

CURRICULUM: STEFAN SCHOEFTNER, PhD

DATE AND PLACE OF BIRTH

Linz (Austria); 29.03.1975

1. CURRENT WORKING ADDRESS:

Laboratorio Nazionale CIB
Palazzina F3 - Area Science Park
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2. POSITIONS:

From 02.02.2015 - present: Associate Professor (BIO 11) Department of Life Sciences, University of Trieste, Italy

From 01.03.2013 - present: Group leader Laboratorio Nazionale CIB, Trieste, Italy. Research focus: Function of short and long non-coding RNAs in cancer, aging and telomere regulation

01.10.2010 – 28.02.2013: Junior group leader – AIRC Start up group. Istituto Nazionale Tumori, Regina Elena (IRE/IFO), Rome, Italy
Research focus: Function of short and long non-coding RNAs in cancer, aging and telomere regulation

09.10.2009 –30.08.2010: Post-doctoral fellow Laboratorio Nazionale CIB, Trieste, Italy – Research group. Roberta Benetti, PhD
Research focus: miRNA pathways controlling the Rb pathway in human cancer

01.03.2006 –30.08.2009: Post-doctoral fellow EMBO long term fellowship, Spanish National Cancer Centre (CNIO) Madrid, Spain – Research group: Maria A. Blasco, PhD
Research focus: ncRNAs, cancer and telomere function

01.10.2001 – 01.12.2005: PhD fellow Vienna Biocenter presso Research Institute of Molecular Pathology (IMP), Vienna, Austria – Research group: Anton Wutz, PhD. Group A. Wutz);
Research focus: ncRNA, Epigenetics and Dosage Compensation

01.05.1999 – 01.12.2000: Master thesis, presso Research Institute of Molecular Pathology (IMP), Vienna, Austria – Research group: Meinrad Busslinger
Research focus: B-cell development

01.01.2001- 15.09.2001: Research Interruption, Military Service, Austrian army

3. ACCADEMIC EDUCATION AND HABILITATIONS:

- Italian national scientific habilitations (2012):
"Biologia Molecolare" (05/E2, II fascia)
"Biologia Applicata" (05/F1, II fascia)
"Biochimica Generale e Biochimica Clinica" (05/E1, II fascia)
- PhD in Natural Sciences, University of Vienna Grade: "with excellence";
15.12.2005:
- Master of Science, University of Vienna; 06.12.2000.

4. CURRENT RESEARCH FOCUS:

- Identification of microRNAs that control genomic stability in human cancer and contribute alterations in telomere function
- Investigating the role of long, telomeric non-coding transcripts in controlling telomere related genomic stability.
- Understanding the role of subnuclear RNA:Protein compartments in mediating genomic stability.
- Investigating the role of RNA:DNA hybrids on genomic instability
- Investigating the role of long, non-coding RNAs in controlling chromatin structure

5. RESEARCH FUNDING:

- European Commission: European Regional Development Fund (Interreg) Italia-Austria (project duration 2017-2019): Role: Project coordinator, Title "Generation of a platform for anti-cancer precision cancer medicine" (total funding € 1.200.000)
- AIRC Investigator Grant (Project duration 2017-2019), Role: Principal Investigator, "A dangerous RNA:DNA affair: Unravelling R-loop management in breast cancer genome integrity and chromatid cohesion" (€ 300.000)
- FRA 2015 (Intermural funding of the University of Trieste; project duration 2016-2017); Role: Project coordinator "Exploring miRNA pathways connecting EMT with telomere function and response to inflammation in breast cancer" (€ 28.000)
- AIRC Start up grant (Project duration: 2011-2016), Role: Principal investigator, "Telomere regulation by non-coding RNA in human cancer" (€ 750.000)
- Fondazione Veronesi Research grant (Project duration: 2011-2012), Role: Principal Investigator (€ 100.000)

6. INVITED ORAL PRESENTATIONS:

- 07/2015: DNA replication meeting, Trieste: "TERRA RNA binding proteins control RNA:DNA hybrid formation at telomeres"
- 11/2014: SIES Conference, Florence: "miRNAs in telomere regulation"
- 05/2012: Conferenza SIBBM, Palermo: "miRNAs in telomere regulation" (I microRNA nella regolazione dell'omeostasi telomerica)
- 01/2009: EMBO conference, Vienna: "Regulation of mammalian telomeres by the non-coding RNA TERRA"
- 07/2008: NIH meeting on Epigenetics and Ageing, Bethesda; USA.. "Control of telomeres by regulatory RNAs"

