Mejhert N., Mungall C.J., Noma S., Ohshima M., Okada-Hatakeyama M., Persson H., Rizzu P., Roudnicky F., Saetrom P., Sato H., Severin J., Shin J.W., Swoboda R.K., Tarui H., Toyoda H., Vitting-Seerup K., Winteringham L., Yamaguchi Y., Yasuzawa K., Yoneda M., Yumoto N., Zabierowski S., Zhang P.G., Wells C.A., Summers K.M., Kawaji H., Sandelin A., Rehli M., The F.C., Hayashizaki Y., Carninci P., Forrest A.R.R. and de Hoon M.J.L., (2017), An integrated expression atlas of miRNAs and their promoters in human and mouse. *Nature Biotechnology*, [**PMID:** 28829439]

12. *Hon CC, Ramilowski JA, Harshbarger J, Bertin N, Rackham OJ, Gough J, Denisenko E, Schmeier S, Poulsen TM, Severin J, Lizio M, Kawaji H, Kasukawa T, Itoh M, Burroughs AM, Noma S, Djebali S, Alam T, Medvedeva YA, Testa AC, Lipovich L, Yip CW, **Abugessaisa I**, Mendez M, Hasegawa A, Tang D, Lassmann T, Heutink P, Babina M, Wells CA, Kojima S, Nakamura Y, Suzuki H, Daub CO, de Hoon MJ, Arner E, Hayashizaki Y, Carninci P, Forrest AR, (2017), An atlas of human long non-coding RNAs with accurate 5' ends. Nature,* [**PMID:** 28241135]

13. Francescatto M, Lizio M, Philippens I, Bontrop R, Sakai M, Watanabe S, Itoh M, Hasegawa A, Lassmann T, Severin J, Harshbarger J, **Abugessaisa I**, Kasukawa T, Carninci P, Hayashizaki Y, Forrest ARR, Kawaji H, Rizzu P, Heutink P, (2017), Transcription start site profiling of 15 anatomical regions of the Macaca mulatta central nervous system., *Nat scientific data* [**PMID:** 29087374]

14. Bertin, N., Mendez, M., Hasegawa, A., Lizio, M., **Abugessaisa, I**., Severin, J., Sakai-Ohno, M., Lassmann, T., Kasukawa, T., Kawaji, H. *et al.* (2017) Linking FANTOM5 CAGE peaks to annotations with CAGEscan. *Nat scientific data* [**PMID:** 28972578]

15. **Abugessaisa I**., Noguchi S., Hasegawa A., Harshbarger J., Kondo A., Lizio M., Severin J., Carninci P., Kawaji H. and Kasukawa T. (2017) FANTOM5 CAGE profiles of human and mouse reprocessed for GRCh38 and GRCm38 genome assemblies, *Nat scientific data* [**PMID**: 28850105]

16. Noguchi, S., Arakawa, T., Fukuda, S., Furuno, M., Hasegawa, A., Hori, F., . . . Hayashizaki, Y. (2017). FANTOM5 CAGE profiles of human and mouse samples. *Nat scientific data,* [**PMID:** 28850106]

17. Lizio. M, Harshbarger. J, **Abugessaisa.** I, Noguchi. S, Kondo. A, Severin. J, Mungall. C, Arenillas. D, Mathelier. A, Medvedeva. YA, et al. (2017): Update of the FANTOM web resource: high resolution transcriptome of diverse cell types in mammals. *Nucleic Acids Res,* [**PMID:** 27794045]

18. Lizio M., Mukarram A.K., Ohno M., Watanabe S., Itoh M., Hasegawa A., Lassmann T., Severin J., Harshbarger J., **Abugessaisa I**., Kasukawa T., Hon C.C., Carninci P., Hayashizaki Y., Forrest A.R.R. and Kawaji H. (2017) Monitoring transcription initiation activities in rat and dog, *Nat scientific data* [**PMID:** 29182598]

19. **Abugessaisa, I**., H. Shimoji, S. Sahin, A. Kondo, J. Harshbarger, M. Lizio, Y. Hayashizaki, P. Carninci, F. consortium, A. Forrest, T. Kasukawa and H. Kawaji (2016). "FANTOM5 transcriptome catalog of cellular states based on Semantic MediaWiki.", *Database* [**PMID:** 27402679]

