Welcome to AHB45 Committee on Traffic Flow Theory and Characteristics

January 13, 2016

Self-Introductions Members/Friends

Please don’t forget to sign in!

Agenda

Review and Approval of Minutes	S. Ahn
Committee Membership Update	S. Ahn
Chair Report	S. Ahn
TRB Report	R. Cunard/R. Bertini
FHWA Programs & Activities	J. Sturrock
SHRP 2 Pooled Fund Pre-solicitation notice for NDS	C. Fay
TFTC Subcommittee Reports	
SimSub (AHB45(1))	M. Hadi/G. List
Crowd Flow Dynamics, Modeling and Management (AHB45(2))	M. Sarvi/S. Hoogendoorn
Connected Automated Vehicles (AHB45(3))	S. Mattingly
Research Problem Statements	M. Hadi
Paper Review	S. Ahn
Greenshields Prize & Awards	L. Leclercq
Mid-Year Meetings	S. Ahn/Attendees
Outreach and Diversity	S. Hamdar
MFD Dataset	J. Laval
Publication Impact Factors	N. Geroliminis/V. Gayah
Special Report on Traffic Flow Theory	H. Mahmassani
Liaison with other Committees	All Attendees
International Liaison	Members and attendees
Announcements and Future Meetings	All Attendees
New Business	All Attendees

Review and Approve Minutes

- January 13, 2015
- August 5, 2015
- Thanks to Ludovic Leclercq for hosting the meeting in Kobe
- Thanks to Danjue Chen and Nikolas Geroliminis for preparing the minutes!

Membership Update: SimSub

- Thank you George!
  - 2010-2015

- Welcome Mohammed Hadi – New SimSub Chair effective 4/15/16

Thank you Rob!

- Chair: 2009-2015 (Secretary, 2004–2009; Member, 2002–2015)
  - 6 committee meetings, 30 lectern sessions, 16 poster sessions
  - Processed 965 papers
  - 189 TRR publications, 3 TR Circulars, 2 journal special issues
  - 6 summer meetings

- Highlights:
  - Blue Ribbon Committee Award for Community Building and Mentoring
  - Active subcommittees (awards, outreach, webinars)
  - New subcommittee on Connected Automated Vehicles

- Inclusive leader: diverse members, mentoring of young members

Membership Update

- Currently 36 members
  - 24 members (1 vacancy)
  - 5 international
  - 3 young (1 vacancy)
  - 2 state DOT
  - 2 emeritus

- Membership rotation (every three years)
  - 9 members to be rotated off
  - 11 new members effective 4/15/16

Chair Report

- Transition to chair starting 4/15/2015
  - Special calls for paper (4)
  - Workshop proposals (2)
  - Paper review coordination
  - Annual meeting: sessions, workshops and meetings
- New Subcommittee on Traffic Flow Modeling for Connected Automated Vehicles
- Transportation System Simulation Manual
- Always possible to update paper reviewer pool (563 members)
- Future direction for the Committee?

TRB Report

- **NCHRP Project** "Guidelines to Incorporate the Costs and Benefits of Adaptation Measures in Preparation for Extreme Weather and Climate Change" is conducting a survey: **https://www.surveymonkey.com/r/N5QCDLV**
  - Respond by January 22, 2016
  - Purpose: better understand the tools, methods, data, and models and decision making-processes that practitioners use to evaluate how adaptation measures for extreme weather and climate change are incorporated into projects

TRB Report

- The TRB Technical Activities Council (TAC) is seeking input to improve their Critical Issues in Transportation efforts.

  1. What is driving the future research needs of our committee (e.g., reliability, resiliency, technology development, climate change, security)?
  2. Focusing on technology development:
     - What are some major impediments to introducing cost-effective technology and techniques into the transportation industry?
     - Are local, state, and the federal government adequately doing their part in the adoption of technology?
     - What future trends (emerging issues) can be anticipated within your committee's purview?
  3. What are some broader drivers of possible change (e.g., demographics and migration, emergence of mega regions, social changes)
  4. Other inputs

TRB Report

- Robert Bertini
- Rich Cunard

U.S. DOT/FHWA Report

- Jim Sturrock

SHRP 2

- SHRP 2 Pooled Fund Pre-solicitation notice for NDS: Charles Fay

Subcommittees

1.	Joint Subcommittee on Traffic Simulation Models	List/Hadi
2.	Crowd Flow Dynamics, Modeling and Management	Sarvi/Hoogendoorn
3.	Connected Automated Vehicles	Mattingly
4.	Research Problem Statements	Hadi
5.	Paper Review	Ahn
6.	Greenshields Prize & Awards	Leclercq
7.	Mid-Year Meetings	Ahn
8.	Outreach and Diversity	Hamdar
9.	MFD Data Sets	Laval
10.	Publication Impact Factors	Geroliminis/Gayah
11.	Special Report on Traffic Flow Theory	Mahmassani

Joint Traffic Simulation Subcommittee Report

Presented by

Mohammed Hadi, Ph.D., PE
Florida International University

Transportation System Simulation Manual Workshop
95th Transportation Research Board Annual Meeting

January, 10th 2016

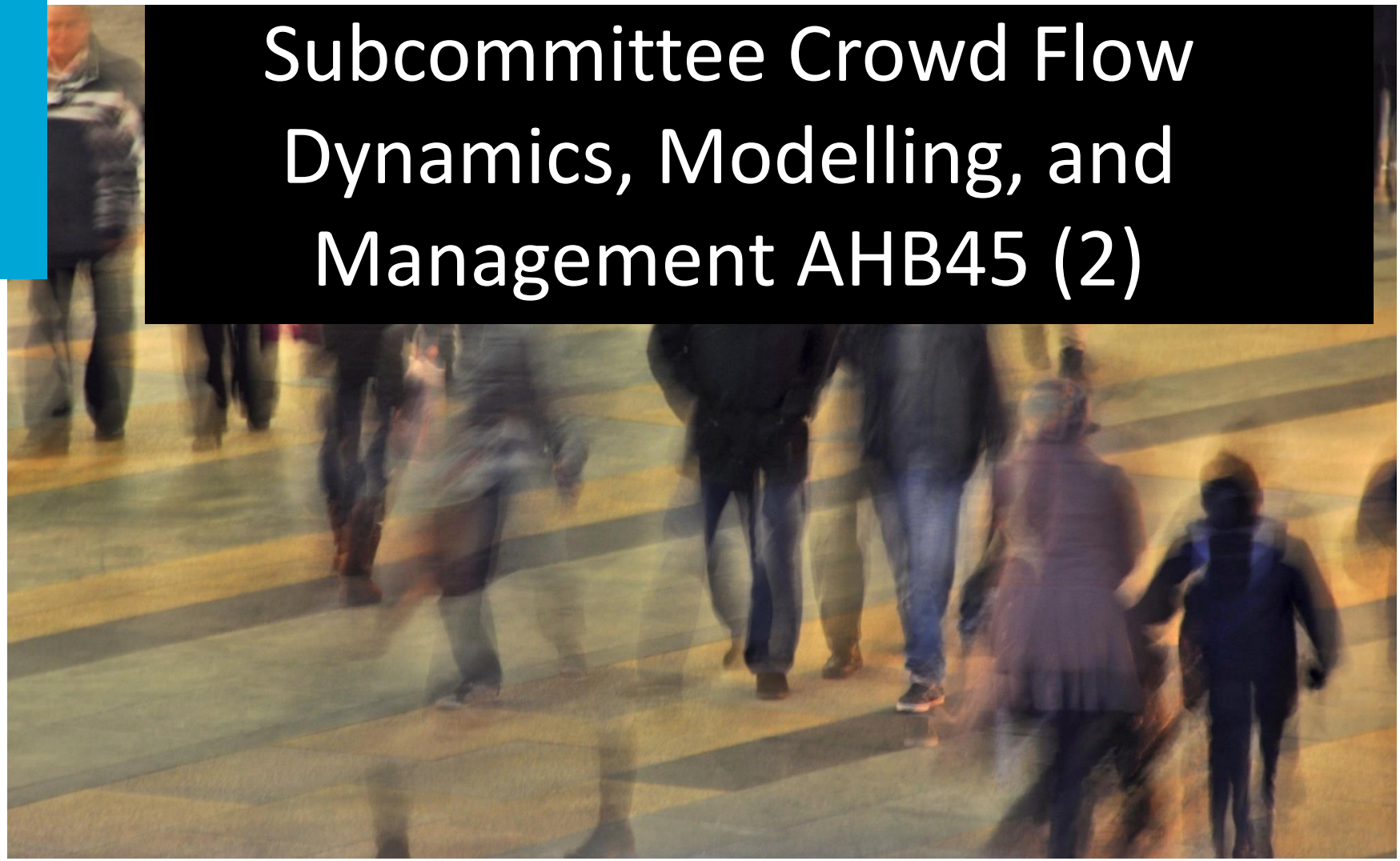
SimSub Task Group

- Annual Workshop: Simulation Manual Workshop
- Research Needs and Resources Task Group
- Calibration, Verification and Validation Task Group
- Awards
  - Lifetime achievement award: Haris Koutsopoulos
  - Best paper award: The Structure of the Parameter Space of Car-Following Models by Peter Wagner and Ronald Nippold
- Liaison & Outreach
- SimSub Annual Report
- Mesoscopic Task Group
- Agent-Based Simulation
- SimCap Liaison

New Task Groups

- Simulation in Practice Group
- Simulation Concepts for Practitioners Group

Subcommittee Crowd Flow Dynamics, Modelling, and Management AHB45 (2)



Activity Report

(Serge Hoogendoorn, Majid Sarvi, Winnie Daamen)

TRB 2016

Subcommittee's Aims and Objectives:

1. Brings together scientists and practitioners from different disciplines working on crowd flow theory, modeling, operations, and management

2. Further theoretical development and understanding of crowd dynamics

3. Focus on application perspectives in flows and crowd management and design of crowd/pedestrian facilities

Subcommittee's Activities in 2015:

1)TRB special call for papers

22 papers received

→Lectern session on Monday 11th (8AM-9:45AM), session 221

2) Subcommittee meeting on Tuesday 12th

3) Organisation of TGF15

4) Brainstorm on research issues

Subcommittee Future Agenda

- Special call-for-papers on crowds for TFT summer meeting
- White paper with list of critical issues
- Joint research agenda based on identified critical issues
- Monograph on crowd traffic flow theory

Connected Automated Vehicles

- Stephen Mattingly

AVS 2015 Traffic Flow Breakout Theme: Integrated Traffic Flow Models and Analysis

Haizhong Wang, Danjue Chen,
Steve Mattingly, Gabor Orosz
and
Rob Bertini, Ahn Soyoung, Mark Brackstone

TRB Committee on Traffic Flow Theory and Characteristics (AHB45)
Subcommittee on Traffic Flow Modeling for Connected and Automated Vehicles

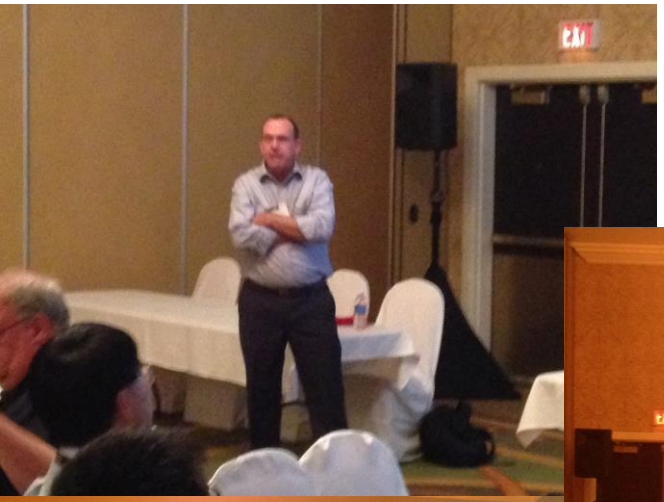
Goal

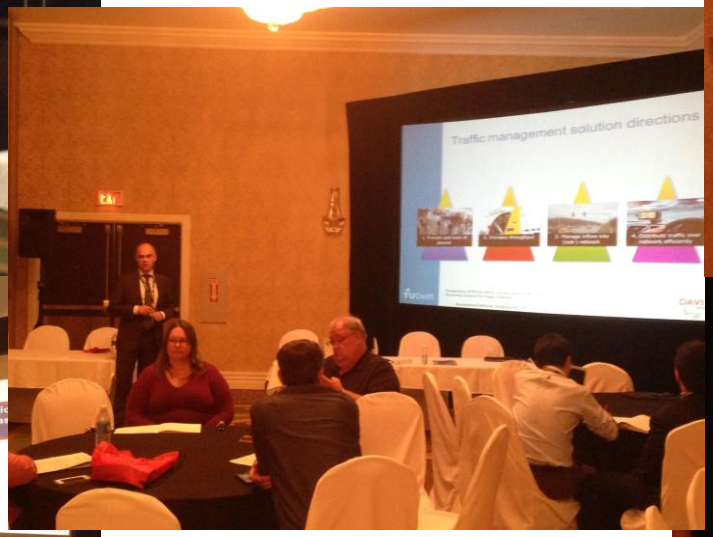
- To create a working interest group to sustain the communication and collaboration across TFTC and other communities.
- To identify major challenges and research needs for the traffic flow research community.

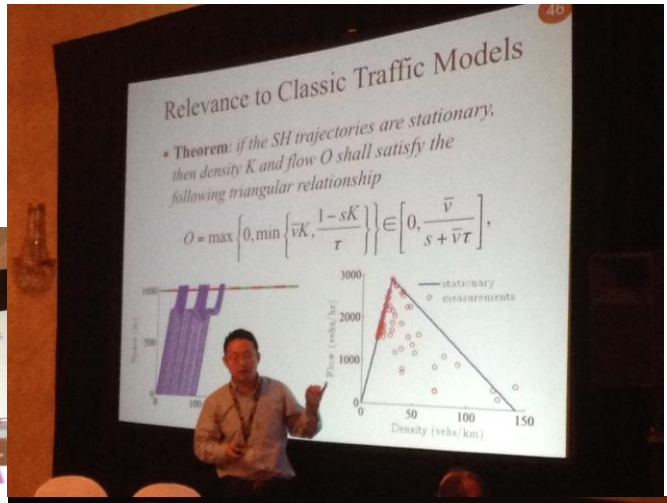
Quick Statistics

- 3 hour and half session
- Panel discussion –over 30 attendees.
- Reached out to “many” and identified five excellent speakers and presentations

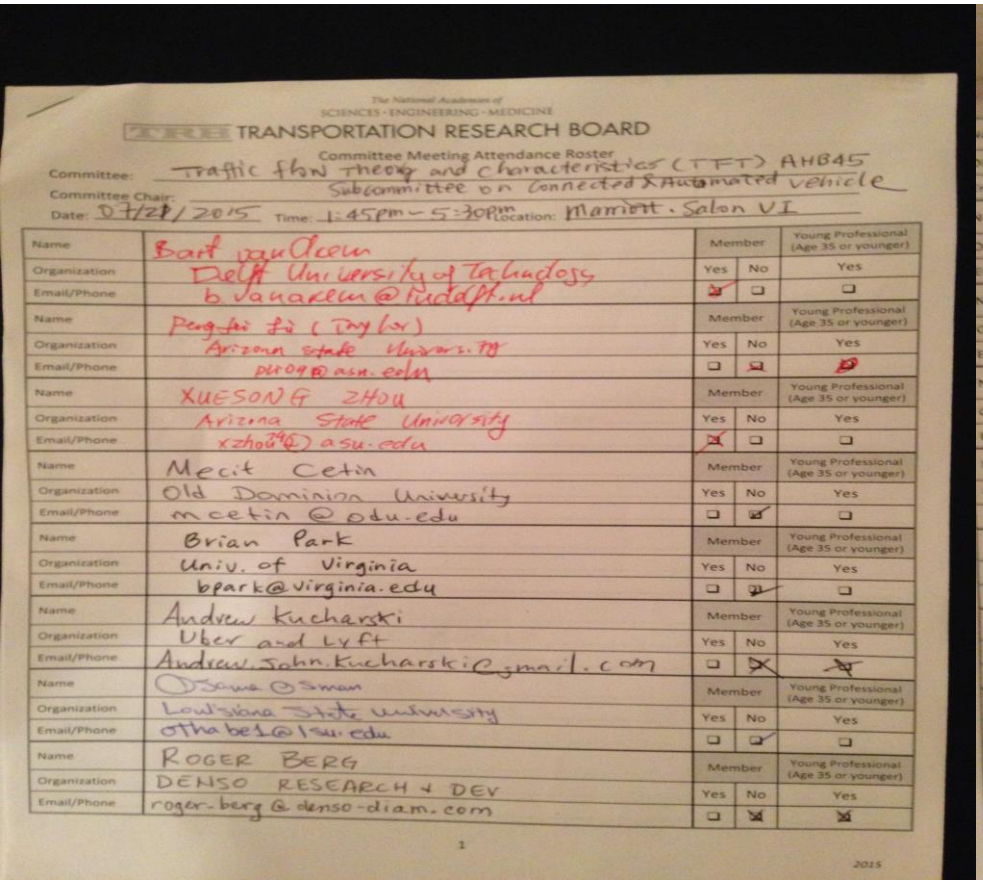
Five Extraordinary Speakers and Presentations







