

*in vivo*  
**software  
analytics**

**Big  
Software  
on the  
Run**

**BSR meeting**  
**4-12-2015**  
**Eindhoven**

**BSR**

<http://www.3tu-bsr.nl/>

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**Annibale Panichella**



**Arie van Deursen**



**Arnd Hartmanns**



**Bart Postma**



**Boudewijn van Dongen**



**Caroline de Wit**



**Cong Liu**



**Eric Verbeek**



**Gamze Tillem**



**Huub van de Wetering**



**Inald Lagendijk**



**Ine van der Ligt**

UNIVERSITEIT TWENTE.



**secr.**

**Ida den Hamer**



**TU/e**

**Jack van Wijk**

UNIVERSITEIT TWENTE.



**Jaco van der Pol**

**TU/e**



**PhD  
Ext.**

**Maikel Leemans**

UNIVERSITEIT TWENTE.



**Marieke Huisman**

UNIVERSITEIT TWENTE.



**Mariëlle Stoelinga**

**Postdoc  
BSR**



**TU/e**

**Nour Assy**



**TU Delft**  
Delft University of Technology

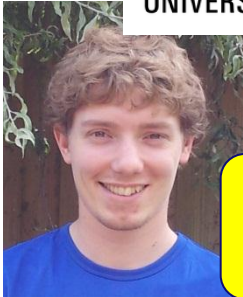
**Sicco Verwer**



**TU Delft**  
Delft University of Technology

**secr.**

**Tamara Brusik**



UNIVERSITEIT TWENTE.

