

**Ganesh Vilas Shelke, MSc (Biotechnology) PhD (Medicine)****PERSONAL INFORMATION**

Place/Date of birth/Age: Bathinda, Indian / 6<sup>th</sup> July 1986 /34 years  
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**UNIVERSITY EDUCATION**

06/2014-06/2018 **Doctoral degree** University of Gothenburg, Sweden. (Supervisor: Prof. Jan Lötvall, Co-supervisor: Dr. Cecilia Lässer Evaluator: Prof. Randy Schekman).  
 06/2005-06/2010 **Five-year integrated Masters in Biotechnology**, University of Pune, India.

**CURRENT POSITION**

02/2020- ongoing **Visiting Fellow, Marie Skłodowska-Curie Fellow** in the group of Dr. Juan Bonifacino at NICHD- National Institute of Health, Bethesda MD, USA

**AWARD**

2019 **Swedish Society for Medical Research (SSMF) Post-doctoral Fellowship at NIH (2021-2023)**  
 02/2019 **Marie Skłodowska-Curie Fellow** (awarded during period of 01/2020-04/2021).  
 09/2018 **Invited speaker** in EV Symposium-2018 to Aalborg University Hospital Denmark.  
 05/2018 **Young Investigator Scholarship Award**, International Society of Extracellular Vesicles, Spain  
 05/2017 **Best Poster Presentation Award**, International Society of Extracellular Vesicles, Toronto, Canada.  
 06/2014 **Best Poster and Oral Presentation Award** at Annual meeting European Academy of Allergy and Clinical Immunology, Copenhagen, Denmark.  
 04/2013 **Scholarship** from Krefting Research Centre, Gothenburg, Sweden.  
 04/2012 **Long Term Research Fellowship Award** European Academy of Allergy and Clinical Immunology, Switzerland.  
 11/2011 Selected for **DAAD** fellowship Interview, Germany  
 12/2010 **Qualified for CSIR-NET-LS** (Council of Scientific and Industrial Research- National Eligibility Test-Lectureship award) India.  
 2010, 2009 **Qualified GATE** (Graduate Aptitude Test for Engineering) India.  
 12/2009 **Travel Award** for 1st Conclave with Nobel laureates at IIT-Allahabad, India  
 05/2007 **Summer Research Fellowship**, National Brain Research Center, India.

**GRANT**

2019 **Swedish Society for Medical Research Fellowship** (0.93 Million SEK)  
 2019 **MoRE-2020 Fellowship** from European Union and Västra Götaland Regional (1.3 Million SEK)  
 2017 **GU-Venture, VFT Startup Grant** “Quantifying EVs” (VFT1722) (35K SEK)  
 2019,2017, 2015 **Wilhelm och Martina Lundgren** (Grant No.1842 and 0636)  
 2017, 2016, 2014 **Assar Gabrielsson's Clinical Research Fund for Cancer Diseases** (Grant No. FB17-96, FB16-104, B14-78)  
 2015 **Adlerbertska Foundation Research Fund** (E2015/78)  
 2017, 2016, 2015 **Sahlgrenska University Hospital Research Fund**  
 2019,2016, 2015 **Sahlgrenska Academy Travel Grant**  
 2015-2019 **Assar Gabrielsson's Foundation**, Travel Grant  
 2012 **Long Term Research Fellowship** from European Academy of Allergy and Clinical Immunology Switzerland (20,000 Euro)

**RESEARCH EXPERIENCE**

07/2018-01/2020 **Postdoctoral Researcher** in the Sahlgrenska Translational Melanoma with group of Prof. Jonas Nilsson at University of Gothenburg, Sweden.  
 04/2014-06/2018 **Ph.D Student** Prof. Jan Lötvall. Krefting Research Centre, University of Gothenburg Sweden.  
 08/2016-10/2016 **Consultant (Exosomes Biology)** at Codiak Biosciences. Cambridge, USA.  
 05/2013-04/2014 **Pre-doctoral fellows** with Dr. Jan Lötvall Krefting Research Centre, University of Gothenburg, Sweden.  
 04/2012-04/2013 **EAACI, Long Term Research Fellow** Krefting Research Centre, University of Gothenburg,

Sweden

- 9/2011-03/2012 **Project Scholar** with Dr. Prakash Deshpande, National Center for Cell Science, University of Pune India.
- 06/2010-09/2011 **Master thesis and Project Trainee** with Dr. Padma Shastry, National Center for Cell Science, University of Pune, India
- 05/2007-07/2007 **Summer Research Fellow** Dr. Rema Velayudhan, National Brain Research Center, Haryana, India.