Attendance



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TRB TRANSPORTATION RESEARCH BOARD

Committee Meeting Attendance Roster

Committee: Traffic Flow Theory and Characteristics (TFT) AHB45
Subcommittee on Connected ~~Automated~~ Vehicle

Committee Chair:

Date: 01/21/2015 Time: 1:45pm – 5:30pm Location: Marriott, Salon VI

Name		Member		Young Professional (Age 35 or younger)
Organization	Bart van Arem	Yes	No	Yes
Email/Phone	Delft University of Technology b.vanarem@tudelft.nl	☑	☐	☐
Name	Pengfei Li (Jay Li)	Member		Young Professional (Age 35 or younger)
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Name	Brian Park	Member		Young Professional (Age 35 or younger)
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Name	ROGER BERG	Member		Young Professional (Age 35 or younger)
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Email/Phone	roger.berg@denso-diam.com	☐	☒	☒

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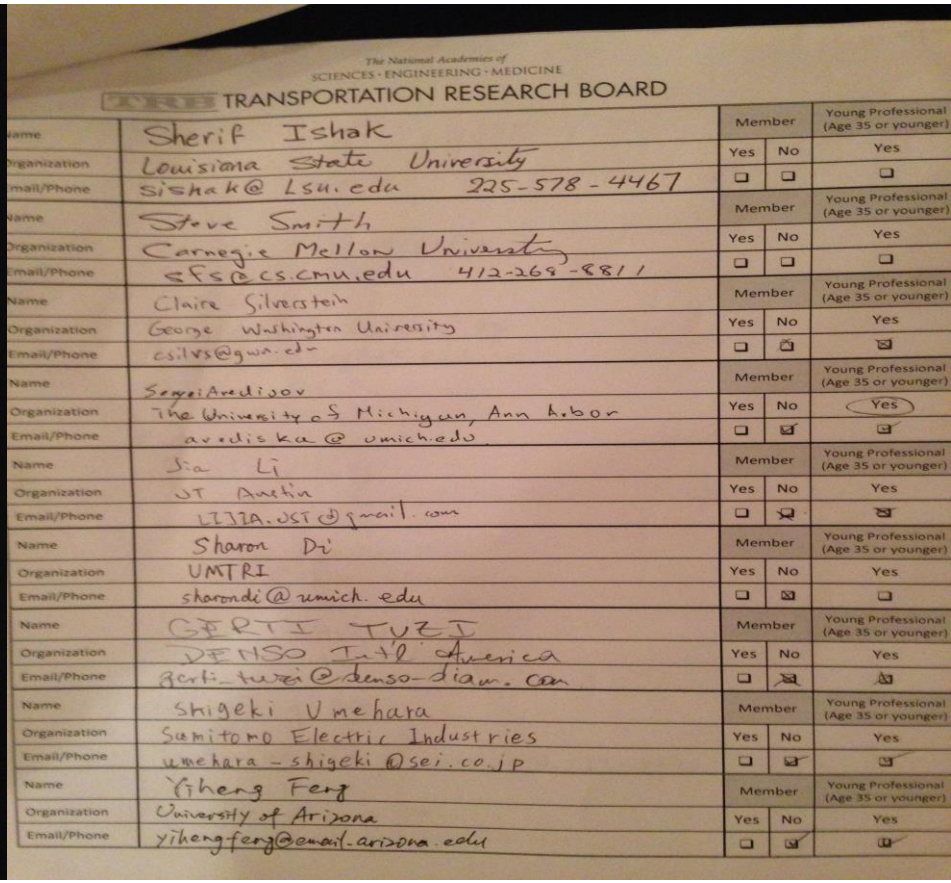
2015



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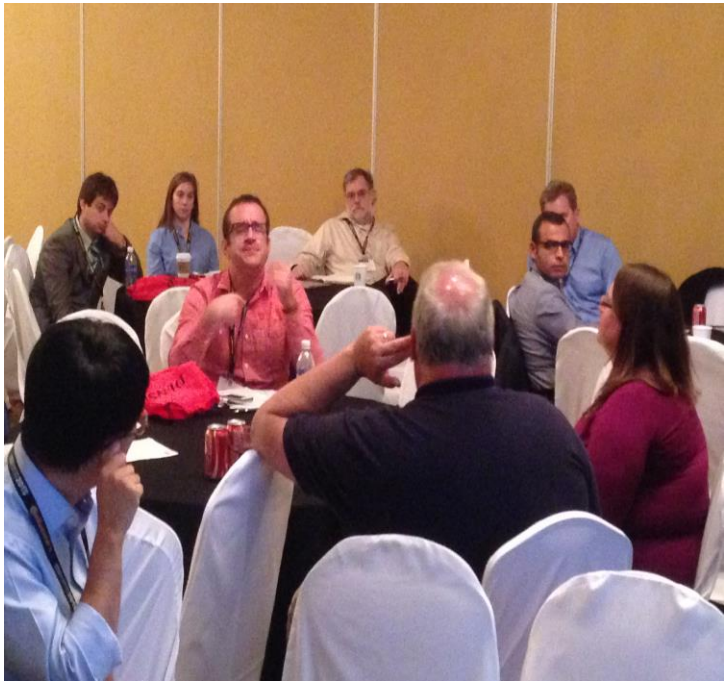
Name				
Organization		Yes	No	Yes
Email/Phone		☐	☐	☐
Name				
Organization		Yes	No	Yes
Email/Phone		☐	☐	☐

Break Social and Breakout Discussions



Identified Challenges and Outcomes

- The *biggest challenge*: potential inconsistency in users, operators, and manufacturer goals.
- To connect the research community to broader communities, especially manufacturers –critical for data acquisition.

Future Research Needs

❑ Data Collection and Analysis

- ❖ Changes in driver behavior
- ❖ CAV operational capabilities and constraints
- ❖ Interactions of drivers with CAV capabilities
- ❖ Benefits of CAV to consumers

❑ CAV applications

- ❖ Impacts on corridor and network level operations under various market penetration rates
- ❖ Trajectory control and vehicle cooperation at freeway bottlenecks and traffic signals under multiple objectives (e.g., safety, environment, driver acceptance)

The Organizing Committee

Thank you and Questions!

Traffic Flow Theory Research Problem Statements

Past Efforts

- SimSub Survey (about 50 participants) identified and prioritized 43 research issues in 2006
- Traffic flow theory survey in 2008
- Currently RNS has 8 statements uploaded in 2008
- RNS may have statements by other committees related to TFT and SimSub
- 2012 Research Need Workshop

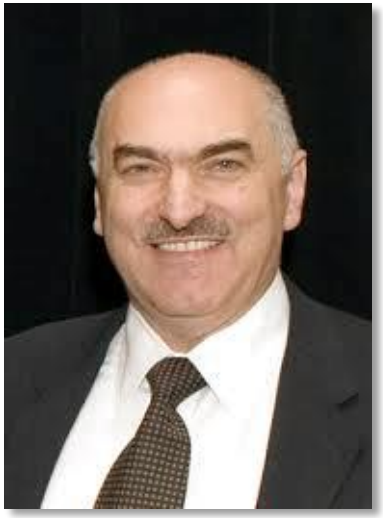
Priority Areas Previously Identified

- Transportation System Simulation Manual
- Driver behaviors in response to advanced strategies (both existing and emerging)
- Collection of trajectory databases
- TFT/Simulation Models that deal with variations in driver behaviors under different congestion levels/ Congestion types/instability in flows
  - Produce model vehicle trajectories that better reflect driver behaviors (e.g., for emission/safety modeling)

Paper Review & Sessions

Special thanks to subcommittee members, authors and reviewers!




1,138 papers since 2009

Special Calls for Papers

- Crowd Dynamics: Empirical Analyses, Modeling, Simulation and Management
  - Organizers: Majid Sarvi, Serge Hoogendoorn, Winnie Daamen,
  - 20 papers received
  - 1 podium session
- Advances in modeling and traffic management for large-scale urban networks
  - Organizers: Nikolas Geroliminis, Vikash Gayah, Victor Knoop, Majid Sarvi
  - 18 papers received
  - 1 podium session

Special Calls for Papers

- Calibration, Validation and Sensitivity analysis
  - Organizers: Christine Buisson, Peter Wagner
  - 13 papers received
  - 1 podium session
- Integrated Traffic Flow Models and Analysis for Connected Automated Vehicles
  - Organizers: Haizhong Wang, Stephen Mattingly, Robert Bertini
  - 23 papers received
  - 1 podium session

- Special Calls for 2017 Due in May 2016
  - Topics?

Annual Meeting	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001
Papers Received	**173**	201	195	172	177	119	101	92	82	88	70	69	80	40	42	25
Percent increase	**-14%**	+4%	+13%	-3%	+49%	+18%	+10%	+12%	-7%	+26%	+1%	-14%	+100%	-5%	+68%	
Presentation only	**54**	48	32	27	32	22	13		7	9	7	3				
Publication only	**2**	4	3	5	5	1	4		2	2	5	2			3	
Present and publish	**117**	149	160	140	140	96	84		73	77	58	64				
Submitted Presentation	171	197	192	167	172	118	97	87	81	86	70	67	75	40	39	
Lectern Sessions	6	6	5	6	5	4	4	4	4	4	4	4	4	4	4	
Lectern Papers	31	27	23	30	25	20	20	20	20	20	20	20	20	19	19	
Poster Sessions	3	2	2	3 (+1)	4	2	2	2	2	2	2	2	2	0	0	
Poster Papers	71	80	84	69 (+6)	67	60	40	39	33	39	32	25	30	0	0	
Subtotal	102	107	107	99	92	80	60	59	53	59	52	45	52	19	19	
Percent Accepted	60%	54%	56%	59%	53%	67%	62%	68%	65%	69%	74%	67%	69%	48%	49%	
Rejected	70	90	85	68	80	38	37	28	28	27	18	22	23	21	20	
Submitted Publication	119	152	163	145	145	97	88	78	76	79	63	66	71	40		
Accepted	0	0	1	0	0	2	0		1				4			
Revise and re-review	29	42	44	53	44	35	0	14	19	16	15		20	15		
To be determined	7	5	4	3	0	0	31	29	18	29	21		16			
Subtotal	36	47	49	56	44	37	31	43	38	45	36	42	40	15		
Publication Slots	~24	~30	35	33	36	30	25	23	21	22	17	21	24	12		
Acceptance Rate	20%	20%	22%	23%	25%	31%	28%	29%	28%	28%	27%	30%	30%	30%		
Rejected	81	105	95	89	109	49	57	35	38	34	27	24	31	28		
Reviews																
Assigned	902	804	811	750	712	568	441	394	332			269	356	200		
Assigned/paper	5.2	4.0	4.2	4.4	4.0	4.8	4.4	4.3	4.0			3.9	4.5	5		
Received	605	720	695	634	597	481	394	360	315			248	317	120		
Received/paper	3.5	3.6	3.6	3.7	3.4	4.0	3.9	3.9	3.8			3.6	4.0	3		
Response rate	67%	90%	86%	85%	84%	85%	89%	90%	95%			92%	89%			
TFT Reviewer Pool	563	526	476	433	440	310+	282									
Number of Reviews	0-45	0-38	0-36	0-33	1-32		1–34									
Average	5.0	4.7	5.5	5.5	5.3		6.2									
Total Reviews	2135	2469	2622	2368	2330		1500									
Friends Email List	721	696	666	471	411	404	343									
Annual Meeting Att		100	90	113	101	?	79	?	65	58	72	57	80+	80+	50+	?
Midyear Meeting Att			72	25	30	25	65	-	39	-	-	-	-	-	-	-
SimSub Attendance			40			61										
Sunday Workshop Att			150													
Facebook “Likes”	531	500	421	302	215											

Chair Letter

December 21, 2015

Dear members and friends of the TRB Committee on Traffic Flow Theory and Characteristics (AHB45):

We hope you will join us at the upcoming TRB Annual Meeting in Washington, DC January 10-14, 2016 (for details, please use the TRB interactive program and enter "AHB45" to find our events):

1. **Committee Meeting**: All members and friends are welcome at our committee business meeting, Wednesday, January 13, 2016 8:00 AM-12:00 PM, Marriott Marquis, Marquis Ballroom Salon 5 (M2).
   Draft Agenda: *Please review the agenda and let me know if you have anything to add or modify.*
2. **SimSub Meeting** AHB45(1): Please support the efforts of the Joint Subcommittee on Simulation by participating in our meeting on Monday 7:30 PM-10:00 PM Marriott Marquis, Marquis Ballroom Salon 10 (M2).
3. **Crowd Flow Dynamics, Modeling and Management Subcommittee Meeting** AHB45(2): The crowd/ped subcommittee will be meeting on Tuesday 6:00 PM-7:30 PM, Marriott Marquis, Marquis Ballroom Salon 17 (M2).
4. **Traffic Flow Modeling for Connected and Automated Vehicles** AHB45(3): The CAV subcommittee will be meeting on Monday 1:30 PM-3:15 PM, Marriott Marquis, LeDroit Park (M3).
5. **Task Force on System Simulation** AHB80T: Monday 1:30 PM- 5:30 PM, Marriott Marquis, Marquis Ballroom Salon 9 (M2)
6. **Sunday Workshops**: This year we are sponsoring or co-sponsoring three Sunday Workshops and one doctoral student workshop:
   1. **Workshop 134** Toward Automation of Surface Transportation Networks: Opportunities and Challenges: Sunday 9:00 AM-12:00 PM, Convention Center, 102A. Please help support our new subcommittee and research agenda with this engaging session.
   2. **Workshop 181** Transportation System Simulation Manual: Sunday 1:30 PM-4:30 PM, Convention Center, 102A. Join us for the annual SimSub workshop and get there early since there will be a big crowd.
   3. **Doctoral Student Workshop 194** Transportation Modeling: Sunday 1:30 PM-5:30 PM, Convention Center, 145A.
7. **Lectern Sessions**: We have six lectern sessions this year:
   1. **221** Crowd Dynamics: Empirical Analyses, Modeling, Simulation, and Management: Monday 8:00 AM-9:45 AM, Convention Center, 103B
   2. **278** Calibration Validation and Sensitivity Analysis: Monday 10:15 AM-12:00 PM, Convention Center, 101
   3. **414** Integrated Traffic Flow Models and Analysis for Connected Automated Vehicles: Monday 3:45 PM-5:30 PM, Convention Center, 101
   4. **620** Advances in Modeling and Traffic Management for Large-Scale Urban Networks: Tuesday 1:30 PM-3:15 PM, Convention Center, Salon C
   5. **694** Macroscopic Features of Traffic Flow: Tuesday 3:45 PM-5:30 PM, Convention Center, Salon C
   6. **844** Microscopic Traffic Flow Modeling: Wednesday 2:30 PM-4:00 PM, Convention Center, 101
8. **Poster Sessions**: We are sponsoring three poster sessions—please attend and meet the authors:
   1. **536** Traffic Flow Theory and Characteristics, Part 1: Tuesday 8:30 AM-10:15 AM, Convention Center, Hall E
   2. **537** Traffic Flow Theory and Characteristics, Part 2: Tuesday 8:30 AM-10:15 AM, Convention Center, Hall E
   3. **589** Traffic Flow Theory and Characteristics, Part 3: Tuesday 10:45 AM-12:30 PM, Convention Center, Hall E

Visit our website **tft.ceng.calpoly.edu** and "Like" us on Facebook: https://www.facebook.com/AHB45/likes

Special thanks to all paper reviews, call-for-papers organizers, paper review coordinators, subcommittee chairs, members and friends for the incredible job in putting this meeting together. Please feel free to contact me if you have any suggestions or questions. I look forward to seeing you in Washington, best wishes,

Soyoung (Sue) Ahn, University of Wisconsin-Madison
Chair, TRB Committee on Traffic Flow Theory and Characteristics

Workshops

Sunday Workshops: This year we are sponsoring or co-sponsoring three Sunday Workshops and one doctoral student workshop:

1. **Workshop 134** Toward Automation of Surface Transportation Networks: Opportunities and Challenges: Sunday 9:00 AM-12:00 PM, Convention Center, 102A. Please help support our new subcommittee and research agenda with this engaging session.
2. **Workshop 181** Transportation System Simulation Manual: Sunday 1:30 PM-4:30 PM, Convention Center, 102A. Join us for the annual SimSub workshop and get there early since there will be a big crowd.
3. **Doctoral Student Workshop 194** Transportation Modeling: Sunday 1:30 PM-5:30 PM, Convention Center, 145A.

