

# 2018 ACM/IEEE 13th International Conference on Global Software Engineering ICGSE 2018

## Table of Contents

Message from ICSE 2018 General Chair .....	ix
Message from ICGSE 2018 General and Program Co-Chairs .....	xii
Organizing Committee .....	xiv
Program Committee: Research Track .....	xvi
Steering Committee .....	xviii
ICGSE 2018 Sponsors .....	xix
Academic Keynote .....	xx
Industry Keynote .....	xxi
ICSE 2018 Sponsors and Supporters .....	xxii

## ICGSE 2018 - Scaled and Distributed Agile

Transitioning from Plan-Driven to Lean in a Global Software Engineering Organization: A Practice-Centric View .....	1
<i>Roopa M. S. (Siemens Healthcare Private Limited), Ratmanabh Kumar (Siemens Healthcare Private Limited), and Mani V. S. (Siemens Healthcare Private Limited)</i>	
Effective Distributed Pair Programming .....	6
<i>Mark Rajpal (Agile Global Results)</i>	
Validation of Outsourcing TeamsWork on Agile Projects of Samsung R&D Institute Brazil .....	11
<i>Gizelle S. Lemos (Samsung R&amp;D Institute Brazil - Campinas - SP), Marcia Cristina de C. Costa (Samsung R&amp;D Institute Brazil - Campinas - SP), Tatiana D. Borghi (Samsung R&amp;D Institute Brazil - Manaus - AM), and Paula G. Povoas (Samsung R&amp;D Institute Brazil - Manaus - AM)</i>	
Control Based Management to Self Organizing Agile Teams: A Case Study .....	16
<i>Rajeev BV (Siemens Technology and Service Private Limited) and Prabhulinga Manikreddy (Siemens Technology and Services Private Limited)</i>	

## ICGSE 2018 - Communication and Collaboration in Distributed Projects

Is Stack Overflow in Portuguese Attractive for Brazilian Users? .....	21
<i>Miguel Botto-Tobar (Eindhoven University of Technology; University of Guayaquil), Wesley Torres (Eindhoven University of Technology), Angela Lozano (HealthConnect), Mark G.J. van den Brand (Eindhoven University of Technology), Bogdan Vasilescu (Carnegie Mellon University), and Alexander Serebrenik (Eindhoven University of Technology)</i>	
East Meets West: Global Software Engineering Course in Japan and Germany .....	30
<i>Daniel Moritz Marutschke (College of Information Science and Engineering Ritsumeikan University), Victor V. Kryssanov (College of Information Science and Engineering Ritsumeikan University), and Patricia Brockmann (Computer Science Department Technical University Nuremberg Georg Simon Ohm)</i>	
Effective Collaboration across the Globe through Digital Dash Boards and Machine Learning .....	35
<i>Prabhulinga ManikReddy (Siemens Technology and Services Private Ltd) and Jaikrishna Iyer (Siemens Technology and Services Pvt Ltd)</i>	
Software Engineering Tools Environment for Outsourcing Teams Collaboration .....	40
<i>Marcia Cristina de C. Costa (Samsung R&amp;D Institute Brazil - Campinas - SP), Gizelle S. Lemos (Samsung R&amp;D Institute Brazil - Campinas - SP), and Flavio Beck (Samsung R&amp;D Institute Brazil - Campinas - SP)</i>	

## ICGSE 2018 - Processes for Distributed Development

A Process for Distributed Software Evolution .....	44
<i>Joao Ricardo Moreno Camilo (Federal University of Technology – Parana), L’Erario Alexandre (Federal University of Technology – Parana), Tiago Pagotto (Federal University of Technology – Parana), and Jose Augusto Fabri (Federal University of Technology – Parana)</i>	
Global Software Engineering Experience through International Capstone Project Exchanges .....	54
<i>Dean Knudson (North Dakota State University), Stavros Kalafatis (Texas A &amp; M University), Carsten Kleiner (Hannover University of Applied Sciences &amp; Arts), Stephen Zahos (University of Illinois at Urbana-Champaign), Barbara Seegebarth (Technische Universität Braunschweig), Jonas Deeterfelt (Linköping University), Iman Avazpour (Deakin University), Kristian Sandahl (Linköping University), Peter Gorder (University of Colorado), Jeewani Ginige (Western Sydney University), Alex Radermacher (North Dakota State University), Hugo Caballero (Universidad del Norte), Humberto Gomez (Universidad del Norte), and Mikael Roos (Blekinge Institute of Technology)</i>	