**PhD  
BSR**

**Vincent Bloemen**



**TU/e**

**Wil van der Aalst**



**TU Delft**  
Delft University of Technology

**Zekeriya Erkin**

**Nour Assy (TU/e)**

**Eindhoven University of Technology (TU/e)**

**Cong Liu (TU/e)**

**Bart Postma (TU/e)**

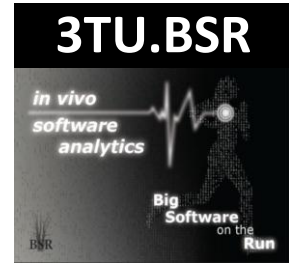
**Vincent Bloemen (UT)**

Automatically Discovering Behavioral Software Models from Software Event Data

Model-based Visualization of Software Event Data

Exceptional Patterns

Parallel Checking and Prediction



**Mozhan Sultani (TUD)**  
feb2016

**Gamze Tillel (TUD)**

**University of Twente (UT)**

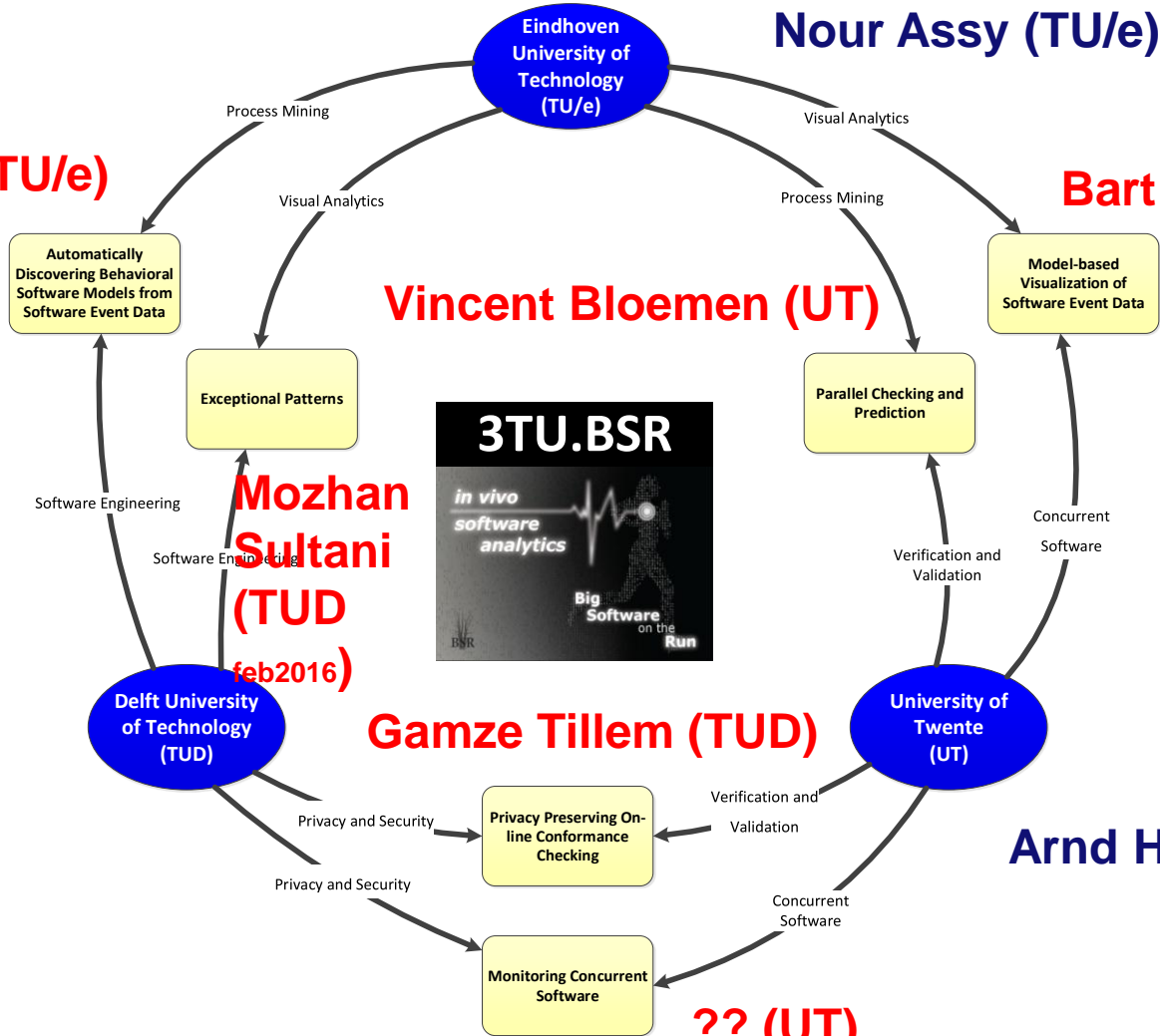
**Annibale Panichella (TUD)**

**Arnd Hartmanns (UT)**

Privacy Preserving On-line Conformance Checking

Monitoring Concurrent Software

**?? (UT)**





2015 - BSoR uitgaven en prognose

	2014	2015	Aangepaste schatting 2015	2016	Aangepaste schatting 2016	2017	Aangepaste schatting 2017	2018	Aangepaste schatting 2018	2019	Aangepaste schatting 2019	Totaal	Totaal aangepaste schatting
<b>TU/e</b>													
2 Promovendi	€ 0	€ 47,147		€ 94,293		€ 94,293		€ 94,293		€ 47,147		€ 377,172	€ -
Promovendus Liu			€ 19,520		€ 47,104		€ 48,046		€ 49,007		€ 29,159	€ -	€ 192,836
Promovendus Postma			€ 15,616		€ 47,104		€ 48,046		€ 49,007		€ 29,159	€ -	€ 188,932
1 Postdoc	€ 0	€ 35,156	€ 10,492	€ 70,311	€ 63,296	€ 70,311	€ 64,562	€ 35,156	€ 65,853			€ 210,934	€ 204,203
Computer	€ 0	€ 4,000	€ 4,000									€ 4,000	€ 4,000
Conferences, travel	€ 0	€ 2,500	€ 0	€ 5,500	€ 6,750	€ 5,500	€ 6,750					€ 13,500	€ 13,500
Other		€ 4,250	€ 1,000	€ 4,250	€ 5,875	€ 4,250	€ 5,875					€ 12,750	€ 12,750
												€ -	€ -
Infrastructure voor gehele project, inclusief software, speciale hardware, website, ...	€ 0	€ 20,000	€ 0	€ 60,000	€ 70,000	€ 20,000	€ 30,000					€ 100,000	€ 100,000
Organisatiekosten workshops, symposia, guests, ...	€ 0	€ 10,000	€ 0	€ 20,000	€ 25,000	€ 20,000	€ 25,000					€ 50,000	€ 50,000
