

## Curriculum vitae with track record

### PERSONAL INFORMATION

\*Family name, First name: SEN, SAGAR

\*Date of birth: 17.05.1982

\*Sex: Male

\*Nationality: Indian

Researcher unique identifier(s) (ORCID, ResearcherID, etc.): <https://orcid.org/0000-0002-5784-7355>

URL for personal web site: <https://www.sagarzen.com>

### \*EDUCATION

- 2010 PhD: **Disputation date: 22.06.2010.**  
Team TRISKELL, INRIA/Université de Rennes 1, Rennes, France
- 2006 Master of Science  
Faculty of Science/School of Computer Science, McGill University, Canada
- 2003 Bachelor of Engineering  
Department of Computer Science and Engineering, Dr. A.I.T., Bangalore, India

### \*CURRENT AND PREVIOUS POSITIONS

- 2018-present Senior Research Scientist  
Certus Centre for Software V&V, Simula Research Laboratory, Norway
- 2012-2018 Research Scientist  
Certus Centre for Software V&V, Simula Research Laboratory, Norway
- 2017-2018 Vice President of Product Development (part-time) and Co-founder  
Sweetzpot AS, Norway
- 2016-2017 Visiting Scientist  
HPV Research Group, Cancer Registry of Norway, Norway
- 2011-2012 Postdoctoral Researcher  
Team ATLANMOD, Institut Mines-Telecom, Nantes, France
- 2010-2011 Postdoctoral Researcher  
Team PULSAR, INRIA, Sophia-Antipolis, France
- 2008-2008 Visiting Doctoral Student (1 month, January)  
Modelling and Simulation Design Lab, McGill University, Canada
- 2006-2008 Patent Consultant (part-time)  
Global Prior Art Inc., Boston, USA
- 2003-2004 Research Assistant  
Molecular Dynamics Group, JNCASR, Bangalore, India

### FELLOWSHIPS AND AWARDS

- 2018 Finalist of Best AI/Machine Learning Start-up, Nordic Start-up Awards, Norway
- 2018 Winner, Norwegian Coastal Rowing Championships in Men's Four with Coxswain, Norway
- 2017 Winner Sports Tech World Cup -Wearable Category, Helsinki, Finland
- 2017 Finalist of Best IoT Start-up, Nordic Start-up Awards, Norway
- 2017 Runner-up, Cancer Registry of Norway Grand Prix, Norway
- 2016 Bronze medal, World Rowing Masters Regatta, Copenhagen, Denmark
- 2009 Silver medal, French University Coastal Rowing Championships, St. Malo, France
- 2009 Gold medal in single sculls, Rowing Championships of Bretagne, Rennes, France
- 2007-2009 3 Gold medals in Lightweight Men's Indoor Rowing Championships, Bretagne, France
- 2005-2006 Quebec Graduate Award, McGill University, Canada
- 2005 Gold medal, McGill-Queen's novice boat race, Canada
- 2005-2006 Dean' Honours List, McGill University, Canada
- 2004-2006 Commonwealth Fellowship, School of Computer Science, McGill University, Canada

## **MOBILITY** (*research stays abroad lasting more than three months*)

5/2006-9/2006 Team TRISKELL on Software Engineering, INRIA Rennes, France

## **SUPERVISION OF GRADUATE STUDENTS AND RESEARCH FELLOWS**

2012-2018 4 graduated masters students, Department of Informatics, University of Oslo, Norway  
2015-2018 1 Postdoctoral Fellow, co-supervised with Cancer Registry of Norway, Oslo, Norway  
2017-2018 1 Research Intern, Institute of Sports Science, University of Vienna, Austria  
2017-2018 1 Research Intern, École Centrale, Paris, France  
2016-2017 1 graduated master's student, University of New Castle, UK  
2016-2017 1 Research Intern, Universidade Federal de Minas Gerais, Brazil  
2015-2017 2 Research Interns, University of Oslo, Norway  
2015 1 Research Intern, Oslo School of Architecture and Design, Oslo, Norway  
2013-2014 1 Research Trainee, University of Oslo, Norway  
2010-2011 1 graduated master's student, Universidad des Los Andes, Bogota, Colombia

## **TEACHING ACTIVITIES**

03/2019 Modelling your breathing, Valler High School, Oslo, Norway  
03/2018 Finding purpose with informatics - Norges Realfagsgymnas Ungdomsskole, Sandvika, Norway  
2012-2015 Organizer and Mentor – Open Courses in Software Verification and Validation for the Norwegian Software Industry (750-person hours), Certus Centre, Simula Research Laboratory, Norway  
2011-2012 Instructor, Object-oriented programming, École des Mines, Nantes, France  
Winter 2007 Teaching Assistant, McGill University, Canada  
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## **ORGANISATION OF SCIENTIFIC MEETINGS**