20. Lippi, G., Jansen-Duerr, P., Vina, J., Durrance-Bagale, A., **Abugessaisa, I**., Gomez-Cabrero, D., consortium, F. (2015). Laboratory biomarkers and frailty: presentation of the FRAILOMIC initiative. *Clin Chem Lab Med*. doi: 10.1515/cclm-2015-0147 **Clinical Chemistry and Laboratory Medicine (CCLM)**, [**PMID**: 25993734]

21. Arner, E., C. O. Daub, K. Vitting-Seerup, R. Andersson, B. Lilje, F. Drablos, A. Lennartsson, M. Rönnerblad, O. Hrydziuszko, M. Vitezic, T. C. Freeman, A. Alhendi, P. Arner, R. Axton, J. K. Baillie, A. Beckhouse, B. Bodega, J. Briggs, F. Brombacher, M. Davis, M. Detmar, A. Ehrlund, M. Endoh, A. Eslami, M. Fagiolini, L. Fairbairn, G. J. Faulkner, C. Ferrai, M. E. Fisher, L. Forrester, D. Goldowitz, R. Guler, T. Ha, M. Hara, M. Herlyn, T. Ikawa, C. Kai, H. Kawamoto, L. Khachigian, P. S. Klinken, S. Kojima, H. Koseki, S. Klein, N. Mejhert, K. Miyaguchi, Y. Mizuno, M. Morimoto, K. J. Morris, C. Mummery, Y. Nakachi, S. Ogishima, M. Okada-Hatakeyama, Y. Okazaki, V. Orlando, D. Ovchinnikov, R. Passier, M. Patrikakis, A. Pombo, X.-Y. Qin, S. Roy, H. Sato, S. Savvi, A. Saxena, A. Schwegmann, D. Sugiyama, R. Swoboda, H. Tanaka, A. Tomoiu, L. N. Winteringham, E. Wolvetang, C. Yanagi-Mizuochi, M. Yoneda, S. Zabierowski, P. Zhang, **I. Abugessaisa**, N. Bertin, A. D. Diehl, S. Fukuda, M. Furuno, J. Harshbarger, A. Hasegawa, F. Hori, S. Ishikawa-Kato, Y. Ishizu, M. Itoh, T. Kawashima, M. Kojima, N. Kondo, M. Lizio, T. F. Meehan, C. J. Mungall, M. Murata, H. Nishiyori-Sueki, S. Sahin, S. Sato-Nagao, J. Severin, M. J. L. de Hoon, J. Kawai, T. Kasukawa, T. Lassmann, H. Suzuki, H. Kawaji, K. M. Summers, C. Wells, F. Consortium, D. A. Hume, A. R. R. Forrest, A. Sandelin, P. Carninci and Y. Hayashizaki (2015). "Transcribed enhancers lead waves of coordinated transcription in transitioning mammalian cells." DOI: 10.1126/Science.1259418. *Science,* [**PMID:** 25678556]
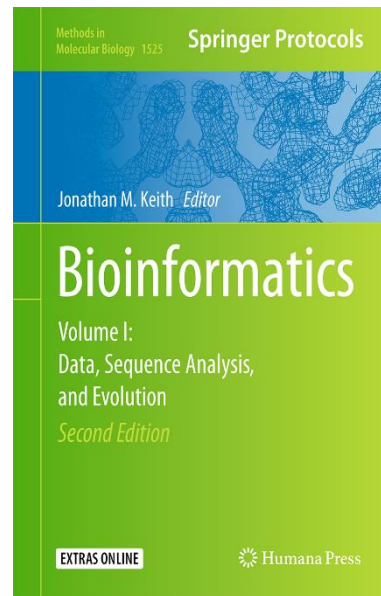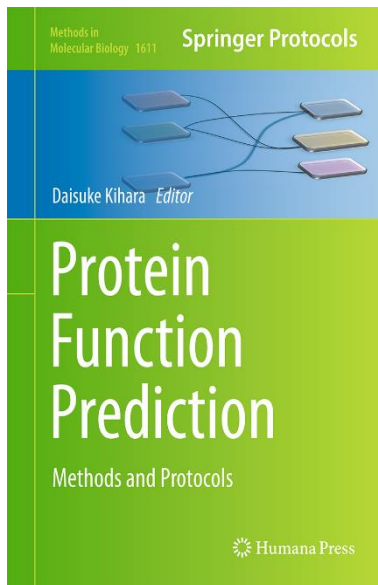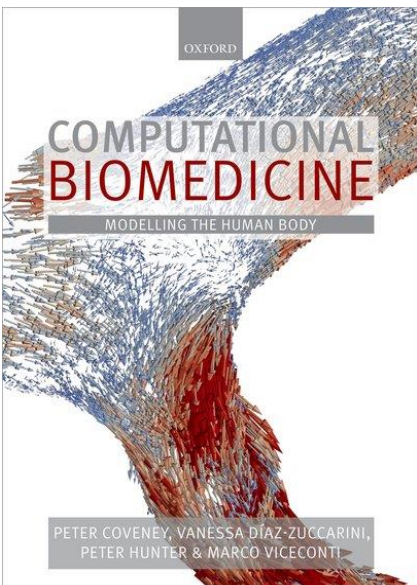
22. Lizio, M., J. Harshbarger, H. Shimoji, J. Severin, T. Kasukawa, S. Sahin, **I. Abugessaisa**, S. Fukuda, F. Hori, S. Ishikawa-Kato, C. Mungall, E. Arner, J. Baillie, N. Bertin, H. Bono, M. de Hoon, A. Diehl, E. Dimont, T. Freeman, K. Fujieda, W. Hide, R. Kaliyaperumal, T. Katayama, T. Lassmann, T. Meehan, K. Nishikata, H. Ono, M. Rehli, A. Sandelin, E. Schultes, P. 't Hoen, Z. Tatum, M. Thompson, T. Toyoda, D. Wright, C. Daub, M. Itoh, P. Carninci, Y. Hayashizaki, A. Forrest and H. Kawaji (2015). "Gateways to the FANTOM5 promoter level mammalian expression atlas." ,*Genome Biology,* [**PMID:** 25723102]