<b>TU/e totaal</b>	<b>€ 0</b>	<b>€ 123,053</b>	<b>€ 50,628</b>	<b>€ 254,354</b>	<b>€ 265,129</b>	<b>€ 214,354</b>	<b>€ 228,279</b>	<b>€ 129,449</b>	<b>€ 163,867</b>	<b>€ 47,147</b>	<b>€ 58,318</b>	<b>€ 768,356</b>	<b>€ 766,222</b>
<b>UT</b>													
2 Promovendi	€ 0	€ 45,222	€ 19,457	€ 90,444	€ 81,040	€ 90,444	€ 91,753	€ 90,444	€ 96,102	€ 45,222	€ 74,631	€ 361,776	€ 362,982
1 Postdoc	€ 0	€ 35,761	€ 14,183	€ 71,523	€ 57,257	€ 71,523	€ 59,344	€ 35,761	€ 45,652		€ 36,926	€ 214,568	€ 213,362
												€ -	€ -
Computer	€ 0	€ 4,000	€ 3,000		€ 1,000							€ 4,000	€ 4,000
Conferences, travel	€ 0	€ 4,000	€ 1,000	€ 8,000	€ 8,000	€ 8,000	€ 8,000		€ 3,000			€ 20,000	€ 20,000
Other		€ 5,450	€ 1,000	€ 5,450	€ 5,450	€ 5,450	€ 5,450		€ 4,450			€ 16,350	€ 16,350
<b>UT totaal</b>	<b>€ 0</b>	<b>€ 94,433</b>	<b>€ 38,639</b>	<b>€ 175,417</b>	<b>€ 152,747</b>	<b>€ 175,417</b>	<b>€ 164,547</b>	<b>€ 126,205</b>	<b>€ 149,203</b>	<b>€ 45,222</b>	<b>€ 111,557</b>	<b>€ 616,694</b>	<b>€ 616,694</b>
<b>TUD</b>													
2 Promovendi	€ 0	€ 43,722	€ 7,287	€ 87,444	€ 87,444	€ 87,444	€ 87,444	€ 87,444	€ 87,444	€ 43,722	€ 80,157	€ 349,776	€ 349,776
2 * 1/2 Postdoc	€ 0	€ 35,806	€ 23,871	€ 71,613	€ 71,613	€ 71,613	€ 83,549	€ 35,806	€ 35,807			€ 214,838	€ 214,839
Computer	€ 0	€ 4,000										€ 4,000	€ 4,000
Conferences, travel	€ 0	€ 5,500	€ 3,000	€ 11,000	€ 13,500	€ 11,000	€ 11,000					€ 27,500	€ 27,500
Other		€ 6,275	€ 1,000	€ 6,275	€ 8,550	€ 6,275	€ 9,275					€ 18,825	€ 18,825
<b>TUD totaal</b>	<b>€ 0</b>	<b>€ 95,303</b>	<b>€ 35,158</b>	<b>€ 176,332</b>	<b>€ 181,107</b>	<b>€ 176,332</b>	<b>€ 191,268</b>	<b>€ 123,250</b>	<b>€ 123,251</b>	<b>€ 43,722</b>	<b>€ 80,157</b>	<b>€ 614,939</b>	<b>€ 614,940</b>
<b>3TU TOTAAL</b>	<b>€ 0</b>	<b>€ 312,789</b>	<b>€ 124,425</b>	<b>€ 606,103</b>	<b>€ 598,983</b>	<b>€ 566,103</b>	<b>€ 584,094</b>	<b>€ 378,904</b>	<b>€ 436,321</b>	<b>€ 136,091</b>	<b>€ 250,032</b>	<b>€ 1,999,989</b>	<b>€ 1,997,856</b>