11/2017 Mentor, MusicLab Vol.2: Breathing with RITMO Center of Excellence, 20+ participants, Oslo, Norway  
05/2017 Publicity Chair, 4<sup>th</sup> International Workshop on Software Engineering Research and Industrial Practice (co-located with ICSE), 40 participants, Austin, Texas, USA  
05/2016 Program Chair, 3<sup>rd</sup> International Workshop on Software Engineering Research and Industrial Practice (co-located with ICSE), 30 participants, Austin, Texas, USA  
05/2015 Program Chair, 2<sup>nd</sup> International Workshop on Software Engineering Research and Industrial Practice (co-located with ICSE), 20 participants, Florence, Italy

## **INSTITUTIONAL RESPONSIBILITIES**

2019 -present Mentor, Oslo Business Region, Oslo, Norway  
2019 – present Chairman of Board, Cafeteatret World Choir, Norway  
2015-present Member of Board, Sweetzpot AS, Norway  
2016-present Head Coach and Member of Board, Oslo Rowing Club, Norway  
2018-present Artistic Committee Member, Cafeteatret World Choir, Norway  
2015-2016 Elected Safety Delegate Member, Simula Research Laboratory, Norway  
2007-2008 VP of Communication and board member, Rennes Étudiant Club-Aviron, Rennes, France

## **COMMISSIONS OF TRUST**

2015-2019 Program Committee (PC) Member, International Symposium on Software Reliability Engineering  
2019 PC Member, International Workshop on Conducting Empirical Studies in Industry and International Symposium on Software Reliability Engineering  
2019 Panel Member, AI4Industry, Palais de Tokyo, Paris, France  
2019 PC Member, International Workshop on Transforming the Digital Customer Experience  
2017 Panel Member, MusicLab Vol 2.: Breathing, University of Oslo, Norway  
2016-2018 PC Member, International Conference on Software Analysis, Evolution, Reengineering

2017-2018	PC Member, International Workshop on Software Engineering Research and Industrial Practice
2016	PC Member, International Conference on Advanced Information Systems Engineering Forum
2016	PC Member, International Conference on Software Engineering & Industrial Practice
2013-2016	PC Member, International Conference on Software Quality
2012	PC Member, International Symposium on Software Reliability Engineering: Student Papers Track

## MEMBERSHIPS OF SCIENTIFIC SOCIETIES

2012-present Member of IEEE

## MAJOR COLLABORATIONS

Mari Nygård, *Cervical Cancer Prevention*, HPV Research Group, Cancer Registry of Norway, Norway  
 Alexander R. Jensenius, *Breathing Sensors*, RITMO Center of Excellence, University of Oslo, Norway  
 Jean-marie Mottu, *Software Verification and Validation*, IMT-Atlantique, Nantes, France  
 Thomas Plagemann, *Obstructive Sleep Apnea Prediction*, University of Oslo, Norway

## Selected Publications

(Total Books: 1, Journal Publications: 16, Refereed Proceedings and Lecture Notes: 43, Posters: 6, h-index: 17, i10-index: 19)