Sessions

Lectern Sessions: We have six lectern sessions this year:

1. **221** Crowd Dynamics: Empirical Analyses, Modeling, Simulation, and Management: Monday 8:00 AM-9:45 AM, Convention Center, 103B
2. **278** Calibration Validation and Sensitivity Analysis: Monday 10:15 AM-12:00 PM, Convention Center, 101
3. **414** Integrated Traffic Flow Models and Analysis for Connected Automated Vehicles: Monday 3:45 PM-5:30 PM, Convention Center, 101
4. **620** Advances in Modeling and Traffic Management for Large-Scale Urban Networks: Tuesday 1:30 PM-3:15 PM, Convention Center, Salon C
5. **694** Macroscopic Features of Traffic Flow: Tuesday 3:45 PM-5:30 PM, Convention Center, Salon C
6. **844** Microscopic Traffic Flow Modeling: Wednesday 2:30 PM-4:00 PM, Convention Center, 101

Poster Sessions: We are sponsoring three poster sessions—please attend and meet the authors:

1. **536** Traffic Flow Theory and Characteristics, Part 1: Tuesday 8:30 AM-10:15 AM, Convention Center, Hall E
2. **537** Traffic Flow Theory and Characteristics, Part 2: Tuesday 8:30 AM-10:15 AM, Convention Center, Hall E
3. **589** Traffic Flow Theory and Characteristics, Part 3: Tuesday 10:45 AM-12:30 PM, Convention Center, Hall E

Awards

Awards

- Congratulations Hani!
- 2016 Thomas B. Deen Distinguished Lectureship Award
- “Micro Models and Mega Data: Taming Complexity for Deep Insight and Robust Decisions”

TRB Wide Awards

D. Grant Mickle Award

- Established 1976
- Outstanding paper published in the field of operation, safety, and maintenance of transportation facilities.
- Honors fifth executive director, later 33rd Executive Committee Chair

Fred Burggraf Award

For next year, please mention on the first page of your paper is your are eligible to this award

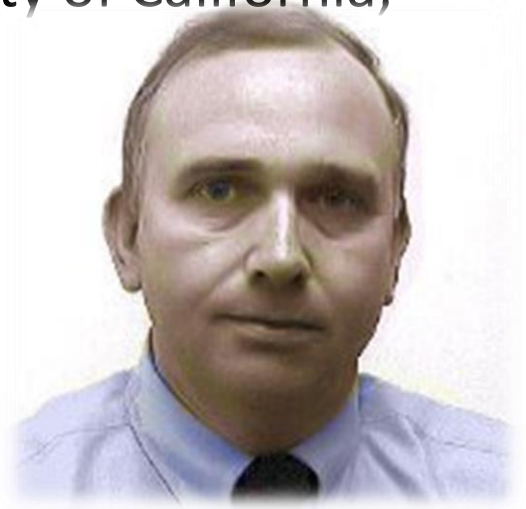
- Established 1966
- Stimulate and encourage young researchers
- Recognition of excellence in transportation research by researchers 35 years of age or younger whose papers have been published under the sponsorship of any Division A Standing Group
- Accompanied by a cash prize
- Honors TRB director from 1951-1964

No paper was recommended in 2015.

Cunard Award for 2015

2015 Best 1st Young Author Paper in the area of Operations:

- 15-4588 - On Traffic Relaxation, Anticipation and Hysteresis
- Hui Deng, University of California, Davis (huideng@ucdavis.edu)
- H. Michael Zhang (corresponding), University of California, Davis (hmzhang@ucdavis.edu)



Greenshields Prize

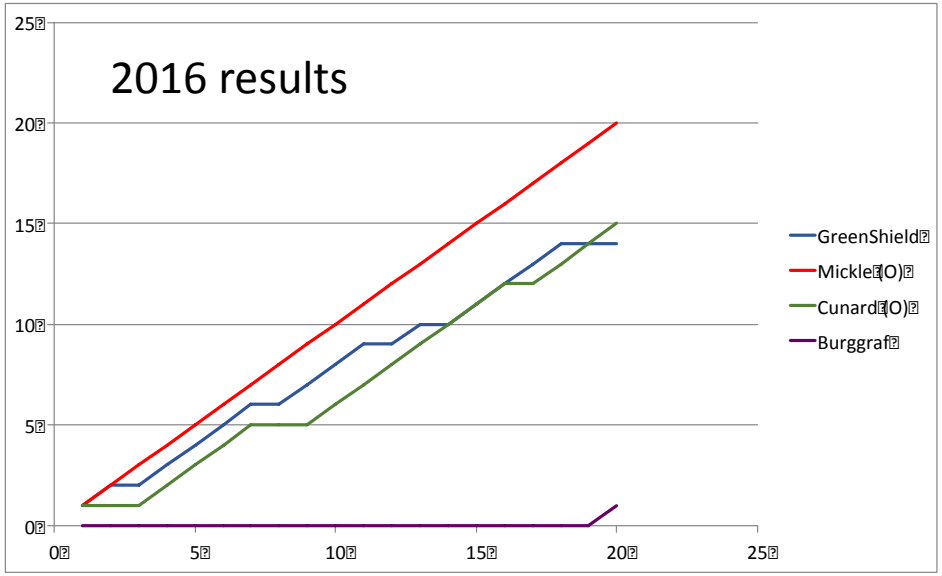
Greenshields Prize for 2015

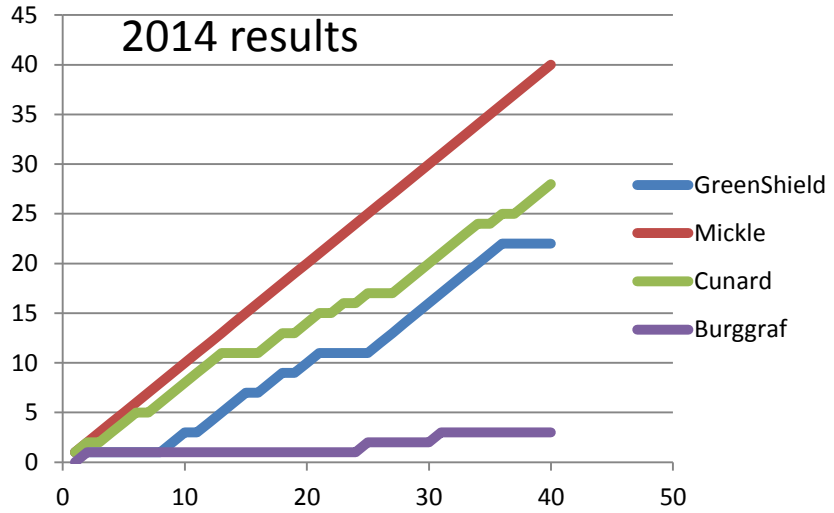
15-3916: Transportation Research Record No. 2490, pp 56-64
Real-Time Travel Time Prediction Framework for Departure Time and Route Advice

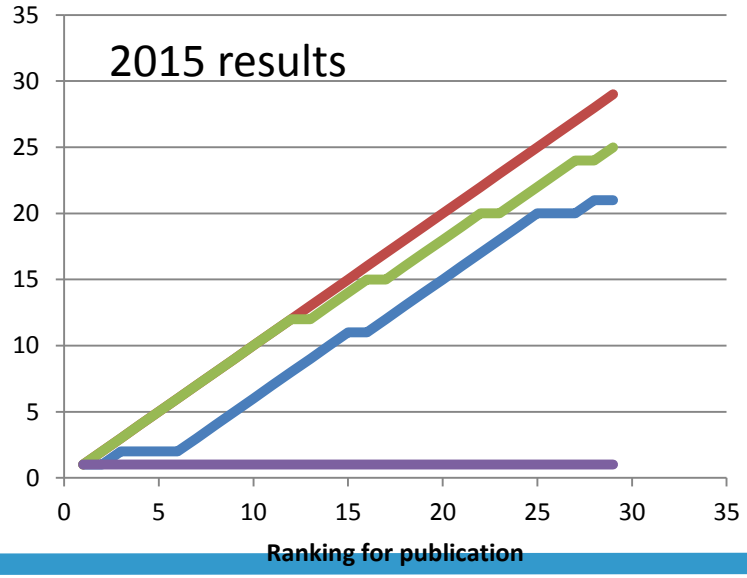
By Calvert, S.C., TNO, Snelder, M., TNO, Bakri, T., TNO, Heijligers, B., TNO, Knoop, V., TU Delft

This paper proposes a real time travel time prediction framework designed for large urban area including both arterial and urban roads. This framework makes it possible to test a wide variety of prediction models based either on theoretical or data-driven approaches. The results are demonstrated in a large test case corresponding to the Amsterdam Practical Trial. Data-driven approaches were then favor because their are easier to calibrate and require less computations. For short-term prediction, it appears that the simplest data driven approach (naive approach) performs the best. For larger-time window, a refined method (historic median prediction) provides the more accurate results. In most cases, the average absolute relative error is below 20%. The main contributions of this paper are (i) the formulation of the global framework and (ii) the extensive test of different methods on a large and heterogeneous operational test cases. The operational feedbacks from this study provide a good state of the art of the performance of data-driven methods in a mixed context and pave the way of further methodological developments.

Eligibility of Papers for Awards (2015)







Only papers submitted to TRR are considered

Some insights

- Lots of papers submitted for publication in TRR have a young author as first author
- Only one paper seems eligible to the Burggraf award (hard to check in practice)
- The Greenshields (data) requirement is not restrictive this year. Most of good papers include data analysis!

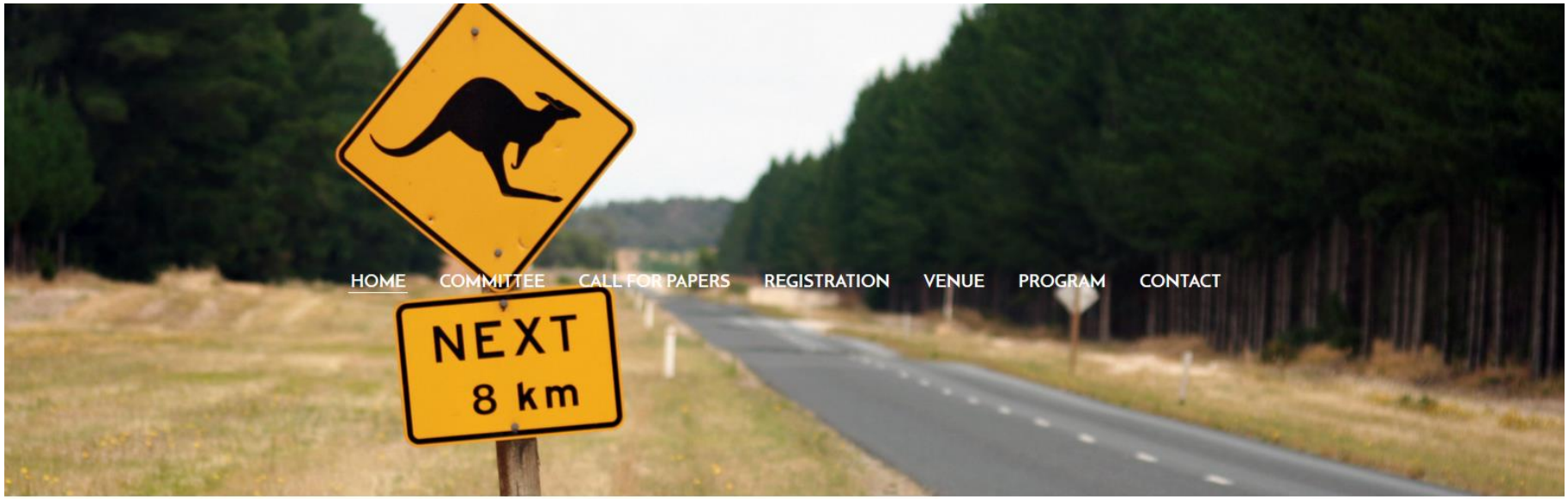
We are currently working on the 2016 award season !
The 2016 greenshield prize will be announced during TFT summer meeting in Sydney !

Mid-Year Meetings

- 2007 ISTTT London (in pub)
- 2008 Greenshields Symposium, Woods Hole
- 2009 ISTTT Hong Kong (lunch table)
- 2010 Does Traffic Data Support Traffic Models? Annecy, France
- 2011 ISTTT Berkeley (one hour w/SimSub)
- 2012 Joint Summer Meeting with HCQS Committee, June 19-22, Fort Lauderdale, Florida
- 2013 ISTTT, July 17-19, Noordwijk, the Netherlands
- 2014 Portland, Oregon, USA, Symposium Celebrating 50 Years of Traffic Flow Theory
- 2015 ISTTT Kobe
- 2016 Sydney, Australia
- 2017 ISTTT Chicago
- 2018 TBA Woods Hole or Irvine?

2016 TFT Summer meeting

http://www.tft2016.com/



Traffic Flow Theory and Characteristics Committee
(AHB45)
2016 Summer Meeting

Sydney, Australia
July 2-3, 2016

Sydney, Australia
July 2-3, 2016

Symposium on Innovations in Traffic Flow Theory and Characteristics
in the era of Autonomous Vehicles, Big Data, and the Internet of Things (IoT)

Building on the success of the previous TRB Traffic Flow Theory and Characteristics Committee (TFTC) summer meetings held in Portland, Oregon (2014), Fort Lauderdale, Florida (2012), Annecy, France (2010), and the Greenshields Symposium in Woods Hole, Massachusetts (2008) , the next TFTC committee summer meeting will be held in Sydney, Australia, 2-3 July, 2016.

The symposium and summer meeting will be held in conjunction with the **Dynamic Traffic Assignment Symposium (DTA2016)** which will also be held in Sydney, 28-30 June, 2016. The joint events create a significant opportunity for transportation researchers and practitioners to interact and identify research findings that would benefit the existing analysis and modeling procedures and to identify research needs related to traffic flow theory and dynamic traffic assignment.