23. Gomez-Cabrero, D., Menche, J., Cano, I., <u>Abugessaisa, I</u>., Huertas-Migueláñez, M., Tenyi, A., Marin de Mas, I., Kiani, N., Marabita,F., Falciani, F., Burrowes, K., Maier, D., Wagner, P., Selivanov, V., Cascante, M., Roca, J., Barabási, A-L., Tegnér, J. (2014), "Systems Medicine: from molecular features and models to the clinic in COPD", *Journal of translational medicine,* [**PMID:** 25471042]

24. **Abugessaisa I,** Saevarsdottir S, Tsipras G, Lindblad S, Sandin C, Nikamo P, Ståhle M, Malmström V, Klareskog L, Tegnér J. (2014) Accelerating Translational Research by Clinically Driven Development of an Informatics Platform–A Case Study, *PLoS ONE ,* [**PMID:** 25203647]

25. Gomez-Cabrero, D., **Abugessaisa, I.,** Maier, D., Teschendorff, A., Merkenschlager, M., Gisel, A., Ballestar, E., Bongcam-Rudloff, E., Conesa A., and Tegnér, J., (2014), "Data integration in the era of omics: current and future challenges", *BMC Systems Biology ,* [**PMID:** 25032990]

26. Rafael H., Boix-Chova, N., Gómez-Cabrero, D., Tegnér, J., **Abugessaisa, I.,** Conesa, A.," STATegra EMS: an Experiment Management System for complex next-generation omics experiments", *BMC Systems Biology ,* [**PMID**: 25033091]

27. **Abugessaisa I,** Gomez-Cabrero D, Snir O, Lindblad S, Klareskog L, Malmstrom V, et al. Implementation of the CDC translational informatics platform--from genetic variants to the national Swedish Rheumatology Quality Register. *Journal of translational medicine ,* [**PMID:** 23548156]