## PUBLICATIONS

Total: **21** (20 published + 1 under preparation); Google citations score: **1674** (as on July 2020); H10-index: **14**

1. "Molecular profiling of driver events in metastatic uveal melanoma." Joakim Karlsson, Lisa M. Nilsson, Suman Mitra, Samuel Alsén, **Ganesh Vilas Shelke**, Vasu R. Sah, Elin M. V. Forsberg, Ulrika Stiermer, Charlotta All-Eriksson, Berglind Einarsdottir, Henrik Jespersen, Lars Ny, Per Lindnér, Erik Larsson, Roger Olofsson Bagge & Jonas A. Nilsson *Nat Communication* (2020). (PMID: 32313009)
2. "Extracellular vesicles from mast cells induce mesenchymal transition in airway epithelial cells" Yanan Yin, **Ganesh Vilas Shelke**#, Cecilia Lässer, Hjalmar Brismar and Jan Lötvald (# **Corresponding Author**) *Respiratory Research* (2020). (PMID: 32357878)
3. "Endosomal Signalling via Exosome Surface TGFβ-1" **Ganesh Vilas Shelke**, Yanan Yin, Su Chul Jang, Cecilia Lässer, Stefan Wennmalm, Hans Jürgen Hoffmann, Li Li, Yong Song Gho, Jonas Andreas Nilsson, Jan Lötvald. *Journal of Extracellular Vesicles* (2019) (PMID: 31595182)
4. "DNA Analysis of Low- And High-Density Fractions Defines Heterogeneous Subpopulations of Small Extracellular Vesicles Based on Their DNA Cargo and Topology." Elisa Lázaro-Ibáñez, Cecilia Lässer, **Ganesh Vilas Shelke**, Rossella Crescitelli, Su Chul Jang, Aleksander Cvjetkovic, Anaís García-Rodríguez, Jan Lötvald. *Journal of Extracellular Vesicles* (2019) (PMID: 31497265)
5. "Mesenchymal Stromal Cell-Derived Nanovesicles Ameliorate Bacterial Outer Membrane Vesicle-Induced Sepsis via IL-10." Kyong-Su Park, Kristina Svennerholm, **Ganesh V Shelke**, Elga Bandeira, Cecilia Lässer, Su Chul Jang, Rakesh Chandode, Inta Gribonika, Jan Lötvald. *Stem Cell Research Therapy* (2019) (PMID: 31370884)
6. "Stem Cell-derived Exosomes as Nanotherapeutics for Autoimmune and Neurodegenerative Disorders". Milad Riazaifar, M. Rezaa Mohammadi, Egest J. Pone, Ashish Yeri, Cecilia Lässer, Aude Segaliny, **Ganesh V. Shelke**, Elizabeth Hutchins, Ashley Hamamoto, Erika Calle, Rossella Crescitelli, Wenbin Liao, Victor Pham, Yanan Yin, Craig Walsh, Kendall Van Keuren-Jensen, Jan Lötvald, Weian Zhao. *ACS Nano* (2019) (PMID: 31117376).
7. "Enhancement of Therapeutic Potential of Mesenchymal Stem Cell-Derived Extracellular Vesicles". Kyong-Su Park, Elga Bandeira, **Ganesh V Shelke**, Cecilia Lässer, Jan Lötvald. *Stem Cell Research Therapy* (2019) (PMID: 31547882)
9. **POSTION PAPER** :Minimal information for studies of extracellular vesicles 2018 (MISEV2018): a position statement of the International Society for Extracellular Vesicles and update of the MISEV2014 guidelines *Journal of Extracellular Vesicles* (2018) (PMID: 30637094).
10. "Optical density and lipid content of extracellular vesicles revealed using optical waveguide scattering and fluorescence microscopy" Déborah L. M. Rupert#, Mokhtar Mapar#, **Ganesh Vilas Shelke**, Matthias Elmeskog, Karin Norling, Stephan Block, Björn Agnarsson, Jan O. Lötvald, Marta Bally, Fredrik Höök (# Equal Contribution) *Langmuir* (2018) (PMID : 29923735)