IMPORTANT DATES

15/02/2016 - Abstract submission deadline
15/03/2016 - Notification of abstract acceptance/rejection
15/05/2016 - Full paper submission deadline (optional)
31/05/2016 - Early bird registration deadline

Local Organizing and Scientific Committee

Majid Sarvi – The University of Melbourne
Meead Saberi – Monash University
Mohsen Ramezani – Monash University
Inhi Kim – Monash University
Vinayak Dixit – University of New South Wales
Travis Waller – University of New South Wales
Emily Moylan – University of New South Wales
Lauren Gardner – University of New South Wales
Taha H. Rashidi – University of New South Wales
Michael Bell – The University of Sydney
Mark Hickman – The University of Queensland
Jiwon Kim – The University of Queensland
Hai Vu – Swinburne University of Technology
Xiaobo Qu – Griffith University
Hussein Dia – Swinburne University of Technology
Zuduo Zheng – Queensland University of Technology
Russell Thompson – The University of Melbourne
Sara Moridpour – RMIT

International Scientific Advisory Committee

sorted alphabetically (all current committee members)

Soyoung Ahn, Chair – University of Wisconsin, Madison, USA
Constantinos Antoniou – National Technical University of Athens (NTUA), Greece
Robert Bertini - California Polytechnic State University, San Luis Obispo, USA
Christine Buisson – LICIT (ENTPE/IFSTTAR), France
Winnie Daamen – TU Delft, The Netherlands
Jing Dong – Iowa State University, USA
Nathan Gartner – University of Massachusetts, Lowell, USA
Vikash Gayah – Pennsylvania State University, USA
Nikolas Geroliminis – Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland
Eric Gonzales – University of Massachusetts, Amherst, USA
Mohammed Hadi – Florida International University, USA
Samer Hamdar – George Washington University, USA
Serge Hoogendoorn – TU Delft, The Netherlands
Victor Knoop – TU Delft, The Netherlands
Ludovic Leclercq – Universite de Lyon, France
Jorge Laval – Georgia Institute of Technology, USA
George List – North Carolina State University, USA
Hans van Lint – TU Delft, The Netherlands
Hani Mahmassani – Northwestern University, USA
Monica Menendez – Swiss Federal Institute of Technology (ETH), Switzerland
Marco Nie – Northwestern University, USA
Yanfeng Ouyang – University of Illinois, Urbana Champaign, USA
Vincenzo Punzo – University of Napoli, Italy

Abstracts (maximum 400 words) will be reviewed by members of the local organizing and scientific committee. Authors of accepted abstracts will be invited to submit a full paper (optional). Full papers will not be reviewed for the conference, but will have the opportunity to be reviewed for publication consideration in the **Transportation Research Part C: Emerging Technologies** in a fast-track process reviewed by members of the international scientific advisory committee.

1. Go to the Microsoft Conference Management System.
2. Login with an existing username and password from a previous conference, or create a new login.
3. Create a new submission by uploading your abstract as a PDF file (maximum 400 words, use template above)

If you have any question, please contact us at info@tft2016.com.

Registration

Registration information will be announced soon.

Visa Information

Melbourne Pre/Post conference

- Crowd dynamic workshop (Serge, Armin, industry, etc.) as part of subcommittee activities
- Would like to visit, present and participate let us know

Summer Meeting Discussion

- 2018 TBA
  - Woods Hole, San Luis Obispo, or Irvine
- Classic Paper Retreat
  - Participants: Christine Buisson, Nathan Gartner, Mohammed Hadi, Hani Mahmassani, Michael Zhang
  - Potential format: Each participant presents a selected paper and lead the discussion.

Outreach and Diversity

- Newsletter
- YouTube Channel
- Work with other subcommittees/committees:
  - Joint Simulation Sub-Committee: AHB45(1)
  - Traffic Flow Modeling for Connected and Automated Vehicles: AHB45(3)
  - Midyear Meeting 2016
  - Webinars (ISTTT21 Webinars)
  - Intelligent Transportation Systems Committee: AHB15
  - Vehicle Highway Automation Committee: AHB30.
- → Workshop 134: outreach to private and public entities (USDOT/FHWA, DDOT, Verizon, VW, Toyota, Leidos, Battelle, Daimler, Mitre …etc.)
- TFT Webpage and Facebook Page

Newsletters

Sunday, November 8, 2015

AHB45 Newsletter November 2015

Transportation Research Board

Traffic Flow Theory and Characteristics Committee—AHB 45

Newsletter

Volume 3, Issue 11, November 2015

EVENTS/ANNOUNCEMENTS

AHB45 TRB 2016 Workshops: Transportation Networks' Automation & Transportation System Simulation Manual

The Traffic Flow Theory and Characteristics Committee (AHB45) is organizing two workshops at the upcoming Transportation Research Board (TRB) Annual Meeting. Both workshops will take place on Sunday January the 10th, 2016, at the Walter E. Washington Convention Center. The first workshop is titled: "Towards Surface Transportation Networks' Automation: Opportunities and Challenges" (9:00 am—12:00 pm). The second workshop is titled: "Transportation System Simulation Manual" (1:30 pm—4:30 pm). Given the limited capacity associated with the corresponding room sizes, please RSVP by sending an email to Dr. Soyoung Ahn (sue.ahn@wisc.edu) or Dr. Samer H. Hamdar (hamdar@gwu.edu). For additional details related to the second workshop, please click on the link below.

More Details

ANT-2016 (MSTS) and ABMTRANS-2016: *Call for Papers*

The 5th International Workshop on Agent-based Mobility, Traffic and Transportation Models, Methodologies and Applications (ABMTRANS-2016) will be held in conjunction with the 7th International Conference on Ambient Systems, Networks and Technologies (ANT-2016) on May 23 -26, 2016, Madrid, Spain. The ANT-2016 conference dedicates the MSTS track to Modeling and Simulation in Transportation Sciences while the ABMTRANS-2016 workshop focuses on the agent-based approach in that domain. Both are organized by the Transportation Research Institute (IMOB), Hasselt University, Belgium. The paper submission due date for the ABMTRANS-2016 workshop is January 2, 2016 and the paper submission due date for the ANT-2016 conference is December

Newsletter Spotlight

AHB45 TRB 2016 Workshops

ANT-2016 (MSTS) and ABMTRANS-2016

8th International Conference on Pedestrian and Evacuation Dynamics—PED 2016

Student Positions at the Queensland University of Technology and at the George Washington University

Traffic in the Media: "Buckle up: Nokia greenlights intelligent transportation system that uses drivers' smartphones"

Congratulations: Prof. Lily Elefteriadou

TRB TRANSPORTATION RESEARCH BOARD OF THE NATIONAL ACADEMIES

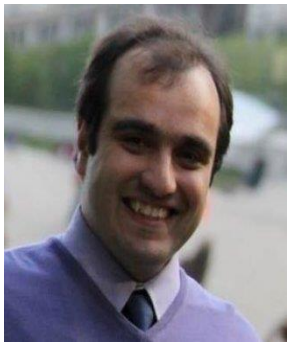
Added coordination needed

- Launched July 2013 (30 issues threshold)
  - (1) January 2016
  - 12 January 2015 issue
  - 12 issues in 2014
  - 5 issues in 2013
- Archived at: http://tftcnews.blogspot.com/
- Contact Samer Hamdar hamdar@gwu.edu
- What do you want to see?
- Ideas/Suggestions/Input Welcome!

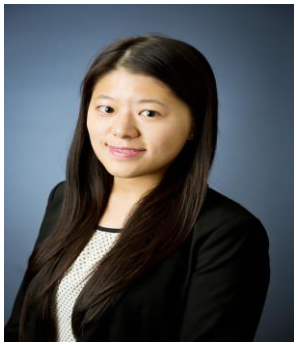
YouTube channel

AHB45 YouTube Channel to be redesigned and re-launcged (2016/2017)

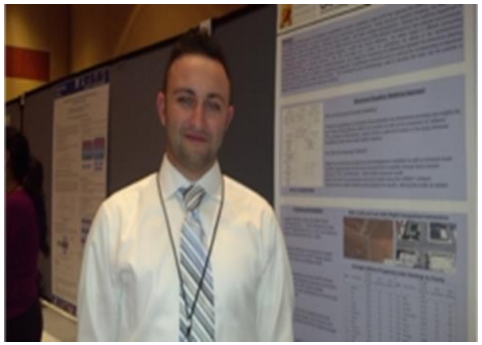
(Established in 2014 with the help of Dr. Sandeep Mutigonda)



Dr. Alireza Talebpour
Reporter



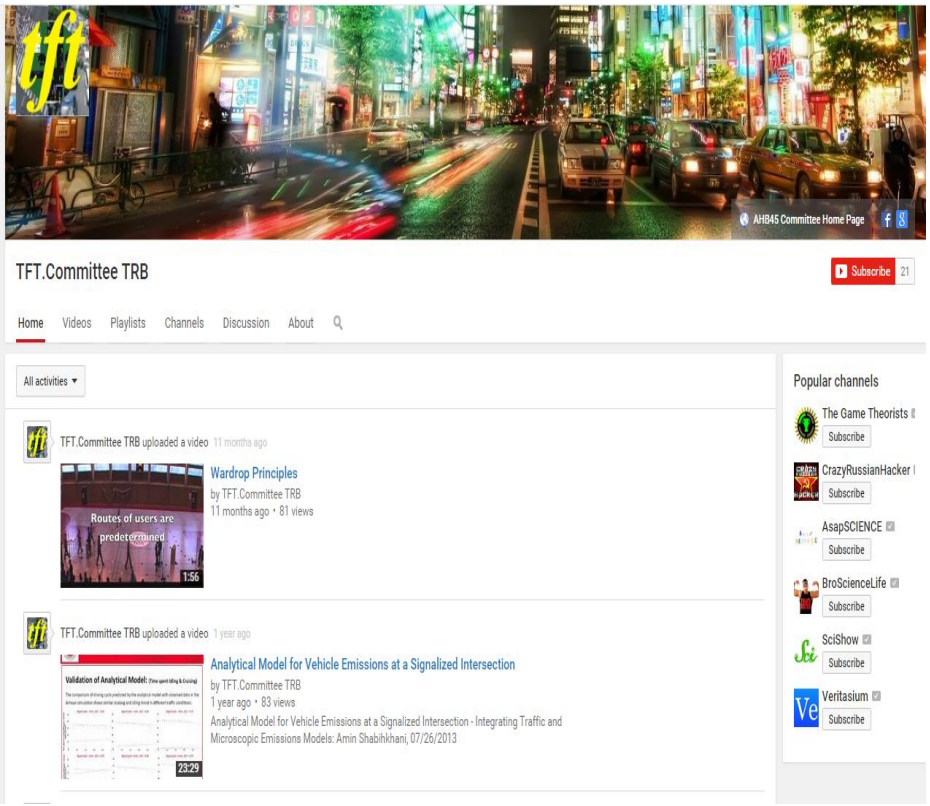
Ms. Zhijie (Sasha) Dong
News Media Coordinator



Mr. Justin P. Schorr
IT Support

<u>Copy-right issues: already received warning from YouTube</u>

Youtube Channel



Additional ideas & suggestions welcomed

- 23 subscribers
- 6 Videos
- Found at: https://www.youtube.com/user/AHB45/feed
- Further work needed:
- 4 Sections:
  - Interviews: Alireza Talebpour
  - Webinars (from Webinar Series): Li Xiaopeng (previously, Meead Sabri)
  - News Videos (News Media in Newsletter since March 2014): Sasha Dhong
  - Research and Educational Videos: Samer Hamdar and Hans Van Lint

TRB 134 Workshop

- Coordination with newly formed “Traffic Flow Modeling for Connected and Automated Vehicles” Subcommittee:
  - Assistance in AVS2015 Symposium
  - TRB 2016 workshop 134: “Towards Surface Transportation Networks’ Automation: Opportunities and Challenges” (co-sponsored by the Intelligent Transportation Systems Committee - AHB15 - and the Vehicle Highway Automation Committee - AHB30).

Workshop 134

Toward Automation of Surface Transportation Networks: Opportunities and Challenges

Sunday 9:00 AM- 12:00 PM
Convention Center, 102A
Workshop

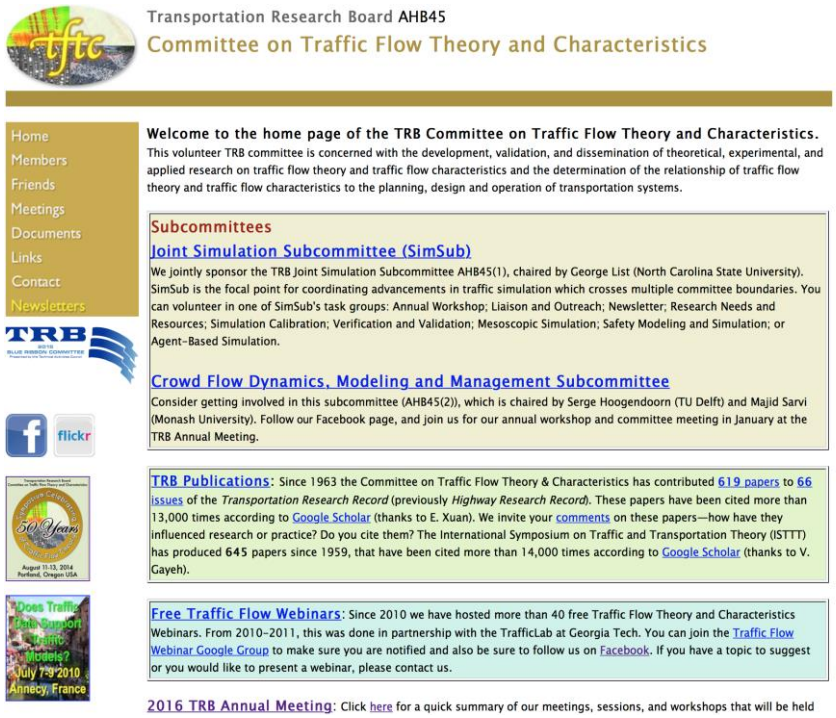
Stephen Mattingly, University of Texas, Arlington, presiding

Sponsored by:
Standing Committee on Traffic Flow Theory and Characteristics (AHB45)

Connected and automated vehicles have been of interest in the past few years, with major public and private initiatives exploring the roles of the technologies for the future of the highway system. However, traffic safety and congestion implications of such technologies are not well understood. This workshop aims to present the latest related developments and opportunities and to detail the traffic-related research challenges that remain unanswered.

Webpages

TFT Website (Robert Bertini)



http://tft.ceng.calpoly.edu/index.htm

Facebook Page (Meead Sabri)

https://www.facebook.com/AHB45

Outreach and Diversity

- Summary: many actions/tasks done but many still to do:
  - data repository (MFD Initiative – Jorge Laval)
  - outreach to additional entities
  - liaison in every continent
  - activities targeted to students ...etc.

- Thanks to: Alireza Talebpour, Sasha Dong, Justin Schorr, Jing Dong, Vikash Gayah, Meead Saberi, Ethan Xuan, Stephen Mattingly and Monica Menendez, Li Xiaopeng

Committee Website

- http://tft.ceng.calpoly.edu/
- Anyone can contribute items
- Revised 2001 Monograph
- 1964 and 1975 Monographs
- Greenshields Symposium 2008 *TR Circular*
- Symposium Pages
- Greenshields Prize page
- Historic Papers
- Meeting Materials
- Volunteer?

Young Members Council

- Eric Gonzales

Webinars

- Featuring ISTTT 21 papers
  - Aim to reach out to global audiences who could not attend this conference.
- 26 Speakers from the world US 9 , Netherlands 3, UK 3, Hong Kong 2, Singapore 2, Switzerland 2 , Australia 1, China 1, France 1, Ireland 1, Israel 1
- Schedule: Friday morning or earlier afternoon, DC time; 3-4 presentations a month.
  - 10 webinars completed and 16 remaining
  - Average attendees for the completed webinars: 18
  - Slides and videos may be available at https://docs.google.com/spreadsheets/d/17kLaXlnElnEsa-7ZDmmSC1o0OdRFU6ZmeHNZxoh04-A/edit#gid=882784935
- Subcommittee Chair: Jorge Laval (Georgia Institute of Technology); Sponsor: Jack Haddad (Israel Institute of Technology); Organizer: Xiaopeng Li (University of South Florida)

MFD Dataquest

Mission statement: to compile empirical MFD data from as many cities around the world as possible, given that currently there are very few empirical MFDs documented in the literature.