28. Tegnér, J. & **Abugessaisa, I. (**2013) Pediatric systems medicine: evaluating needs and opportunities using congenital heart block as a case study. **Pediatric Research – Nature** *,* [**PMID:** 23370412]

29. **Abugessaisa, I.,** and Östman, A., (2011), Testing-SDI: e-Government Prospective, Requirements, and Challenges, The   *International Journal of Public Information Systems*, ISSN 1653-4360, Vol. (2011: 1), pp 11- 47. *International Journal of Public Information Systems*

30. **Abugessaisa, I.,** (2010) 'Geospatial metadata extraction from product description document applying methods from ontology engineering', *Int. J. Metadata, Semantics and Ontologies*, Vol. 5, No. 4, pp.321–332. Inderscience Publishers. **The International Journal of Metadata, Semantics and Ontologies**

31. **Abugessaisa I.,** (2008), Knowledge discovery in road accidents database integration of visual and automatic data mining methods, The   *International Journal of Public Information Systems*, ISSN 1653-4360, Vol. (2008: 1), pp 59- 85. *International Journal of Public Information Systems*

- **Peer-reviewed conference proceedings**

32. **Abugessaisa, I.,** and Tegner, J. (2010), Biomedical Vertical Data Warehouse Integration: Assessment of Challenges and Opportunities at the Center of Excellence for Research on Inflammation and Cardiovascular Disease, *Virtual Physiological Human conference*, 30th September to 1st October, 2010, Brussels.

33. Kasukawa, T., et al, "*Integrated web resource for the genome-wide transcription start site activity profiles of wide-range of mammalian cells in the FANTOM5 project*", CSHL Meeting: *Biological Data Science*, CSHL, NY, United States (2014).

34. **Abugessaisa, I.,** and Tanzili, S. (2010) Testing of Geoportals: INSPIRE demands and challenges, The INSPIRE Conference 2010, 23 to 25 June 2010 in Kraków , Poland.

35. **Abugessaisa, I.,** and Sivertun, Å., (2009), ICT in regional networks in the field of culture and development cooperation, In the proceedings of the 15th Americas Conference on Information Systems, San Francisco, California, August 6 – 9, 2009,Paper 331.

36. Östman, A., **Abugessaisa, I.,** Tanzili, S., He, X., El-Makawi, M., (2009) GeoTest: an Environment for Testing Swedish Geodata, Global Spatial Data Infrastructure Association 11 World Conference, 15-19 June 2009, Rotterdam, Netherland.

37. **Abugessaisa, I.,** (2008), Turing road accidents statistic into knowledge, International   seminar on innovative approaches to turning statistics into knowledge, arranged jointly by Statistics Sweden and the OECD. 26-27 May 2008 in Berns Salonger, Stockholm, Sweden.

38. **Abugessaisa, I.,** Sivertun Å., and Le Duc M., (2007), A systemic view on Swedish traffic road accident data acquisition system, in proceeding of the VTI 14th International Conference on Road Safety on Four Continents (RS4C), Bangkok, Thailand, on 14-16 November 2007.

39. **Abugessaisa, I.,** Sivertun Å., and Le Duc M., (2007), GLOBESAFE: A platform for information sharing among road safety organizations, In proceeding of IFIP-W.G. 9th International Conference on Social Implications of Computers in Developing Countries, May 2007, São Paulo, Brazil. ISSN 1981-3945.

40. **Abugessaisa, I.,** Sivertun Å., and Le Duc M., (2006) Map as Interface for shared information: A Study of design principles and user interaction satisfaction In proceeding of The IADIS International Conference WWW/Internet, University of Murcia, Spain.

41. **Abugessaisa I.,** and Sivertun Å., (2005) Benchmarking Road Safety Situations Using OGC Model of Portrayal Workflow, In proceeding of The 13th International Conference on Geoinformatics (GeoInformatics'5), Ryerson University. Canada.

42. **Abugessaisa, I.,** Sivertun Å., (2004), Ontological Approach to Modeling Information Systems. In Proceedings of the Fourth international Conference on Computer and information Technology (Cit'04) – Volume 00 (September 14 – 16, 2004). CIT. IEEE Computer Society, Washington, DC, 1122-1127.