**[Action point (UT/TUD): Fill vacancies as soon as possible. In particular the PhD positions. Unclear how long this can be postponed without losing funding.]**

**[Action point (All): Share information on extracting event from software, e.g., the work of Maikel and Cong to extract data.]**

**[Action point (Cong): Generate datasets from ProM using RapidMiner and distribute them.]**

**[Action point (Jaco): Generate (synthetic) datasets for concurrent software settings and distribute them.]**

**[Action point (Arie): Get in touch with Eclipse to obtain data from error-reporting or usage.]**

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**[Action point (Boudewijn): Try to get car data from automotive people at TU/e.]**

**[Action point (Jaco): Set up a GIT repository at UT. Send around an e-mail on how to use it. Start with a pragmatic directory structure (meetings, contact info, shared files).]**

**[Action point (Ine): Collect all slides and send to Jaco for repository.]**

**[Action point (Ine/Boudewijn/Eric): Set up a mailing list and a continuous updated spreadsheet with names, e-mail addresses, and role in project.]**

**[Action point (Ine/Boudewijn/Eric and later Nour Assy): Update the website to show the list of people involved (with pictures, etc.) and other information we have. Send content/news you would like to be mentioned. Create first news item on the kick-off meeting.]**

**[Action point (Boudewijn/Eric): fix URL change, should stay [www.3tu-bsr.nl](http://www.3tu-bsr.nl), check payment of [www.3tu-bsr.nl](http://www.3tu-bsr.nl), make sure the website is linked properly from various sources]**

**[Action point (Mariëlle): Approach magazines like AG and Bits and Chips and try to get BSR articles in.]**

**[Action point (Ine): Plan the meetings and trigger the organizers. There should be a calendar online (website).]**

**[Action point (Boudewijn): Develop a plan to purchase secure servers (and storage) to be hosted at one site (hosted at 3TU or TU/e?).]**

**[Action point (All). If any special software needed, please request it ASAP (send e-mail to Wil and Ine).]**

**[Action point (All). Please send workshop proposals to Wil and Ine. There seems to be ample funding to support several events, so use it.]**

**[Action point (Wil). Winter school. Form a program board, propose a location, ask for potential speakers.]**

**We agreed on the following:**

- **Rotating one-day courses for the PhD students and PostDocs. All 6 visit each of the three universities and do a course-day on the research topics/basic done at the location, e.g., when visiting Eindhoven there would be half a day on process mining and half a day on visualization. The hosts will make the days as attractive as possible. The social element is also important and there is budget to organize such courses. We will do two rounds, i.e., in total 6 course days starting in November.**
- **The whole consortium will meet 3-4 times per year. The next meeting will be in Eindhoven again. After that we go the TUD and UT and continue to rotate. These meetings are back-to-back with the one-day courses (PhD and PostDocs can stay overnight).**

- **Respond to emails!**
- **Who is responsible for each node?**
- **Proposal: 23<sup>rd</sup>+24<sup>th</sup> of March 2016**
  - **23<sup>rd</sup> one-day courses for the PhD students and PostDocs**
  - **24<sup>th</sup> consortium meeting 13.30-17.00 (or earlier?)**

Trace: START

Home

News

People involved

Meetings

Minutes

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# 3TU.BSR: Big Software on the Run



people

calender

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- 3TU.BSR: Big Software on the Run
- Summary
- Motivation: Big Software on the Run
- 3TU.BSR: NIRICT's Response to Big Software on the Run



Action point  
Nour with reps.  
UT & TUD ??