Outcomes:

- A paper compiling all the data, with as many co-authors as data contributors participate
- An online repository to make the data available (after obtaining proper permissions)
- A call for papers using the data for the 2017 TRB annual meeting

Georgia Tech

70

22 data contributors

Contributor	Institution	Type of data	Location of data
Henk van Zuylen	TU Delft	taxi GPS andloop detector	Changsha (PR China).
Hesham Rakha	Virginia Tech	loop detector	Washington DC.
Serge Hoogendoorn	TU Delft	loop detector	arterials near A10 motorwa
Nicolas Chiabaut	University of Lyon	Bluetooth and loop detector	Lyon.
Ludovic Leclercq	University of Lyon	loop detector	Lyon.
Samer Hamdar	The George Washington University	loop detector	Korea and Washington DC
Jack Haddad	Technion University	Bluetooth	Tel Aviv.
Meng Li	Shinghua University	loop detector	Beijing.
Mohsen Ramezani	Monash University	loop detector	Melbourne.
Masao Kuwahara	Tohoku University	loop detector	Japan.
Alessandra Pascale	IBM	loop detector	London and Dublin.
Victor Knoop	TU Delft	loop detector and travel times	The Hague dataset
Nikolas Geroliminis	EPFL	loop detector and bus Gps data	Geneva
Evangelos Mitsakis	Hellenic Institute of Transport	FCD data and loop detector	Athens
Weihua Gu	Hong Kong Polytechnic University	loop, ultrasonic, and infrared detectors	Qingdao, China
Keshuang Tang	Tongji University	loop, ultrasonic, and infrared detectors	Qingdao, China
Robert L. Bertini	Calpoly	loop detector	Oregon (Portal) or Californi
Christine Buisson	University of Lyon	loop detector	Toulouse
Jiwon Kim	The University of Queensland	loop detector	Brisbane
Kentaro Wada	Tokyo University	loop detector	Sendai region
Takashi Akamatsu	Tohoku University	loop detector	Sendai region
Pengfei Wang	Tohoku University	loop detector	Sendai region

10 volunteers

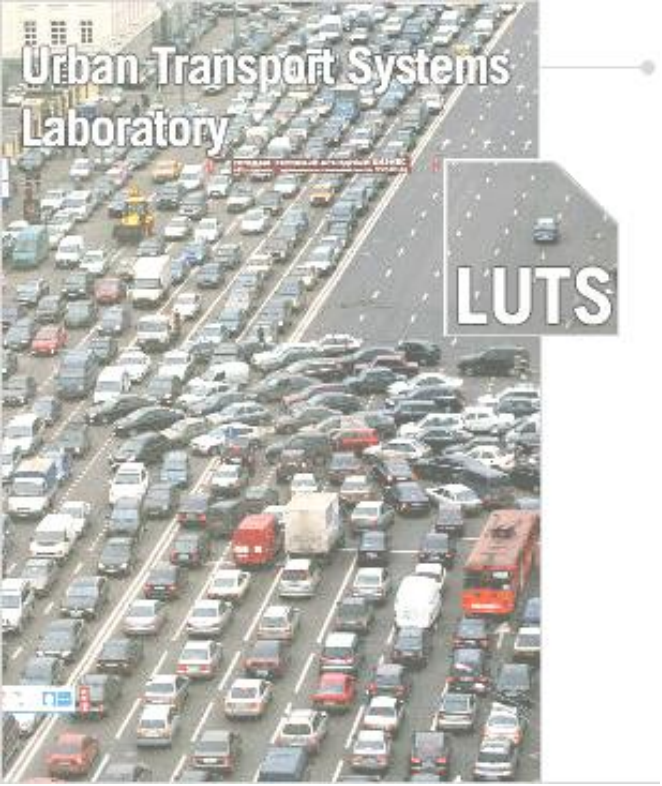
Volunteer	Institution	Assistance with
Haizhong Wang	Oregon State University	
Meead Saberi	Monash University	
Vikash Gayah	Penn State	Call for paper, archiving and data processing
Eric Gonzales	Umass	
Jie Sun	University of Minnesota	Data processing and archiving
Vinayak Dixit	University of South Wales	Data processing and analysis
Rama Chilukuri	Georgia Tech	Data processing
Ali Zockaie	Michigan state University	
Wei, Heng	The University of Cincinnati	Data processing and archiving
Bernat Goni Ros	TU Delft	Data processing and archiving

Please say that again

Georgia Tech

Update

- No datasets available yet
- Please encourage data contributors to follow up



AN ANALYSIS OF CITATIONS

ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

Prof. Nikolas Geroliminis

Urban Transport Systems Laboratory

Washington DC, January 13th , 2016

A quick survey

- Can we evaluate academic excellence and performance based on a few simple indices?
- Is journal impact factor representative of quality of journals?
- Are all papers in high IF journals of top quality?

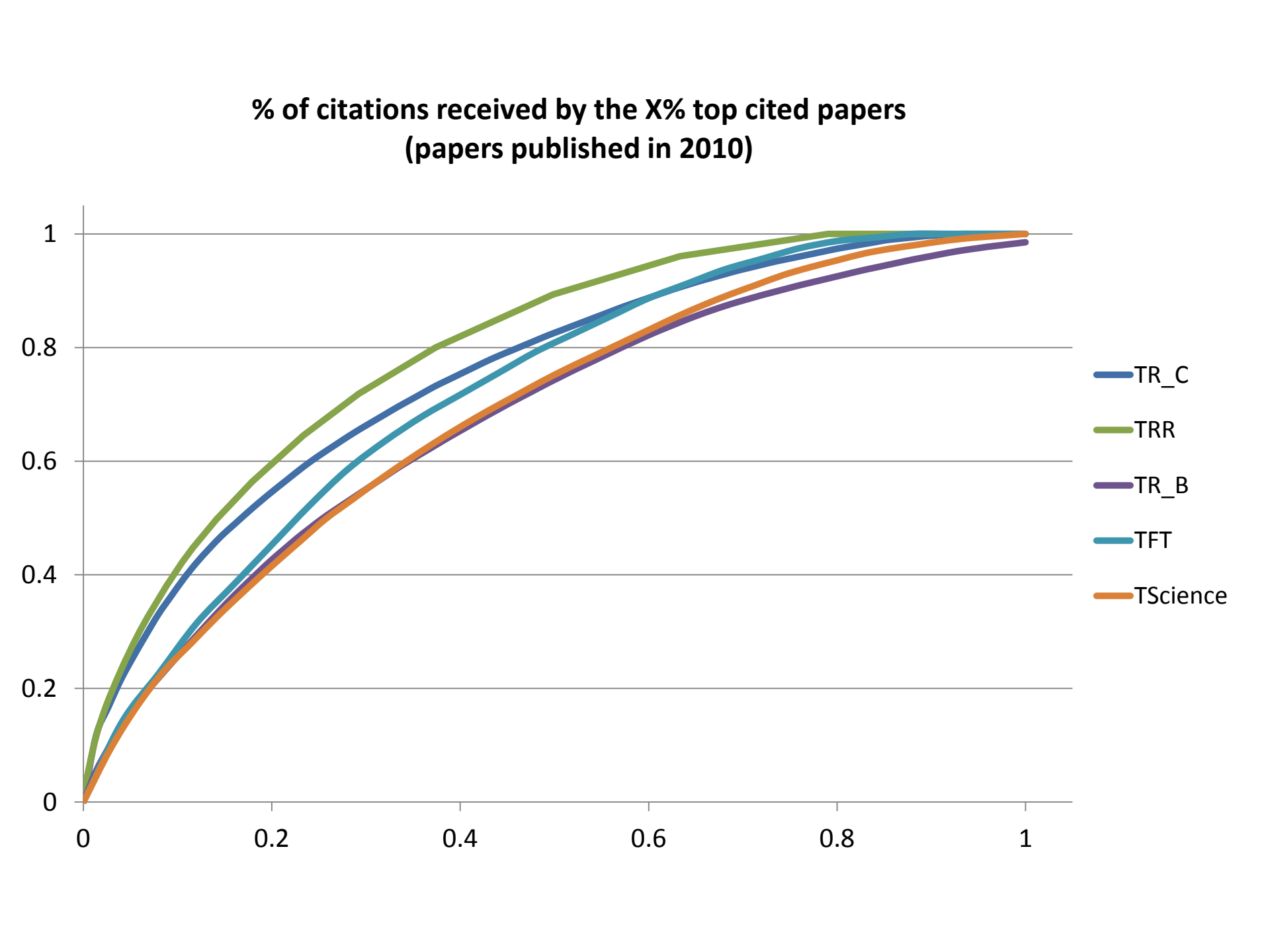
A quick survey

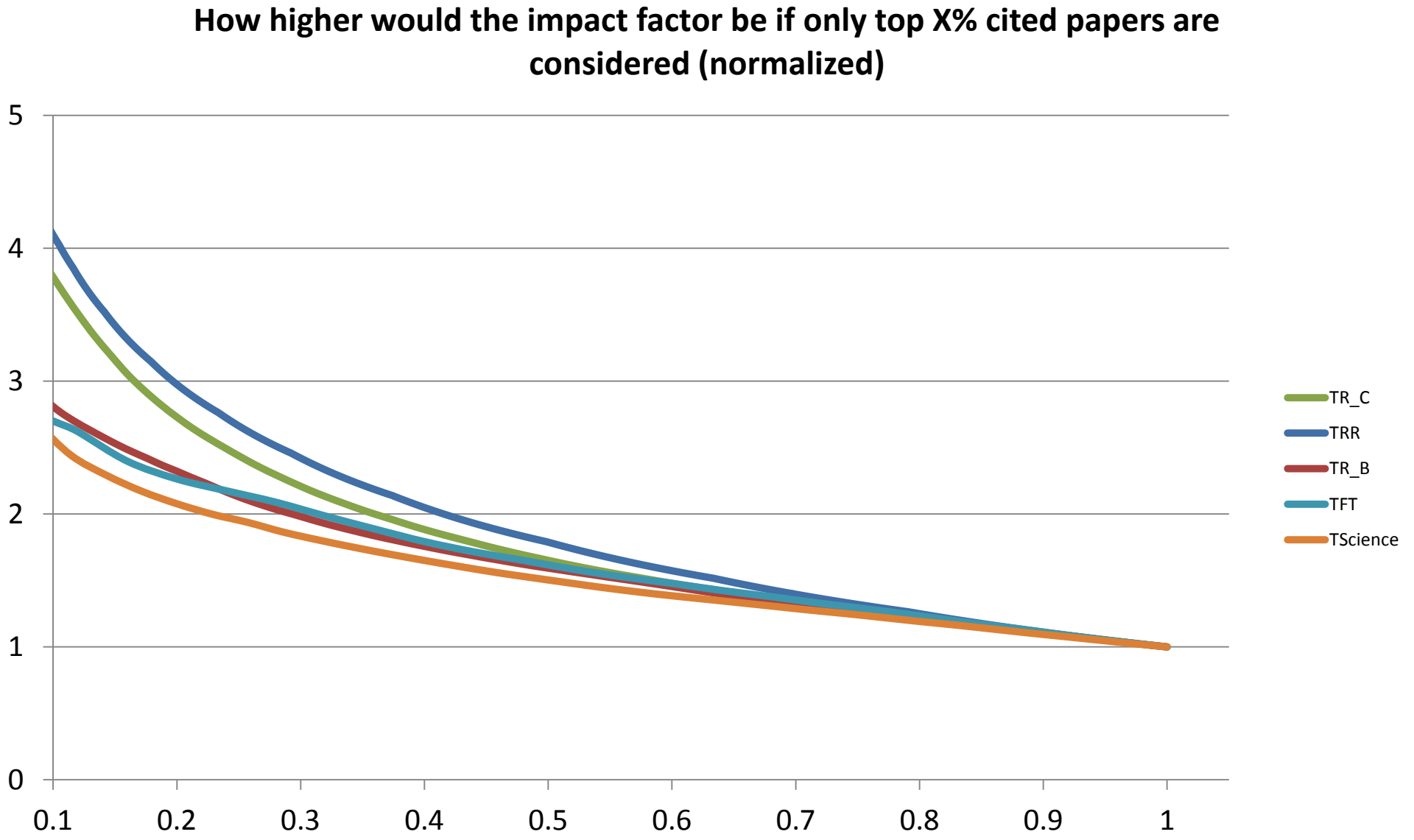
- How many in this room know their own number of citations?
- Same question asked 10 years ago.

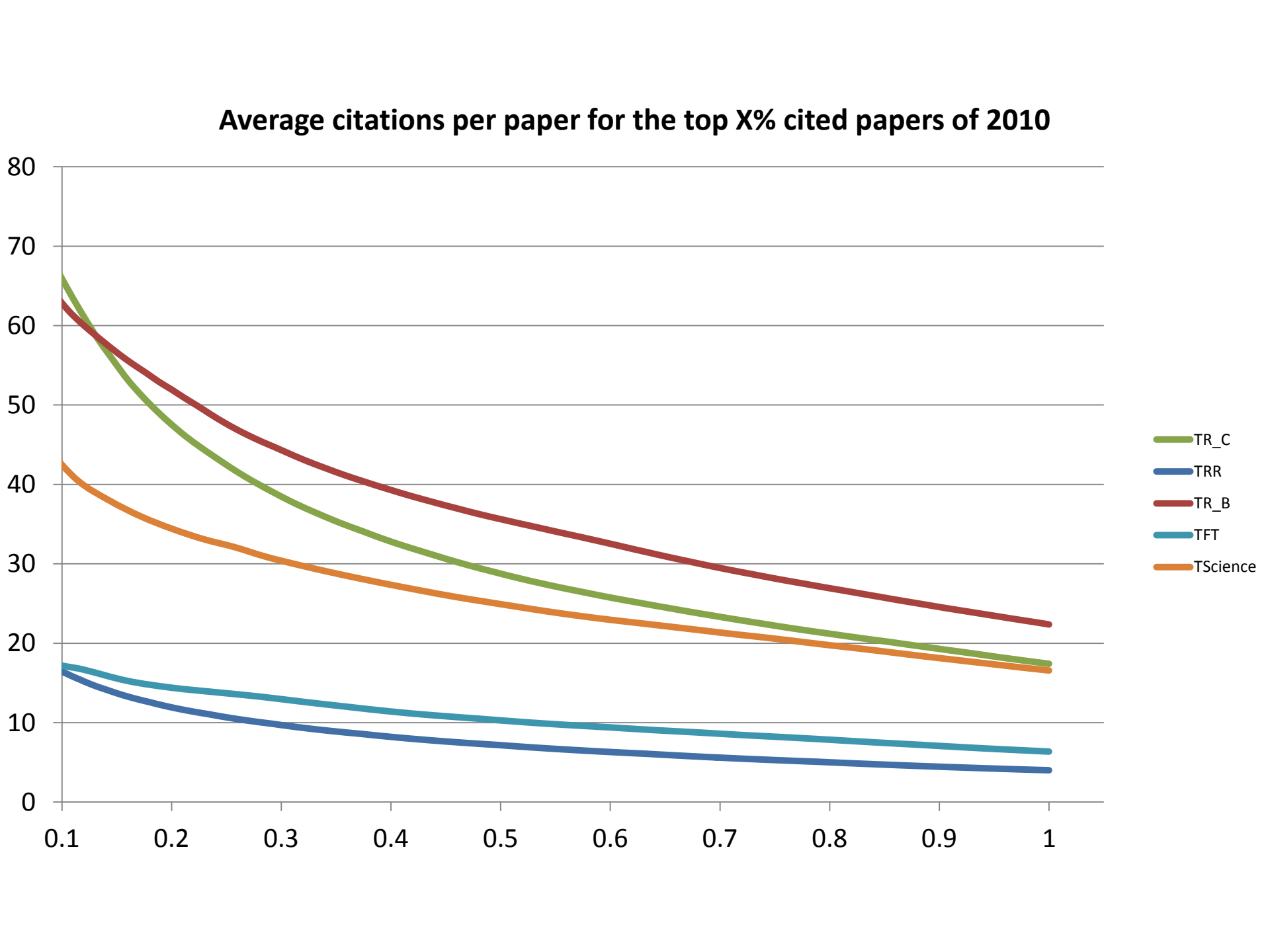
- Interesting article to read in Wikipedia about journal impact factors

Data description

- Utilize Scopus data
- Select 5 journals related to TFT
  - TR part B, TR part C, TRR, T Science, TRR TFT
- Extract individual paper citations since 2010
- Investigate variability of citations across journals
- Investigate individual citations for a few established colleagues with >100 journal papers