- **Chapter in book**

43. **Abugessaisa, I**., Kasukawa, T., & Kawaji, H. (2017). Genome Annotation. In J. M. Keith (Ed.), Bioinformatics: Volume I: Data, Sequence Analysis, and Evolution (pp. 107-121). New York, NY: Springer New York. [**PMID**: 27896719]

44. **Abugessaisa, I.,** Noguchi, S., Carninci, P., & Kasukawa, T. (2017). The FANTOM5 Computation Ecosystem: Genomic Information Hub for Promoters and Active Enhancers. In D. Kihara (Ed.), Protein Function Prediction: Methods and Protocols (pp. 199-217). New York, NY: Springer New York. [**PMID**: 28451981]

45. **Abugessaisa, I.,** Gomez-Cabrero, D., Tegnér, J., (2014) Molecular Foundations of Computational Bioscience, chapter in book, Computational biomedicine: modelling the human body. Edited by Coveney P, Díaz-Zuccarini V, Hunter P, Viceconti M, Oxford: Oxford University Press.

- **Technical reports**
1. Friesland, S., Lewensohn, R., Masucci, M., Keros,D.,Tanushi, H., **Abugessaisa, I.,** Petris, L., Wageinus, G., Wersäll, P.,Lindberg, K.,Sharp,L., Wallberg, S., Rundgren, J.,(2014), Infrastructure development for the implementation of Swedish national database in oncology specifically related to diagnosis and treatment of lung cancer, Project report from Oncology Clinic, Karolinska University Hospital Stockholm to Stockholm County Council "SLL", Sweden.

2. Tanzilli, S. and **Abugessaisa, I**. (2009) Results of the data specifications testing of the infrastructure for spatial information in Europe (INSPIRE) directive Annex I to the EU Joint Research Center (JRC) and Swedish Land Survey (Lantmäteriet) on Five themes (Addresses, Cadastral areas, Transport network, Geographical names, Hydrography and Metadata.

3. Sivertn, Å., **Abugessaisa, I.,** (2008), ICT in regional and global networks in the field of culture and development cooperation, Technical report , Swedish International Development Agency, Division for Culture and Media.

4. Asp K., Lindskog P., Sivertun Å., Ghazwan A., **Abugessaisa, I.,** (2005), Applying ICT for technology transfer in order to achieve a sustainable system in higher education, Project report from Linköpings universitet to the Swedish Program for ICT in Developing regions, "SPIDER".

10.   Invited speaker

- Invited to give talk at the OECD, joint transport research Centre meeting on international traffic safety data and analysis, 23 and 24 of March 2009. Paris, France.
- European Society for Translational Medicine conference October 2013, Mondorf Parc Hotel, Mondorf-les-Bains, Grand-Duchy of Luxembourg.
- Invited speaker International Mammalian Genome Society (2015), Yokohama, JAPAN
- The 39th Annual Meeting of the Molecular Biology Society of Japan (2016), Yokohama, JAPAN
- Invited lecture for graduate students in PhD program in Genomics and Precision Medicine & PhD in
  Biological and Biomedical Sciences, College of Health and Life Sciences, Hamad Bin Khalifa University
  (HBKU), Qatar (2019)

11.   Teaching experience

My teaching experience is fairly broad. I have taught a number of undergraduate and graduate courses of different sizes (5-70 students) for students with different backgrounds at
- Computer science program at the Future university, Sudan (1999 -2003)
- Geoinformatics program at the University of Malawi, Malawi (2006-2007)
- Master program in Geoinformatics at Linkoping University, Sweden (2006-2007).
- Master program in Spatial information management, Dublin Institute of Technology (2010) (distance course)

E-learning courses
1- Schema matching, mapping and transformation for INSPIRE, hosted by **Katholicke Universiteit at Leuven, Belgium**, (2010). Course leader Prof. Dr. Anders Östman and Dr Imad Abugessaisa.
2- Schema matching, mapping and transformation for INSPIRE, hosted **University of Life Sciences in Aas, Norway**, (2009). course leader Prof. Dr. Anders Östman and Dr Imad Abugessaisa