- 06/2008: Network of European Excellence (NoE) Conference, Madrid, Spain. Schoeftner, S. "Control of telomeres by regulatory RNAs"
- 07/2002: International Conference of the RNA Society; Vienna "RNA:Protein affinity in Xist mediated long-range transcriptional silencing"

7. TEACHING ACTIVITIES:

- SUPERVISION AND COORDINATION OF POSTDOCTORAL FELLOWS

- 2017 – present: Mariangela Santorsola, PhD
- 2017 – present: Odessa Schillaci, PhD
- 2016: Eleonora Petti, PhD (now: Postdoc at IFO, Rome)
- 2015: Roberto Dinami, PhD: 2015 (now: Postdoc at IFO, Rome)
- 2012 –2014: Rosanna Sestito, PhD(now: Postdoc at IFO Rome)

- SUPERVISION AND COORDINATION OF PhD STUDENTS

- 2017 – present: Pamela Veneziano Broccia; PhD program for Molecular Medicine, University of Trieste, Italy
- 2015 – present: Antonina Zappone; PhD program for Molecular Medicine, University of Trieste, Italy
- 2015 – Massimo Rosso; PhD program for Molecular Medicine, University of Trieste, Italy
- 2014 – 2017: Valentina Buemi; PhD program for Molecular Medicine, University of Trieste, Italy
- 2013 – 2016: Eleonora Petti; PhD program for Molecular Medicine, University of Trieste, Italy
- 2012 – 2015: Roberto Dinami; PhD program for Molecular Medicine, University of Trieste, Italy

- SUPERVISION AND COORDINATION OF MASTERS STUDENTS:

- 2017: Pasquale Sileo; University of Trieste, Italy
- 2016: Kengne Tatou; University of Trieste, Italy
- 2014: Federica Cioffi, University of Trieste, Italy
- 03/2011 – 06/2012: Eleonora Petti; University La Sapienza, Rome, Italy

-INVITED LECTURING AT ITALIAN AND INTERNATIONAL UNIVERSITIES:

- 10/2013, 10/2016 ERASUMS Program Lecture Series: Lecturing at the University of Trieste, Italy: Telomeres and Epigenetics in cancer biology
- 09/2013: Lecturing at the University of Udine, Italy:
 - Non-coding RNAs in genome regulation
 - RNA:Protein macrostructures in telomere regulation
- 06/2013: Lecturing at the University of Trieste, Italy: Telomeres and Epigenetics in cancer
- 10/2011: ERASUMS Program Lecture Series: Lecturing at the University of Trieste, Italy: Telomeres and Epigenetics in cancer biology
- 05/2011: Lecturing at the University of Udine, Italy: Non-coding RNAs in genome regulation
- 09/2011:Lecturing at the University of Trieste, Italy: Telomeres and Epigenetics in cancer biology
- 05/2010:Lecturing at the University of Trieste, Italy: Telomeres and Epigenetics in cancer biology

12/2009 :Lecturing at the University of Trieste, Italy: Telomeres and Epigenetics in cancerbiology

04/2008: PhD course of the Universidad Autonoma, Madrid and the Spanish National Cancer Centre (CNIO) Madrid, Spain: Cell Cycle and Cancer

8. NATIONAL AND INTERNATIONAL COLLABORATORS:

- Maria A. Blasco (CNIO, Madrid, Spain): Determination of telomere length by means of high-throughput techniques
- Mauro Giacca (ICGEB, Trieste): High-throughput miRNA screenings
- Anton Wutz (ETH, Zurich): Stem cell biology and reagents
- Roberta Benetti (LNCIB, Trieste): miRNA and stem cell technologies
- Claudio Schneider (LNCIB, Trieste): Bioinformatics and genomics
- Giovanni Blandino (IFO/IRE, Roma) ; miRNA expression in tumoral tissues
- Marcella Mottolese (IFO/IRE, Roma): Breast cancer specimen
- Reuven Agami (NKI, Amsterdam): miRNA reagents and expression libraries
- Grazia Raffa (La Sapienza, Roma) ncRNA function and telomere homeostasis
- Enrico Bertini (IRCCS, Bambino. Gesù, Rome): the role of telomere regulators in genetic disease