% of citations received by the X% top cited papers
(papers published in 2010)
1
0.8
0.6
0.4
0.2
0
0
0.2
0.4
0.6
0.8
1
TR_C
TRR
TR_B
TFT
TScience


How higher would the impact factor be if only top X% cited papers are considered (normalized)
5
4
3
2
1
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
TR_C
TRR
TR_B
TFT
TScience


Average citations per paper for the top X% cited papers of 2010
80
70
60
50
40
30
20
10
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
TR_C
TRR
TR_B
TFT
TScience

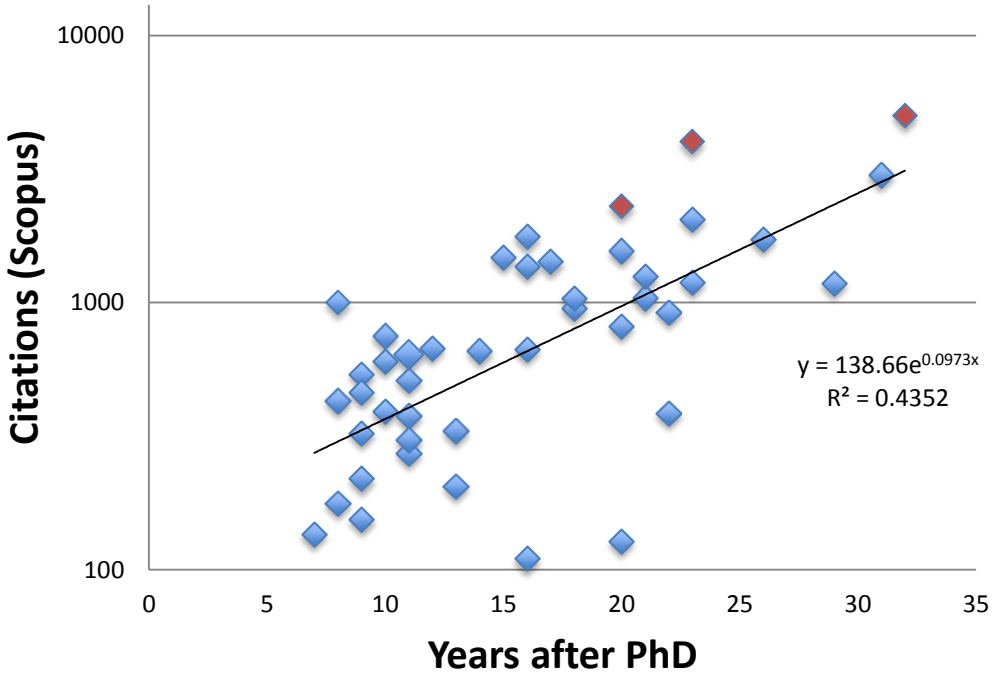
Individual citation analysis

- 3 authors chosen with very significant collaborations in transport research (not close collaborators):

>2500 citations in Scopus

>100 journal papers

Heavily involved in TRB



Individual citation analysis

- Authors 1 and 2

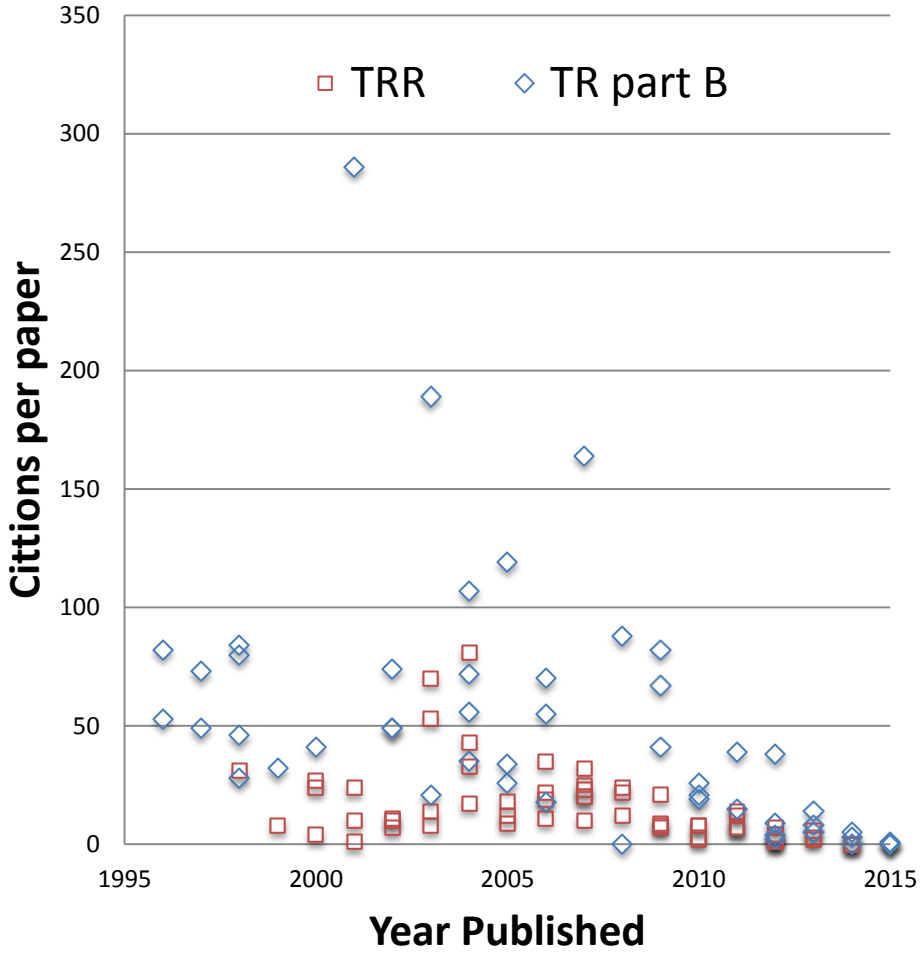
Approximately 50% TRR

In their 20 most cited papers,
only 25% TRR

In their h-index about 30% TRR

- Author 3

1/3 TRR,
1/3 TR part B,
1/3 other
In his h-index
only 9% TRR, 50% TR part B



Conclusions

- TFT TRR is receiving 50% more citations (on average) than TRR
- TFT has less heterogeneity in the citations across papers compared to TRR
- Total TFT citations are still less than the journals in the field with the highest impact factor
- Papers in TRR receive much less citations than other papers in other journals (for the same authors)

Suggestions

- Stronger review process
  - 2 rounds of review for TRR
  - Separate the process for presentation and publication of papers
  - Include pre-screening, reject low quality papers without full review by the paper coordinators (same policy in many top journals)
- Stricter acceptance rules (not based on a 20% rate, but on quality)
- Split TRR in areas (TRR_A, TRR_B, TRR_C etc)
- Accelerate publication process (make papers available online with DOI)
- Create a latex template for TRR

Special Report on TFT

- Hani Mahmassani

Liaison with Other Committees

- Highway Capacity Quality of Service Committee (AHB40)
  J. Sturrock/M. Hadi

- Task Force on System Simulations (AHB80T)
  R. Bertini/J. Sturrock/R. Cunnard

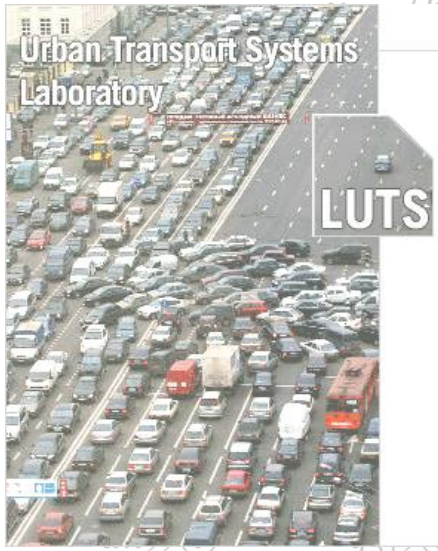
International Liaison

- ERC funding — L. Leclercq
- NEARCTIS — W. Daamen
- Chinese Driving Behaviors — H. Wei

ERC STARTING GRANT ΜΕΤΑΦΕΡΩ
*= (*Ancient Greek) transport or transfer

A holistic approach of mobility

ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE

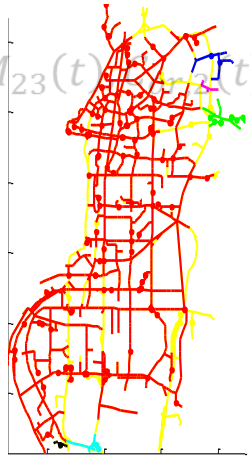


PATTERNS

BIG DATA

CONTROL

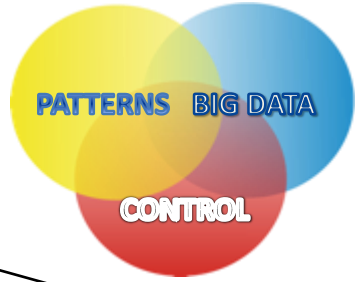
1000 bus data in Geneva



20000 taxi data in Shenzhen

A "System of Systems" Approach

MOBILITY MANAGEMENT



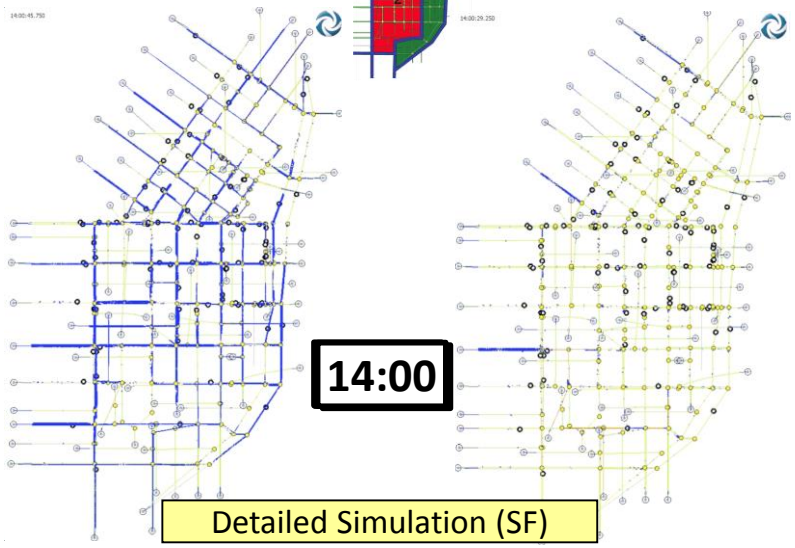
Car Sharing

Parking

Urban Space Allocation

FIXED LIGHTS

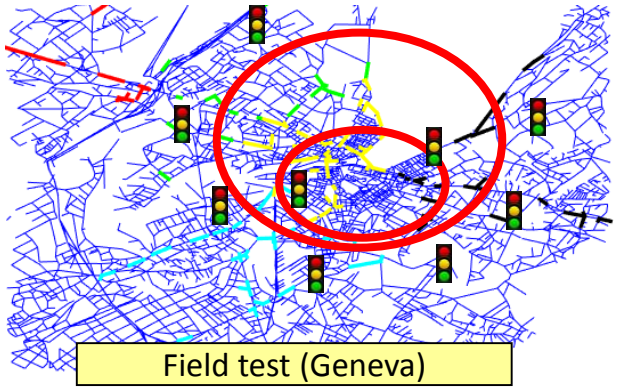
SMART LIGHTS



Detailed Simulation (SF)

Hierarchical Signal Control

On demand Public Transport



Field test (Geneva)

European Research Council

Established by the European Commission

ERC Program and its Objectives

Mart Saarma

Institute of Biotechnology, Biocentrum Helsinki, University of Helsinki
Vice President of the ERC

ERC Information Day in Lyon, March 5, 2015

European Commission

Horizon 2020
European Union funding
for Research & Innovation

European Research Council

Established by the European Commission

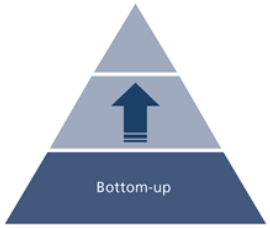
ERC – Basics

European Commission

Horizon 2020
European Union funding
for Research & Innovation

What is ERC?

European Research Council
Established by the European Commission



The ERC supports excellence in frontier research through a bottom-up, individual-based, pan-European competition

Budget: € 13 billion (2014-2020) - 1.9 billion €/year
€ 7.5 billion (2007-2013) - 1.1 billion €/year

Legislation

- Scientific governance: independent Scientific Council with 22 members including the ERC President; full authority over funding strategy
- Support by the ERC Executive Agency (autonomous)
- Excellence as the only criterion

Strategy

- Support for the individual scientist – no networks!
- Global peer-review
- No predetermined subjects (bottom-up)
- Support of frontier research in all fields of science and humanities

ERC Grant Schemes

European Research Council
Established by the European Commission

Starting Grants

starters
(2-7 years after PhD)
up to € 2.0 Mio
for 5 years

Consolidator Grants

consolidators
(7-12 years after PhD)
up to € 2.75 Mio
for 5 years

Advanced Grants

track-record of significant research achievements in the last 10 years
up to € 3.5 Mio
for 5 years

Proof-of-Concept

bridging gap between research - earliest stage of marketable innovation
up to €150,000 for ERC grant holders

Creative Freedom to Individual Grantee

European Research Council
Established by the European Commission

ERC offers independence, recognition & visibility

- to work on a research topic of **own choice**, with a team of **own choice**
- to gain true **financial autonomy** for 5 years
- to negotiate with the host institution the **best conditions** of work
- to attract **top team members** (EU and non-EU) **and collaborators**
- to move with the grant to any place in Europe if necessary (**portability of grants**)
- **to attract additional funding and gain recognition;** ERC is a quality label

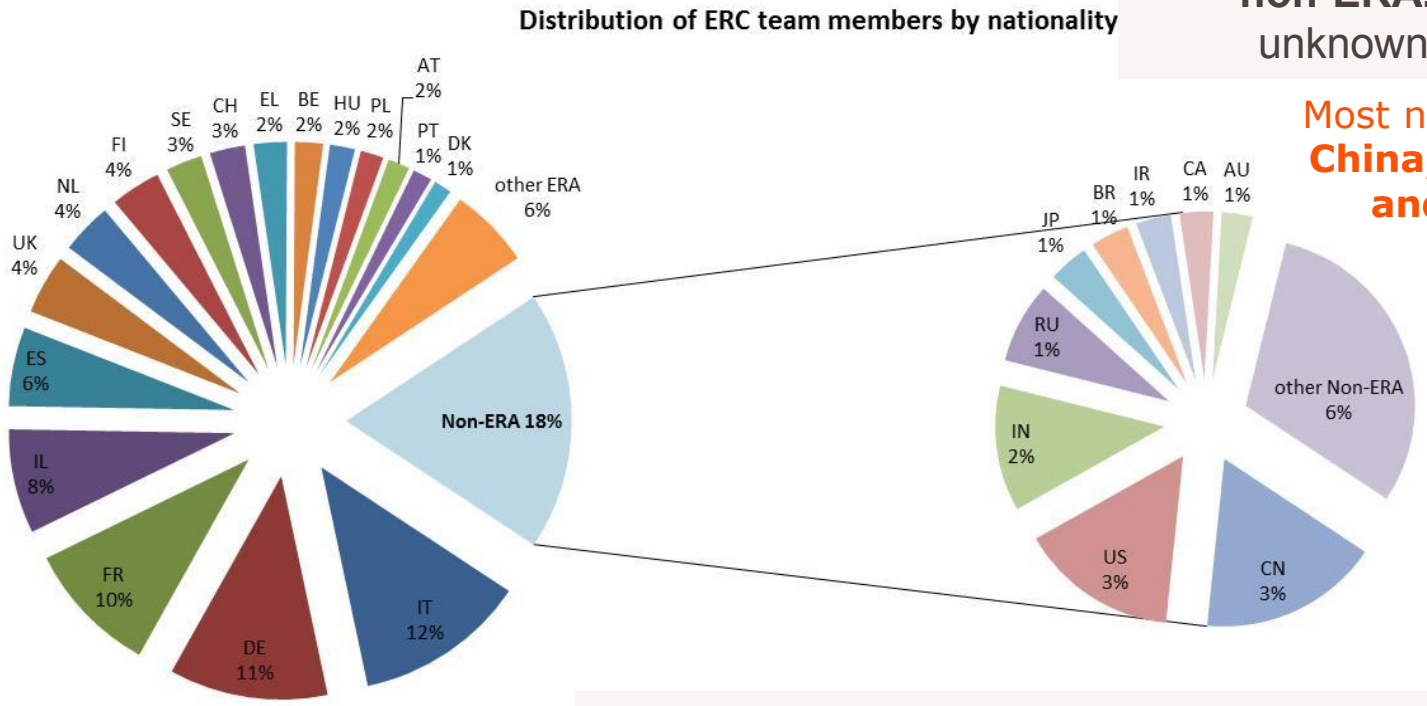
Attracting Researchers to Europe

European Research Council
Established by the European Commission

Nationality of ERC project teams (PIs not included)

