Nothing is forever, but ...
... it is not over yet!

“Nothing is forever” 1984 – 2018
Developments in Computer Science / Data Science
Thanks to the speakers
“Nothing is forever” 1984 – 2018
Developments in Computer Science / Data Science
“Nothing is forever” 1984 – 2018
Developments in Computer Science / Data Science

Johan Lukkien

Frank Baaijens
“Nothing is forever” 1984 – 2018
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Johan Lukkien  Frank Baaijens  Jack van Wijk  Anne Rozinat
Boudewijn van Dongen  Hajo Reijers  Emile Aarts  Kees van Hee
33+

Outside
- TNO 1988 – 1992
- Bakkenist 1993 – 1998
- Karlsruhe/Athens/Boulder 1998 – 2000
- QUT Brisbane 1993 – now
- HSE Moscow 2012 – 2015
- Tilburg University 2015 – now
- FBK Trento 2016 – now
- RWTH 2018 – now

@ THE - TU/e
- Student 1984 – 1988
- PhD 1988 – 1992
- UHD 1996 – 1999
- HGL IE&IS 2000 – 2010
- HGL W&I 2006 – now
Nothing is forever 1984 – 2018
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UD
“Nothing is forever” 1984 – 2018

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HGL

D-HGL
15 or more joint papers in DBLP

• Arthur H. M. ter Hofstede (85)
• Boudewijn F. van Dongen (69)
• H. M. W. (Eric) Verbeek (68)
• Hajo A. Reijers (45)
• Natalia Sidorova (37)
• Massimiliano de Leoni (33)
• Marlon Dumas (32)
• R. S. Mans (31)
• Moe Thandar Wynn (31)
• Jan Mendling (30)
• Nick Russell (28)
• Dirk Fahland (28)
• Marcello La Rosa (23)
• A. J. M. M. Weijters (23)
• R. P. Jagadeesh Chandra Bose (22)
• Joos C. A. M. Buijs (21)
• Anne Rozinat (20)
• Ana Karla A. de Medeiros (19)
• Helen Schonenberg (17)
• Maja Pesic (17)
• Christian W. Günther (17)
• Fabrizio Maria Maggi (17)
• Michael Rosemann (16)
• Kees M. van Hee (15)
Three main “waves”

Petri nets and simulation (87-now)
- Timed and colored Petri nets
- Performance analysis using simulation and time-bounds
- Modeling and analyzing logistic systems
- ExSpecT (Executable Specification Tool), also used in Protos and BPM|one, later CPN Tools

Workflow management (94-now)
- Petri nets as a foundation for workflow management
- Workflow verification (e.g., Woflan)
- Workflow patterns
- Yet Another Workflow Language (YAWL)
- Configurable process models, declarative process models (Declare), artifact centric models (Proclets), OCBC models, hybrid models, etc.
- Business Process Management (BPM) and Case Management (CM)

Process mining (99-now)
- Data Science (DS)
- Process discovery techniques (alpha algorithm and its variants, region-based algorithms, heuristic algorithms, inductive algorithms, etc.)
- Conformance checking techniques (token-based replay, alignments, footprints, different measures for fitness, generalizations, etc.)
- Other perspectives (data, resources, time, costs, etc.)
- Operational support (predictions, recommendations, etc.)
- Process mining in the large (decomposition, distribution, streaming, etc.)
- ProM and RapidProM while influencing most of the 25 commercial process mining tools
Three main “waves”

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  - Performance analysis using simulation and time-bounds
  - Modeling and analyzing logistic systems
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Developments in Computer Science / Data Science
Hajo
(2002)
Robert
(2004)
Eric
(2004)
Nataliya
(2009)
Nick
(2007)
Irene (2009)
Mariska (2010)
Anne (2010)
Christian (2009)
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Ronny (2011)
Moe (2006)
Christian (2009)  
Richard (2014)
Helen
(2012)

Carmen
(2011)
Joyce
(2013)

Felix
(2018)
Joos (2014)

Dennis (2016)

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Arya (2014)
JC (2012)
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Developments in Computer Science / Data Science
Next in Line
(Alphabetical)

• Alfredo Bolt
• Marcus Dees
• Vadim Denisov
• Alok Dixit
• Maikel van Eck
• Mohammadreza Fani Sani
• Eduardo Gonzalez Lopez de Murillas
• Bart Hompes
• Maikel Leemans
• Guangming Li
• Cong Liu
• Petar Markovic
• Alifah Syamsiah
• Niek Tax
• Bas van Zelst

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• Alifah Syamsiah
• Niek Tax
• Bas van Zelst
IS & AIS

AIS

• Nour Assy
• Massimiliano de Leoni
• Dirk Fahland
• Marwan Hassani
• Renata de Carvalho
• Natalia Sidorova
• Eric Verbeek
• Wim Nuijten
• Michael Westergaard
• …

IS

• Ton Weijters
• Rob Kusters
• Hans Wortmann
• Theo Bemelmans
• Remco Dijkman
• Irene Vanderfeesten
• Paul Grefen
• Uzay Kaymak
• Henk-Jan Pels
• …
• Jack van Wijk
• Emile Aarts
• Joos Buijs
• Mark Mietus
• Mykola Pechenizkiy
• Geert Jan van Houtum

• Aarnout Brombacher
• Uzay Kaymak
• Alessandro Di Bucchianico
• Patricia Knubben
• Maurice Groten
• + many more (also in JADS)
Why did/do things go so well?
Why did/do things go so well?

TU/e’s secret weapon
To conclude
To conclude
To conclude
Thanks!