9. PUBLICATIONS, PATENTS:

- BIBLIOMETRIC INDEX (WOS; 07/2018):

Number of publications in international peer-reviewed journals: 19

H-Index (web of knowledge): 15

Average citations: 91.84

Total citations: 1719

- INTERNATIONAL PATENTS:

22.04.2010 Stefan Schoeftner e Maria A. Blasco (CNIO, Spain), Title: Novel diagnostic and therapeutic agents. WO 2010043243 A1

- REVIEWER ACTIVITY AND EDITORIAL BOARD MEMBER

Invited Editorial Board Member: RNA & Disease

Paper Review: Cancer Research, PloS One, International Journal of Biochemistry and Cell Biology, Cell Death and Disease, Cellular and Molecular Neurobiology

- PUBLICATIONS:

1. Dinami R*, Buemi V*, Sestito R, Zappone A, Ciani Y, Mano M, Petti E, Sacconi A, Blandino G, Giacca M, Piazza S, Benetti R#, SCHOEFTNER S#.

Epigenetic silencing of miR-296 and miR-512 ensures hTERT dependent apoptosis protection and telomere maintenance in basal-type breast cancer cells. ONCOTARGET. 2017 Sep 23;8(56):95674-95691. doi:

10.18632/oncotarget.21180. * equal contribution ; #co-corresponding authors

2. Comisso E, Scarola M, Rosso M, Piazza S, Marzinotto S, Ciani Y, Orsaria M, Mariuzzi L, Schneider C, SCHOEFTNER S#, Benetti R#.

OCT4 controls mitotic stability and inactivates the RB tumor suppressor pathway to enhance ovarian cancer aggressiveness.

ONCOGENE. 2017 Jul 27;36(30):4253-4266. doi: 10.1038/onc.2017.20.

3. Scarola M, Comisso E, Pascolo R, Chiaradia R, Maria Marion R, Schneider C, Blasco MA, SCHOEFTNER S#, Benetti R#

Epigenetic silencing of Oct4 by a complex containing SUV39H1 and Oct4 pseudogene lncRNA. NAT COMMUN. 2015 Jul 9;6:7631. doi: 10.1038/ncomms8631. #co-corresponding authors

4. Petti E*, Jordi F*, Buemi V, Dinami R, Benetti R, Blasco MA# SCHOEFTNER S.# . (2015). Altered telomere homeostasis and resistance to skin carcinogenesis in Suv39h1 transgenic mice. CELL CYCLE. 2015;14(9):1438-46. doi: 10.1080/15384101.2015.1021517. * equal contribution; #co-corresponding authors

5. Foronda M, Martínez P, SCHOEFTNER S, Gómez-López G, Schneider R, Flores JM, Pisano DG, Blasco MA. (2014) Sox4 links tumor suppression to accelerated aging in mice by modulating stem cell activation. CELL REPORTS. 2014 J; doi: 10.1016/j.celrep.2014.06.031. Epub 2014 Jul 17.

6. Dinami R, Petti E, Sestito R, Benetti R, SCHOEFTNER, S (2014). miRNAs control the function of telomeres in human cancer. RNA AND DISEASE. doi: 10.14800/rd.282i

7. Dinami R, Ercolani C, Petti E, Piazza S, Ciani Y, Sestito R, Sacconi A, Biagioni F, le Sage C, Agami R, Benetti R, Mottolese M, Schneider C, Blandino G, SCHOEFTNER S. miR-155 drives telomere fragility in human breast cancer by targeting TRF1. CANCER RESEARCH. (2014). canres.2038.2013; Published OnlineFirst May 29, 2014; doi/ISSN Non ancora disponibile. Pubmed entry: PMID: 24876105

8. SCHOEFTNER S*. Scarola Michele*, Comisso Elisa, Schneider Claudio, Benetti Roberta. (2013). An Oct4-pRB axis, controlled by MiR-335, integrates stem cell self-renewal and cell cycle control. STEM CELLS, ISSN: 1066-5099, doi: 10.1002/stem.1315. *equal contribution

9. SCHOEFTNER S., Blasco Maria A. (2010). Chromatin regulation and non-coding RNAs at mammalian telomeres. SEMINARS IN CELL & DEVELOPMENTAL BIOLOGY, vol. 21; p. 186-193, ISSN: 1084-9521, doi: 10.1016/j.semcd.2009.09.015