...y different people at different times, and operating on a variety of platforms - drive the resulting software needs to evolve and can no longer be controlled a priori as is illustrated by a range-... research program will develop novel techniques and tools to analyze software systems in vivo - making it possible to visualize behavior, create models, check conformance, predict problems, and recommend corrective actions.

Prof.dr.ir. Wil van der Aalst (Eindhoven University of Technology)

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# BSR Winter School (just a proposal!)

- **Title: Winter School on Big Software on the Run (BSR) – Where Data and Software Meet**
- **Duration: from Sunday afternoon until Friday noon.**
- **Period: 16 October 2016 – 21 October 2016**
- **Location: Near de Hoge Veluwe (e.g., Hotel de Paasberg, Ede <http://hoteldepaasberg.nl/>)**
  - Reachable from Schiphol and central
  - Possible excursions: Cycling / Kröller-Müller Museum

# Goals BSR Winter School

- **Promote BSR**
- **Educate young researchers and motivate them to work on these topics**
- **Connect to other groups**
- **Invite high-profile researchers from abroad**
- **Create BSR community**

# Week Schedule BSR

	Sunday 16-10	Monday 17-10	Tuesday 18-10	Wednesday 19-10	Thursday 20-10	Friday 21-10
9.00-10.30		Lecture 1 (BSR-Wil)	Lecture 5 (Ext)	Lecture 9 (Ext)	Lecture 11 (BSR-Inald)	Lecture 15 (Ext)
11.00-12.30		Lecture 2 (Ext)	Lecture 6 (BSR-Jaco)	Lecture 10 (Ext)	Lecture 12 (Ext)	Lecture 16 (Ext)
Lunch Break						
14.00-15.30		Lecture 3 (BSR-Arie)	Lecture 7 (Ext)	excursion	Lecture 13 (BSR-Marielle/Marieke)	
16.00-17.30		arrival	Lecture 4 (Ext)	Lecture 8 (BSR-Jack)		Lecture 14 (Ext)
18.00-19.00	walk	Hands-on session (TU/e)	Hands-on session (TUD)		Hands-on session (UT)	
dinner						

# Speakers

- **6 BSR slots**
  - 2 slots TU/e, 2 slots TUD, 2 slots UT
- **10 externals slots**
  - 4 \* 2 = 8 slots for foreign high profile researchers
  - 2 slots for external Dutch speakers (could also be industry)
- **3 hands-on sessions: each partner is responsible for one slot (linked to lectures)**

# Participants

- **BSR PhDs: 6**
- **BSR Postdocs: 3**
- **BSR staff: 6 (on average)**
- **Invited speakers: 2 (NL) + 4 (foreign) = 6**
- **External participants: 30-40**

# Organization

- **School directors: Arie van Deursen + Wil van der Aalst**
- **Scientific board: Jaco van der Pol, Jack van Wijk, Boudewijn van Dongen, Marieke Huisman, Inald Lagendijk, Annibale Panichella, Mariëlle Stoelinga**
- **Organizing committee: all BSR PhDs and postdocs, chaired by Nour Assy and supported by Ine van der Ligt.**

# Costs (very wild guess)

- $60 * 5 \text{ nights} * 110 = 33,000$  (food + sleep)
- travel costs 4 speakers  $*1250 = 5,000$
- Excursion  $60 * 35 = 2,100$
- Say 40,000 in total
- BSR pays 20,000
- Fees:  $30 * 450 \text{ euro} = 13,500$
- Gap: **6,500 euro**
- Sponsors (NIRICT?)
- Risks are for BSR!



# Timing

- **Now: agreement on set-up and green light to implement logistics**
- **Before December 20<sup>th</sup>: generate names of speakers**
- **January 15<sup>th</sup> : ranking speakers and invitation**
- **January 15<sup>th</sup> : fixed logistics + first call of participation (without speaker names)**
- **March 1<sup>st</sup> : fixed program + second call for participation + posters/flyers**
- **April 1<sup>st</sup>: outline hands-on sessions**

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