Analysis of 995 Starting and Advanced Grants

EU: 67%
Assoc. Countries: 12%
non-ERA: 18%
unknown: 3%



Most non-ERA from **China, US, India, and Russia**

53% of non-ERA team members "attracted" to Europe with the ERC grant (10% of all team members)

Collaborating with ERC PI (non EU people)

- The ERC is fostering scientific cooperation between the European Union and leading research funding agencies outside Europe. Six international arrangements have been implemented with:
  - National Science Foundation of the United States;
  - Ministry of Science, ICT and Future Planning of the Republic of Korea;
  - Ministry of Science, Technology and Productive Innovation of the Republic of Argentina;
  - Society for the Promotion of Science of Japan;
  - National Natural Science Foundation of the People's Republic of China;
  - the National Research Foundation of the Republic of South Africa.
- The foreign scientist visits the ERC project and not vice versa, the resulting costs are shared between the non-EU based research agency and the ERC project (http://erc.europa.eu/implementing-arrangements)

TRAMAN21

(TRAffic MANagement for the 21st Century)

ERC Advanced Investigator Grant

Prof. Markos Papageorgiou

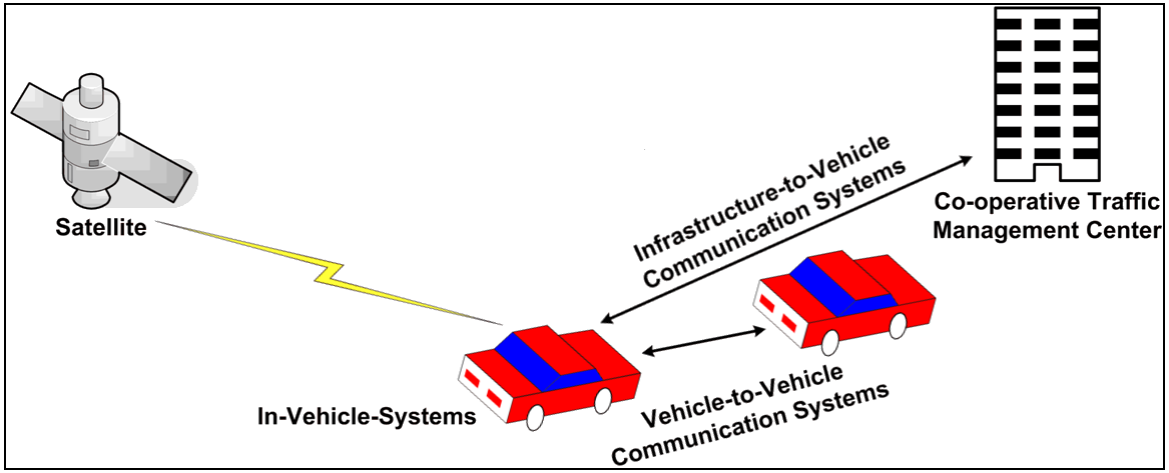
Dynamic Systems and Simulation Laboratory

Technical University of Crete

European Research Council

Established by the European Commission

- **Started** in March 2013 (through 2017)
- **Scope**: Motorway traffic of the future
- **Motivation**: A number of vehicle-centric VACS (vehicle automation and communication systems) have been introduced or are being developed
  - Implications for the traffic flow?
  - Novel opportunities for improved traffic flow?



TRAMAN21 work:

- Overview of emerging VACS
- New traffic flow modelling approaches (microscopic and macroscopic) in presence of VACS
- Traffic control exploiting the offered new automation and connectivity capabilities (at vehicle, local, link, network-wide levels)
- Field trial: Speed harmonisation and control with conventional VSL

www.traman21.tuc.gr

European Research Council
Established by the European Commission

MAGnUM

Multiscale and Multimodal Traffic Modelling Approach for Sustainable Management of Urban Mobility

European Commission

European Research Council

Established by the European Commission

A multiscale and multimodal traffic modeling approach for sustainable management of urban mobility

Magmum.ifsttar.fr - @erc_magnum

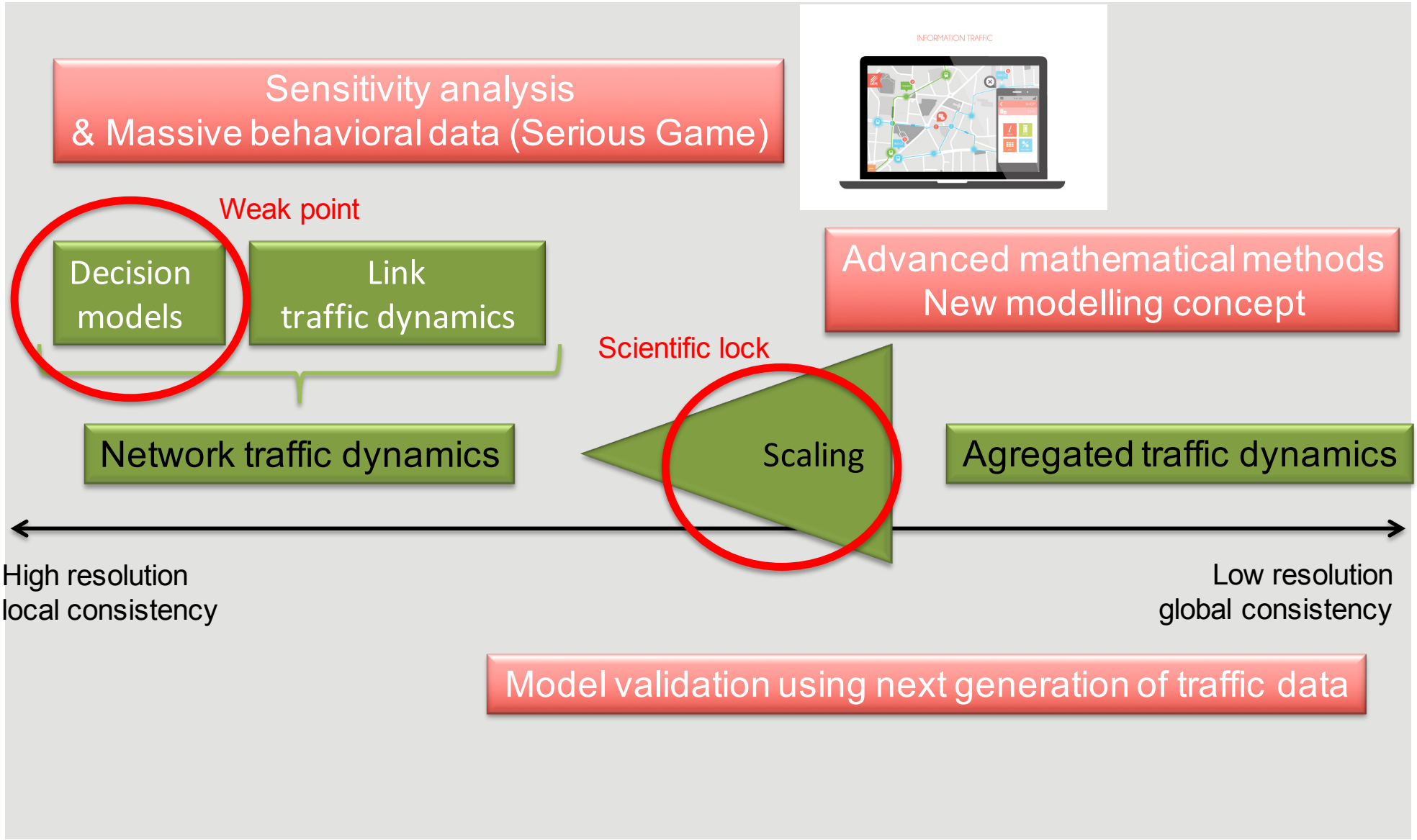
An ERC Consolidator research program (1.9 M€)

UNIVERSITÉ DE LYON

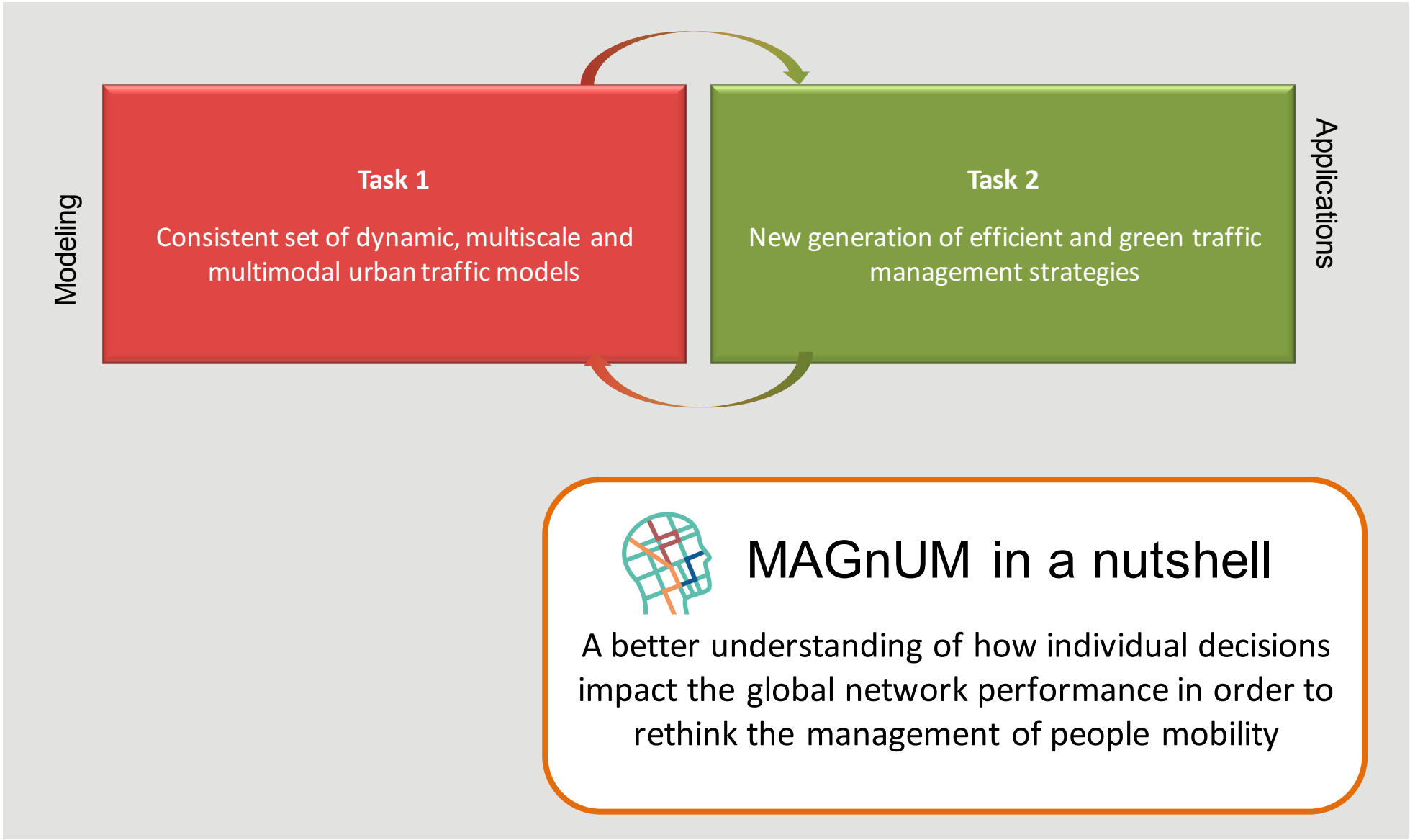
ENTPE

IFSTTAR

Methodology for traffic modeling



MAGnUM in a nutshell



Short Introduction to ERC AdG Programme

Unraveling Urban Pedestrian and Bicycle Flows

AMSTERDAM INSTITUTE FOR
ADVANCED METROPOLITAN SOLUTIONS

TU Delft

erc

- Walking and cycling become increasingly important for cities due to different societal trends (re-urbanisation, generation Y, image of bike, e-bikes, ageing society, etc.)
- Events where large crowds gather are (more) frequent (sports-events, festivals, religious gatherings, spontaneous events, e.g. Facebook)
- Public transport stations become more and more crowded, managing crowds during reconstruction is a challenge
- Pedestrian level of service are at stake!

Increasing societal urgency

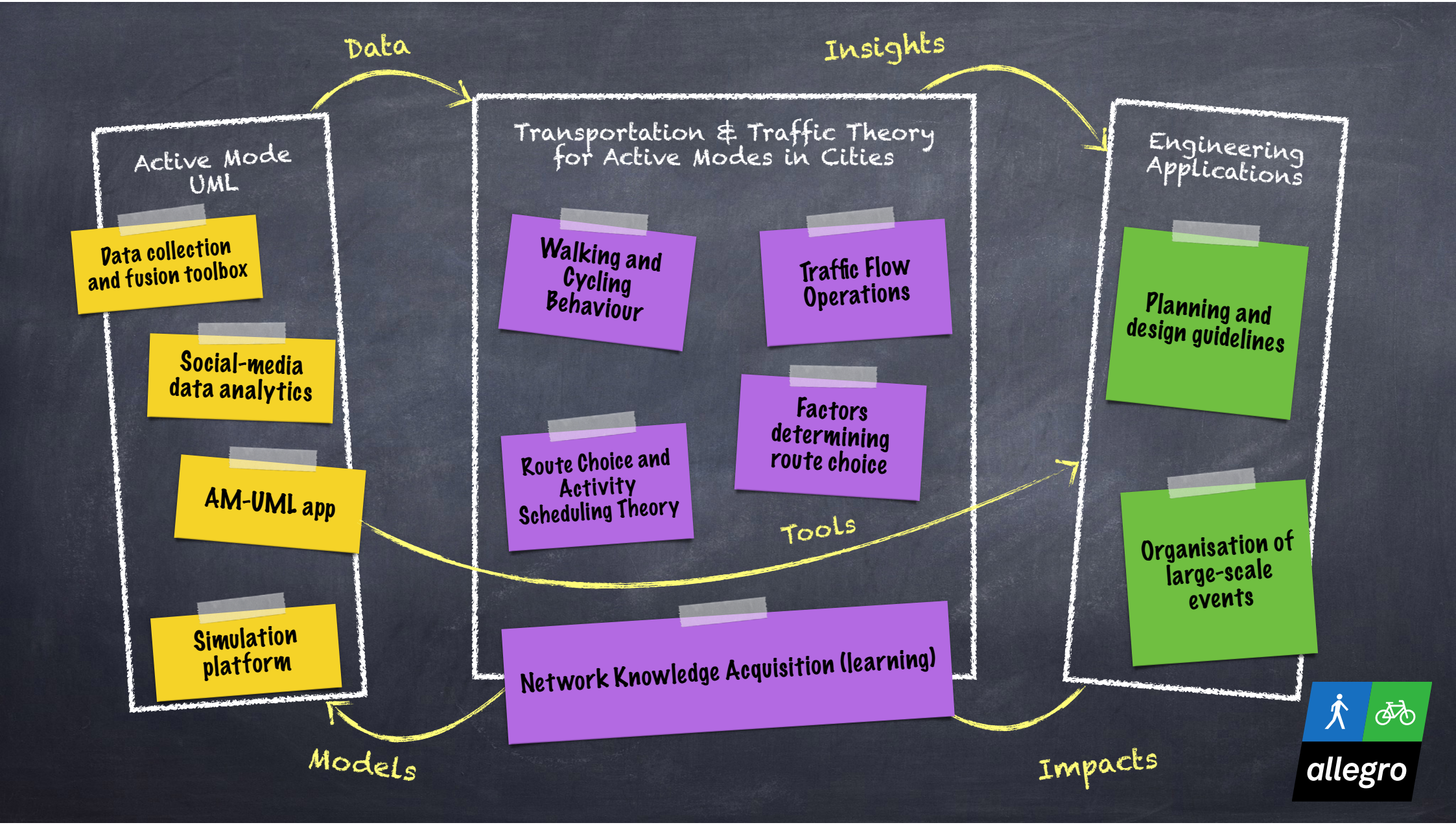
unrAvelLing sLow modE travelinG and tRaffic:
with innOvative data to a new transportation and traffic theory for pedestrians and bicycles”

- 2,9 million Euro program with a **focus on developing theory** (from an application oriented perspective) sponsored by the ERC and AMS
- Relevant elements of the project:
  - Development of components for “living” data & simulation laboratory building on two decades of experience in pedestrian monitoring, theory and simulation
  - Outreach to cities by means of “solution-oriented” projects (“the AMS*) part”), e.g. event planning framework, design and crowd management strategies, etc.