10. Scarola Michele, SCHOEFTNER S, , Schneider Claudio, Benetti Roberta (2010). miR-335 Directly Targets Rb1 (pRb/p105) in a Proximal Connection to p53-Dependent Stress Response. CANCER RESEARCH, vol. 70; p. 6925-6933, ISSN: 0008-5472, doi: 10.1158/0008-5472.CAN-10-0141

11. Martinez Paula, Thanasoula Maria, Carlos Ana R., Gomez-Lopez Gonzalo, Tejera Agueda M., SCHOEFTNER S., Dominguez Orlando, Pisano David G., Tarsounas Madalena, Blasco Maria A. (2010). Mammalian Rap1 controls telomere function and gene expression through binding to telomeric and

extratelomeric sites. *NATURE CELL BIOLOGY*, vol. 12; p. 768-U28, ISSN: 1465-7392, doi: 10.1038/ncb2081

12. Munoz Purificacion, Blanco Raquel, de Carcer Guillermo, SCHOEFTNER S., Benetti Roberta, Flores Juana M., Malumbres Marcos, Blasco Maria A. (2009). TRF1 Controls Telomere Length and Mitotic Fidelity in Epithelial Homeostasis. *MOLECULAR AND CELLULAR BIOLOGY*, vol. 29; p. 1608-1625, ISSN: 0270-7306, doi: 10.1128/MCB.01339-08

13. SCHOEFTNER S., Blasco Maria A. (2009). A 'higher order' of telomere regulation: telomere heterochromatin and telomeric RNAs. *EMBO JOURNAL*, vol. 28; p. 2323-2336, ISSN: 0261-4189, doi: 10.1038/emboj.2009.197

14. SCHOEFTNER S., Blanco Raquel, Lopez de Silanes Isabel, Munoz Purificacion, Gomez-Lopez Gonzalo, Flores Juana M., Blasco Maria A. (2009). Telomere shortening relaxes X chromosome inactivation and forces global transcriptome alterations. *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*, vol. 106; p. 19387-19392, ISSN: 0027-8424, doi: 10.1073/pnas.0909265106

15. Marion Rosa M., Strati Katerina, Li Han, Tejera Agueda, SCHOEFTNER S., Ortega Sagarrio, Serrano Manuel, Blasco Maria A. (2009). Telomeres Acquire Embryonic Stem Cell Characteristics in Induced Pluripotent Stem Cells. *CELL STEM CELL*, vol. 4; p. 141-154, ISSN: 1934-5909, doi: 10.1016/j.stem.2008.12.010

16. SCHOEFTNER S., Blasco Maria A. (2008). Developmentally regulated transcription of mammalian telomeres by DNA-dependent RNA polymerase II. *NATURE CELL BIOLOGY*, vol. 10; p. 228-U106, ISSN: 1465-7392, doi: 10.1038/ncb1685

17. Benetti Roberta, SCHOEFTNER S., Munoz Purificacion, Blasco Maria A. (2008). Role of TRF2 in the assembly of telomeric chromatin. *CELL CYCLE*, vol. 7; p. 3461-3468, ISSN: 1538-4101, doi: <http://dx.doi.org/10.4161/cc.7.21.7013>.

18. Benetti Roberta, Gonzalo Susana, Jaco Isabel, Munoz Purificacion, Gonzalez Susana, SCHOEFTNER S., Murchison Elizabeth, Andl Thomas, Chen Taiping, Klatt Peter, Li En, Serrano Manuel, Millar Sarah, Hannon Gregory, Blasco Maria A. (2008). A mammalian microRNA cluster controls DNA methylation and telomere recombination via Rbl2-dependent regulation of DNA methyltransferases. *NATURE STRUCTURAL & MOLECULAR BIOLOGY*, vol. 15; p. 268-279, ISSN: 1545-9985, doi: 10.1038/nsmb.1399

19. SCHOEFTNER S., Sengupta Aditya K., Kubicek Stefan, Mechtler Karl, Spahn Laura, Koseki Haruhiko, Jenuwein Thomas, Wutz Anton (2006). Recruitment of PRC1 function at the initiation of X inactivation independent of PRC2 and silencing. *EMBO JOURNAL*, vol. 25; p. 3110-3122, ISSN: 0261-4189, doi: 10.1038/sj.emboj.7601187