11. "Human mast cells release extracellular vesicle-associated DNA." **Ganesh V Shelke**#, Su-Chul Jang, Yanan Yin, Cecilia Lässer, Jan Lötvald. (# **Corresponding Author**) *Matters* 1(1) (2016)
12. "Two distinct extracellular RNA signatures released by a single cell type identified by microarray and next-generation sequencing." Cecilia Lässer, **Ganesh Vilas Shelke**, Ashish Yeri, Dae-Kyum Kim, Rossella Crescitelli, Stefania Raimondo, Margareta Sjöstrand, Yong Song Gho, Kendall Van Keuren Jensen and Jan Lötvald. *RNA Biology* (2016) (PMID: 27791479).
13. "Importance of exosome depletion protocols to eliminate functional and RNA-containing extracellular vesicles from fetal bovine serum." **Ganesh Vilas Shelke**, Cecilia Lässer, Yong Song Gho and Jan Lötvald. *Journal of Extracellular Vesicles* (2014) (PMID: 25317276).
14. "Mast cell exosomes promote lung adenocarcinoma cell proliferation – role of KIT-stem cell factor signaling." Hui Xiao, Cecilia Lässer, **Ganesh Vilas Shelke**, Juan Wang, Madeleine Rädinger, Taral Lunavat, Carina Malmhäll, Li Hui Lin, Jia Li, Li Li, Jan Lötvald. *Cell Communication and Signaling* (2014) (PMID: 25311367)
15. "Dual-Wavelength Surface Plasmon Resonance for Determining the Size and Concentration of Sub-Populations of Extracellular Vesicles." Deborah Rupert, **Ganesh V Shelke**, Gustav Emilsson, Virginia Claudio, Stephan Block, Cecilia Lässer, Andreas Dahlin, Jan Lotvall, Marta Bally, Vladimir Zhdanov, Fredrik Höök, *Analytical Chemistry* (2016) (PMID: 27644331).
16. Exosomes in the nose induce immune cell trafficking and harbour an altered protein cargo in chronic airway inflammation." Cecilia Lässer, Sarina E O' Neil, **Ganesh.V.Shelke**, Carina Sihlbom, Sara Folkesson Hansson, Yong Song Gho, Bö Lundbäck, Jan Lötvald. *Journal of Translational Medicine* (2016) (PMID: 27320496).
17. "Escherichia coli outer membrane vesicles can contribute to sepsis induced cardiac dysfunction" by Kristina Svennerholm, Kyong-su Park, Johannes Wikström, Cecilia Lässer, Rossella Crescitelli, **Ganesh. V. Shelke**, Su Chul Jang, Shintaro Suzuki, Elga Bandeira, Charlotta Olofsson, Jan Lötvald. *Scientific Reports* (2017) (PMID: 29234030)
18. "Apoptosis induced by combination of TNF-α and IFN-γ is associated with upregulation of Par-4 and decreased NF-kB and Akt in human neuroblastoma cells" **Ganesh. V. Shelke**#, Jayashree C. Jagtap#, Richa D. Shah, Gowry Das, Mruthyunjaya.S, Radha Pujari, Padma Shastry. (# **Equal contribution**), *Biomedicine, MDPI* (2017) (PMID: 29278364).
19. "Sodium valproate potentiates staurosporine-induced apoptosis in neuroblastoma cells via Akt/survivin independently of HDAC inhibition" Richa D.Shah, Jayashree C. Jagtap, Mruthyunjaya.S, **Ganesh. V. Shelke**, Radha Pujari, Gowry Das, Natesh Kumar, Padma Shastry. *Journal of Cellular Biochemistry* (2013) (PMID: 23097134).
20. "Use of Quantitative Structure Activity Relationship (QSAR) and ADMET Prediction Studies as Screening Methods for design of Benzyl Urea Derivatives for Anticancer Activity." Deepak Lokwani, Shashikant Bhandari, Radha Pujari, Padma Shastry, **Ganesh V. Shelke**, Vidya Pawar. *Journal of Enzyme Inhibition and Medicinal Chemistry* (2011) (PMID: 20846089).