12.   Media coverage & publicity

1. **GävleMagasinet,** EU INSPIRE data specifications testing, FPX har hittat sin position i Teknikparken, GävleMagasinet, 14/11, 2008. http://gavlemagasinet.se/articles/view/fpx-har-hittat-sin-position-i-teknikparken

2. **Medicinsk Vetenskap** , T-MedFusion project interview - Medicinsk Vetenskap nr 1 2012, http://issuu.com/karolinska_institutet/docs/mv_nr_1_2012/46

3. **The independent,** Computer simulation could become 'integral' in the diagnosis, treatment, or prevention of disease by the end of the century, Sunday 15 June 2014. http://www.independent.co.uk/news/science/computer-simulation-could-become-integral-in-the-diagnosis-treatment-or-prevention-of-disease-by-the-end-of-the-century-9537730.html
   "Computational Biomedicine: Modelling the Human Body is the world's first textbook dedicated to the direct use of computer simulation in the diagnosis, treatment, or prevention of a disease. It claims that such technology will be "integral" to the way clinical decisions are made in the UK's operating theatres by the end of this century."
4. **RIKEN press release,** Continuously extensible database provides insights into our cells http://www.riken.jp/pr/press/2016/20160805_2/
5. **RIKEN press release,** FANTOMデータベースの最新アップデート－ゲノム科学に貢献してきた20年にわたる基盤的活動－ https://www.riken.jp/press/2020/20201214_1/index.html

13. EU projects FP6 and FP7

During the last few years I have been involved in several EU FP6 and FP7 projects including the following:

1. Infrastructure for spatial information in Europe, INSPIRE, 2008-2010
2. The 35 MEuro Innovative Medicines Initiative (IMI) project BTCure and AbiRisk 2012-2013.
3. Stategra 2012-2015
4. Frailomic 2012-2107
5. CASYM 2012-2014

14. Swedish research council VR – Vetenskapsrådet projects

1. Center of Excellence for Research on Inflammation and Cardiovascular disease CERIC 2010-2012, KI, Sweden
2. Swedish e-Science program 2011-2013, Sweden

15. Sweden's innovation agency VINNOVA and others

1. Patientkunskap 2012-2014
2. Projekt 4D Informatik 2012 – 2014

16. Research grants

Grant	Country	Year	Role	Project Title	Amount in $US
The Swedish Program for ICT in Developing regions.	Sweden	2006	Co-PI	Applying ICT for technology transfer in order to achieve a sustainable system in higher education	8,000.000
Linneus-Palme foundation	Sweden	2006	Co-PI	Guest lecturer in Malawi	10,000.000
Linneus-Palme foundation	Sweden	2007	Co-PI	Guest lecturer in Malawi	10,000.000
Swedish International Development Agency	Sweden	2008	Co-PI	ICT in regional and global networks in the field of culture and development cooperation	80,000.000
Åke Wiberg foundation	Sweden	2013-2014	PI	Predicting and preventing occupational disease patterns: An integrative utilization and network analysis of registers and genomics data	30,000.00
RIKEN Aging project's fund	JAPAN	2017-2018	PI	Regulation of human aging genes and their association with frailty and clinical phenotypes	~ 13,000.00

RIKEN IMS Center Director's Discretionary Budget	JAPAN	2018	Co-PI	Characterize Eumycetoma grain formation and development in Galleria mellonella larvae infected with Madurella mycetomatis.	~ 25,000.00
Global Health Innovative Technology Fund	JAPAN	2020	**PI**	MycEXomics: Development of field-friendly point-of-care diagnostic test for mycetoma	~ 280,000.00
The Japan Society for the Promotion of Science (JSPS) Grant-in-Aid for Scientific Research (kakenhi)	Japan	2020	**PI**	Mapping the Madurella mycetomatis pathogen and host responses during and after antifungal treatment to identify prognostic therapeutic markers for mycetoma	~ 50,000.00
RIKEN IMS Center Director's Discretionary Budget	JAPAN	2020	Co-PI	Deciphering Madurella mycetomatis response to antifungal compound	~ 20,000.00