## ICGSE 2018 - Scaled and Distributed Agile

Enhancing Product and Service Capability Through Scaling Agility in a Global Software Vendor Environment .....	59
<i>Ramesh Lal (Auckland University of Technology) and Tony Clear (Auckland University of Technology)</i>	

Managing Software Products in a Global Context .....	69
<i>Christof Ebert (Vector Consulting Services)</i>	
Challenges in Scaling up a Globally Distributed Legacy Product: A Case Study of a Matrix Organization .....	77
<i>Rajeev Kumar Gupta (Siemens Healthcare Private Limited), Shivani Jain (Siemens Healthcare Private Limited), and Bharat Singh (Siemens Healthcare Private Limited)</i>	
Employee Retention and Turnover in Global Software Development: Comparing In-House Offshoring and Offshore Outsourcing .....	82
<i>Julian M. Bass (University of Salford), Beecham Sarah (Lero - The Irish Software Research Centre), Mohammed Abdur Razzak (Mohammed Abdur Razzak), and John Noll (University of East London)</i>	

## ICGSE 2018 - Distinguished Papers

On Developers' Personality in Large-Scale Distributed Projects: The Case of the Apache Ecosystem .....	92
<i>Fabio Calefato (University of Bari), Giuseppe Iaffaldano (University of Bari), Filippo Lanubile (University of Bari), and Bogdan Vasilescu (Carnegie Mellon University)</i>	
Virtual by Design: How a Work Environment can Support Agile Distributed Software Development .....	102
<i>Pernille Lous (IT University of Copenhagen), Paolo Tell (IT University of Copenhagen), Christian Bo Michelsen (IT University of Copenhagen), Yvonne Dittrich (IT University of Copenhagen), Marco Kuhrmann (Clausthal University of Technology), and Allan Ebdrup (Debitoor)</i>	
Team Resilience in Distributed Student Projects .....	112
<i>Igor Cavrak (University of Zagreb) and Ivana Bosnin (University of Zagreb)</i>	
Scaling Agile across the Global Organization: An Early Stage Industrial SAFe Self-Assessment .....	121
<i>Mohammad Abdur Razzak (Lero—the Irish Software Research Centre), Ita Richardson (Lero—the Irish Software Research Centre), John Noll (University of East London), Clodagh Nic Canna (Ocuco Ltd), and Sarah Beecham (Lero—the Irish Software Research Centre)</i>	

## Poster Exhibition

Compliance Adherence in Distributed Software Delivery: A Blockchain Approach .....	131
<i>Kapil Singi (Accenture Labs), Pradeepkumar D S (Accenture Labs), Vikrant Kaulgud (Accenture Labs), and Sanjay Podder (Accenture Labs)</i>	
A SCRUM-Based Process to Distributed Projects in Multidisciplinary Teams: A Case Study .....	133
<i>Leonardo Sanches dos Santos (Leanwork Tecnologia), Alexandre L'Erario (Federal University of Technology - Paraná), Tiago Pagotto (Federal University of Technology - Paraná), Joao Ricardo Moreno Camilo (Federal University of Technology - Paraná), Fabricio Sousa Oliveira (Federal University of Technology), and Jose Augusto Fabri (Federal University of Technology - Paraná)</i>	

An Empirical Study on Scrum Application Patterns in Distributed Teams .....	135
<i>Ibrahim Seckin (Siemens Corporate Technology) and Tolga Ovatman</i>	
<i>(Istanbul Technical University)</i>	

## Doctoral Symposium

A Preliminary Structure of Software Security Assurance Model .....	137
<i>Rafiq Ahmad Khan (University of Malakand) and Siffat Ullah Khan</i>	
<i>(University of Malakand)</i>	
Scaling Agile Software Development to Large and Globally Distributed Large-Scale Organizations .....	141
<i>Abheeshta Putta (Aalto University)</i>	
Toward a Theory of Communication in Distributed Software Development Teams: A Research Proposal .....	145
<i>Nelson Leitão Júnior (Federal University of Pernambuco)</i>	

<b>Author Index</b> .....	<b>149</b>
---------------------------	------------