### Manuscript submitted/ preparation

21. "The MYC Oncoprotein Promotes Extracellular Vesicle Biogenesis and Determines Vesicle Cargo". **Ganesh Vilas Shelke**#, Laura Jacobs#, Jolanta Slawska, Birte Stroucken, Michaela Aichler, Axel Walch, Stephan A. Müller, Stefan F. Lichtenthaler, Jonas A. Nilsson, Peer-Hendrik Kuhn, and Ulrich Keller. (# **Equal contribution**) *Manuscript under preparation*

**CONFERENCE**

- 2018** International Society of Extracellular Vesicles Annual Meeting, Kyoto, Japan.
- 2018 (Oral talk)** International Society of Extracellular Vesicles Annual Meeting, Barcelona, Spain.
- 2017 (Poster)** International Society of Extracellular Vesicles Annual Meeting, Toronto, Canada.
- 2017 (Poster)** Winter School European Academy of Allergy and Clinical Immunology, Sierra Nevada, Spain.
- 2016 (Poster)** International Society of Extracellular Vesicles Annual Meeting, Rotterdam, The Netherlands.
- 2016 (Poster)** American Association of Cancer Research Annual Meeting, New Orleans, USA.
- 2016 (Poster)** Gordon conference on Extracellular vesicles, Newry, ME, USA
- 2016 (Poster)** Winter School European Academy of Allergy and Clinical Immunology, Cortina, Italy.
- 2015 (Poster)** International Society of Extracellular Vesicles Annual Meeting, Bethesda, Maryland USA.
- 2014 (Oral talk)** International Society of Extracellular Vesicle Annual Meeting, Rotterdam, The Netherlands.
- 2014 (Poster and Oral)** European Academy of Allergy and Clinical Immunology Annual Meeting, Copenhagen, Denmark.
- 2013 (Poster)** International Society of Extracellular Vesicles Annual Meeting, Boston, USA
- 2012 (Poster)** International Society of Extracellular Vesicles Annual Meeting, Gothenburg, Sweden

**SKILLS**

**Cell biology and molecular biology:** Experience in tools for Gene-editing (CRISPR /Cas9), Cloning, Gene knockdown (siRNA, shRNA), Protein biochemistry, Protein-protein interaction, Confocal and electron microscopy techniques, Development of cell-based assay. **Extracellular vesicle biology:** 8-year experience EV field and was consultant to a company in USA (Codiak Biosciences, expert in EV isolation methods and method development, I am developing isolation free EV detection, EV based biomarker for cancer and lung disease. Worked on DNA, protein and RNA derived from EVs. **Immunology:** Flow cytometry, ELISA assay, immune cell profiling with flow cytometry and differential cell counting, Immuno-histochemistry. **Animal Handling:** Various inflammatory model of lung, Sepsis model, Stereotactic surgeries in mouse brain, Mouse behavior experiments, Cryo-section and immunohistochemistry in brain. **Soft Skill:** Bioinformatics analysis for proteomics datasets, Software handling (Qlucore Omics Explorer Fun Rich, DAVID), Image analysis (e.g. Fiji, Velocity).

**SUPERVISION AND TRAINING**

- 09/2014-09/2015 Dr. Yanan Yin, Shanghai Jiao Tong University, Shanghai, China for her Masters work at Krefting Research Centre
- 04/2014-04/2018 Trained various visiting research in fundamental exosomes laboratory work at Krefting Research Centre, Sweden.
- 06/2011-03/2012 Conducted group demonstration for good lab practices and primary cell culture for master students.

**REVIEWERS**

Nature Communications, Scientific Reports -**NPG**  
 Journal of Cellular and Molecular Medicine, Scandinavian Journal of Immunology -**Wiley**  
 Respiratory Research, BMC-cancer -**BMC Springer Nature**  
 Cancers, Cells, International Journal of Molecular Sciences, Bioengineering, Biomedicine -**MDPI**  
 Journal of Extracellular Vesicles, Expert Opinion on Biological Therapy -**Taylor & Francis Group**  
 Helped reviewed Journals articles and research grants (Nature, Allergy)

**COLLABORATION**

- Prof. Jan Lötvalld University of Gothenburg, Gothenburg, Sweden.
- Prof. Hans Hoffmann Aarhus University, Aarhus, Denmark.
- Dr. Stefan Wennmalm Scilife Laboratory, Solna, Stockholm, Sweden
- Dr. Dae-Kyum Kim Lunenfeld-Tanenbaum Research Institute, Mt. Sinai Hospital, TO, Canada.
- Dr. Joydeep Bhadury Stem Cell Biology Regenerative Med Institute, Stanford University, USA
- Dr. Joakim Karlsson University of Gothenburg, Gothenburg, Sweden.

## REFERENCES

1) **Prof. Jan Lötval**, PhD Supervisor

Krefting Research Centre, University of Gothenburg, Sweden.

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2) **Prof. Jonas Nilsson**, Postdoctoral Mentor

Director, Sahlgrenska Cancer Center, University of Gothenburg, Sweden.

Email: [jonas.a.nilsson@surgery.gu.se](mailto:jonas.a.nilsson@surgery.gu.se)

*Additional references can be provide upon request.*