1. Tomás Ruiz López, **Sagar Sen**, Elisabeth Jakobsen, Amelie Trope, Philip Castle, Bo Tsering Hansen, Mari Nygård, FightHPV: Design and Evaluation of a Mobile Game to Raise HPV Awareness and Nudge People to Take Action against Cervical Cancer, *Journal of Medical Internet Research*, 2019
2. **Sagar Sen**, Dusica Marijan, Carlo Ieva, Astrid Grime, Atle Sander, Modelling and Verifying Combinatorial Interactions to Test Data Intensive Systems: Experience at the Norwegian Customs and Excise Directorate, *IEEE Transactions on Reliability*, 2017
3. Giske Ursin, **Sagar Sen**, Jean-marie Mottu, Mari Nygård, Protecting privacy in large registry data - adding a fuzzy factor, *Cancer Epidemiology, Biomarkers & Prevention*, 2017
4. Rafael Caballero, **Sagar Sen**, Jan F Nygård, Anticipating Anonymity in Screening Program Databases, *International Journal of Medical Informatics*, 2017
5. Stefano di Alesio, **Sagar Sen**, Using UML/MARTE to Support Performance Tuning and Stress Testing in Real-Time Systems, *Software and Systems Modeling*, 2016
6. Naouel Moha, **Sagar Sen**, Cyril Faucher, Olivier Barais, and Jean-marc Jèzequel, *Evaluation of Kermeta on Graph Transformation Problems*, *Journal of Software Tools and Technology Transfer*, 2010
7. **Sagar Sen**, Manoel H. Ribeiro, Racquel C. de Melo Minardi, Wagner Meira Jr., and Mari Nygård, "Portinari: A Data Exploration Tool to Personalize Cervical Cancer Screening," in *Proceedings of the 39th International Conference on Software Engineering: Software Engineering in Society Track*, Buenos Aires, Argentina, 2017, pp. 37–46.
8. Arnaud Gotlieb, Marine Louarn, Mari Nygard, Tomás Ruiz-López and **Sagar Sen**, Constraint-Based Verification of a Mobile App Game Designed for Nudging People to Attend Cancer Screening, *Twenty-Ninth Annual Conference on Innovative Applications of Artificial Intelligence (IAAI-17)* in San Francisco, California, USA 2017
9. **Sagar Sen**, Naouel Moha. Benoit Baudry, Vincent Mahe, Olivier Barais, and Jean-marc Jèzequel, *Reusable Model Transformations* SoSyM special issue on Model-driven Interoperability, 2012.
10. Perrouin Gilles., Oster Sebastian. **Sagar Sen**, Baudry Benoit, and Le Traon Yves, *Pairwise Testing for Software Product Lines: A Comparison of Two Approaches*, *Software Quality Journal* 2011.

## Books

1. Automatic Effective Model Discovery: Towards Synthesis of Effective Software Artifacts, Lambert Academic Publishing, ISBN-13: 978-3843372657

## Invited Talks

1. Invited panelist, Breathing Measurement in Singing, 27 May 2019, Den Norsk Opera, Oslo, Norway (to happen)
2. Invited Keynote Speaker and panelist, AI & IoT, European AI Night, 18 April 2019, Palais de Tokyo, Paris
3. Invited mentor and panelist, MusicLab vol. 2: Breathing, April 9, 2018, RITMO Center of Excellence, University of Oslo
4. Invited speaker, Introduction to real-time feedback in rowing, 26 January, 2018, National Coaches Forum, Norwegian Rowing Federation, Olympiatoppen, Oslo, Norway
5. Invited speaker, Gamification to nudge our society towards better health: FightHPV Demo, 5 December, 2016, Ministry of Health, CIDRZ, Zambia
6. Invited Speaker, Portinari: Interactive Visualization of Future Patient Trajectories in Cervical Cancer Screening, 23 September, 2016, Lawrence Livermore National Lab Visit, Oslo Cancer Cluster, Oslo
7. Invited speaker, Modelling and Verifying Data Quality, 26 November, 2014, Department of Systems and Computing, Universidad de Los Andes, Bogota, Colombia
8. Invited speaker, Gamification of Scientific Evidence, 25 November 2014, Universidad de Paula Santander II, Cucuta, Colombia.
9. Invited speaker, 2010, Surgical Treatment of Industrial Problems using Lightweight Formal Methods Laboratoire d'informatique de Nantes Atlantique, Université de Nantes, France
10. Invited speaker, Automatic Effective Model Discovery, 2010, Politecnico di Milano, Milan, Italy
11. Invited speaker, Automatic Exploration of Variability in Software, 2010, INRIA Sophia-Antipolis, France

## Industrial Innovation

1. Co-developed *Depict* is an open-source tool for combinatorial interaction testing in industrial databases, currently commercialized by Esito Technologies. GitHub: <https://github.com/sensimula/Depict>
2. Co-lead development of *FightHPV* is a game-based learning tool to prevent cervical cancer. <https://www.kreftregisteret.no/Forskning/Prosjekter/Epidemiologisk-forskning-HPV/FightHPV/>
3. Co-designed and tested the *Sweetspot Rowing App* for rowers to obtain their real-time force curve. <http://https://itunes.apple.com/us/app/sweetspot-rowing/id1151015725?mt=8>
4. Co-designed and tested the *Sweetspot Biathlon App* for visualizing breathing patterns in a shooting range. <https://play.google.com/store/apps/details?id=com.sweetspot.biathlon&hl=en>
5. Co-designed and tested the *Sweetspot Sleep Recorder App* to record breathing patterns for obstructive sleep apnea <https://play.google.com/store/apps/details?id=com.sweetspot.cardio&hl=en>