*) *Amsterdam Institute of Advanced Metropolitan Solutions*

What is ALLEGRO?

allegro


Data
Insights
Active Mode UML
Data collection and fusion toolbox
Social-media data analytics
AM-UML app
Simulation platform
Transportation & Traffic Theory for Active Modes in Cities
Walking and Cycling Behaviour
Traffic Flow Operations
Route Choice and Activity Scheduling Theory
Factors determining route choice
Network Knowledge Acquisition (learning)
Tools
Engineering Applications
Planning and design guidelines
Organisation of large-scale events
Models
Impacts
allegro

NEARCTIS

- Network of Excellence for Advanced Road Cooperative Traffic management in the Information Society
- Network of Excellence
- Financed by European Union 7th Framework Programme
- 2008-2013

NEARCTIS – full partners

Delft University of Technology

Germany

EPFL, Switzerland

Europe Recherche Transport

IFSTTAR, France

Imperial College London

Technical University of Crete

University of Southampton

University College London

ECTRI – thematic group

- Follow up: ECTRI thematic group on Traffic Management
- European Conference of Transport Research Institutes, www.ectri.org
- Objectives ECTRI
  - Promoting transport research
  - Providing independent, advice to decision makers
  - Incorporating and represent European transport research institutes and universities

ECTRI – TG TM

- Starting data 01/01/2016
- Extended partnership
  - 8 NEARCTIS partners
  - 12 additional organizations

Austrian Institute of Technology (AIT) Austria	Federal Highway Research Institute (BASt) Germany	University of Deusto Spain	Fraunhofer (FhG) Germany
Hellenic Institute of Transport (HIT) Greece	Transport Research Laboratory (TRL) United Kingdom	Newcastle University (UNEW) United Kingdom	University of Zilina (UNIZA) Slowakia
Technical University of Madrid (UPM) Spain	University of Valencia (UVEG) Spain	Vilnius Gediminas Technical University (VGTU) Lithuania	Swedish National Road and Transport Research Institute (VTI) Sweden

ECTRI – TG TM core group

- Chair: Pierre Yves Gilliéron (EPFL)
- Wolfgang Ponweiser (AIT)
  - Objective 1: Define research topics
- Juliette Renaud (IFSTTAR)
  - Objective 2: Increase participation in EU projects
- Winnie Daamen (DUT)
  - Objective 3: Provide a platform for networking and scientific exchange

ECTRI – TG TM activities

- Developing a common Research Agenda in Cooperative Traffic Control and Management
- Compiling a set of leading case studies in Europe that can be used to test new cooperative TM
- Increasing cooperation in H2020 projects
- Generating a Common Database of shareable Resources (software, data, case studies etc.)
- Drawing up the education and training options and requirements in cooperative TM
- Delivering effective Training and Research Exchanges including 3-day training schools and mobility program for young researchers

ECTRI – TG TM upcoming events

- Meeting in Brussels
  - 27-01-2016

- 8th Young Researchers Seminar 2017
  - May 16-18, 2017, Cologne, Germany
  - Hosted by the German Aerospace Center (DLR)
  - Also open to US young researchers and tutors
  - June 30, 2016: Submission of abstracts

UNIVERSITY OF Cincinnati

TRB Committee Meeting
Traffic Flow Theory and Characteristics (AHB45)
January 13, 2016

Preliminary Findings of Chinese Driving Behaviors and Implications for Modeling

Heng Wei（魏 恒）, PhD, PE

Professor and Director, ART-Engines Transportation Research Lab

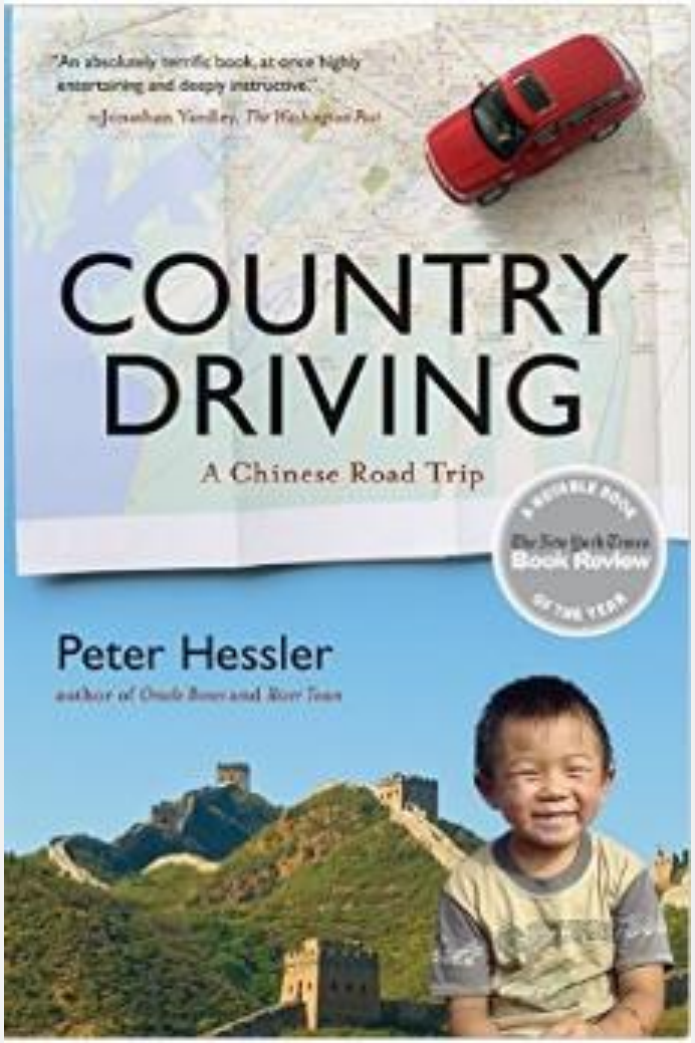
Jianjun Shi（石建军）

Professor, Beijing University of Technology, China

Xuesong Wang（王雪松）, PhD

Professor, Tongji University of Technology, China

Breif Background



- China has a "relatively new" **driving culture** (as Peter Hessler points out in his excellent book *Country Driving*) and things are fairly chaotic as viewed from a someone used to driving in the US,
- China has very strong "defensive and offensive" driving culture and those two factors feed on each other. The strong offense requires a strong defense, this driving behavior is rooted in a more general cultural phenomenon of aggressiveness (or **"competitive"** behavior).

Problem Identification

Psycholoagical State: Impatient + Rash – 急躁

Habitually Aggressive Behavior: Poised to Grab Roadway or Cut In – 习惯性冒进抢道

- Aggressively leaving lane to get ahead (偏道抢道)
- Forced lane change (强行换道)
- Randomly change lanes with no purpose (盲目换道)
- Driving a long ride line or crossing line (骑线而行)
- Driving in wrong way or in the opposite way (逆流而上)
- Use emergency or shoulder lane to overtake (滥用路肩)
- Large lateral movement (横移过大)
- Follow too closely with small spacing (紧跟前车)
- Interruption of motorized and non-motorized vehicles, pedestrian, at intersections (交叉路口机动车、非机动车与行人无规则干扰)

Capacity Reduction, stop-and-go delay increasing, accident risk increasing (通行能力下降，停车延误增加，安全隐患增加)

Photos of Exemplary Problematic Driver Behaviors

Aggressively leaving lane to get ahead or overtake (偏道抢道)

Forced lane change (强行换道)

Driving a long ride line or crossing line (骑线而行)

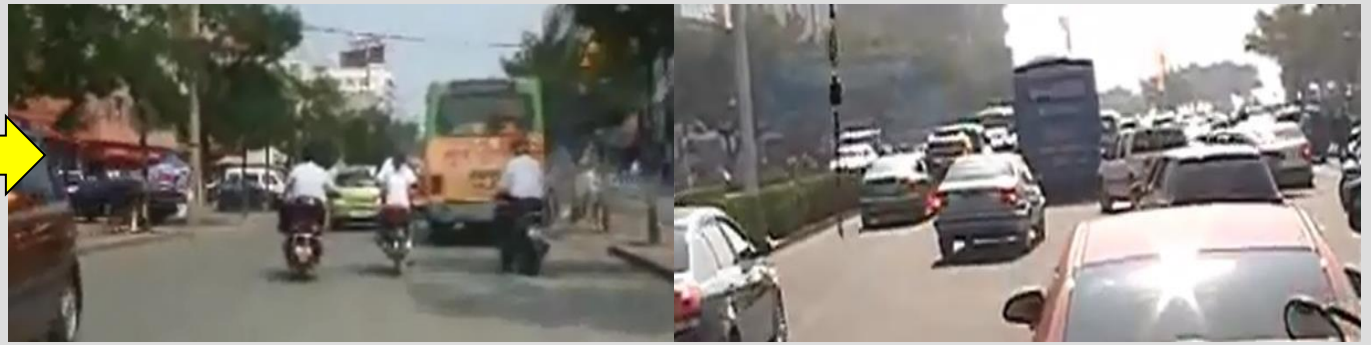
Driving in wrong way or in the opposite way (逆流而上)

Roadway Type	# LC	km	# LC/KM	#LC/Hr
Express	188	272.46	0.690	39.9
Urban Arterial	70	85.37	0.820	-
Freeway	25	78.86	0.317	29.9
Rural Highway	14	23.14	0.605	-

Photos of Exemplary Problematic Driver Behaviors

Use emergency or shoulder lane to overtake (滥用路肩)

Large lateral movement; no lane marks (横移过大)



Follow too closely with small spacing (紧跟前车)

Photos of Exemplary Problematic Driver Behaviors

Interruption of motorized and non-motorized vehicles, pedestrian at intersections (交叉路口机动车、非机动车与行人无规则干扰）

Using wrong way (weird behaviors) (违反路权)

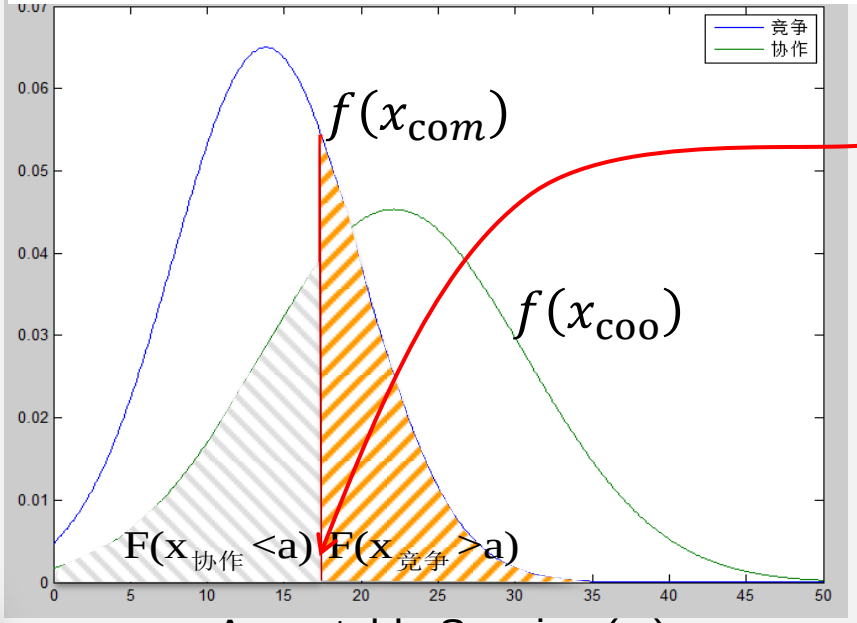
Preliminary Research

Data Collection

SHARP2 NextGen Data Collection System at Tongji University

Distinguish "Aggressive" & "Cooperative" Driving Behavior

$$\min\{F_{coo}(x<a)+F_{com}(x>a)\} \qquad a \in (13.8, 22.08)$$



X=19.3 m is an empirical threshold to distinguish two types of driving behaviors

Lateral Movement of Lagged Vehicle during LC Process

Lateral move	cooperative		competitive	
(m)	Frequency	%	Frequency	%
0-0.5	171	81.04%	67	54.03%
0.5-1	28	13.27%	30	24.19%
1-1.5	7	3.32%	12	9.68%
1.5-2	5	2.37%	8	6.45%
>2	0	0.00%	7	5.65%
合计	211	100.00%	124	100.00%

Statistical Features of Cooperative/Competitive LC Behavior

类别	LC time (s)		Crossing line time 时间(s)		Acceptable gap (m)		Average speed (km/h)		Lagged veh move 位移(m)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Cooperative	4.53	1.13	2.42	0.75	17.97	7.81	23.18	4.54	0.34	0.39
Competitive	8.22	2.95	5.47	2.44	10.72	6.28	15.91	3.84	0.67	0.67

Thank You

heng.wei@uc.edu

513-556-3781

2017 TGF Conference

Traffic and Granular Flow Conference 2017

The George Washington University (GWU)

January, 2016

Prepared by S. H. Hamdar
hamdar@gwu.edu

Location: Foggy Bottom Main Campus, Washington, DC, USA

Venue - Buildings

- Science and Engineering Hall (SEH)
  (opened in January of 2015)

- Marvin Center

Tentative Session Rooms

Lehman Auditorium: plenary session (top) and Mezzanine (bottom)

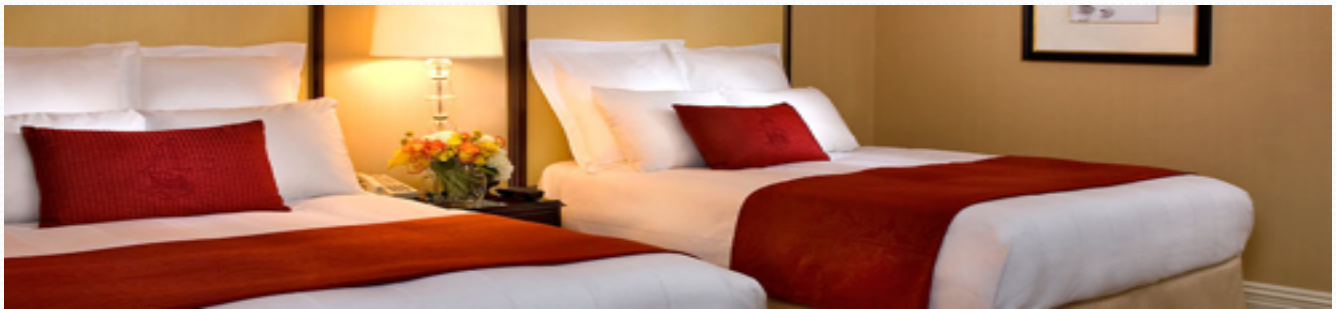
Grand Ballroom: plenary session (top) and standard session (bottom) set-ups

Social Event

Social Event (2)

Hotels

- Multiple hotels within walking distance. Main candidates (based on trade-off between affordability and comfort):
  - George Washington University Inn
  - Renaissance at Washington DC



Technical Tour

- The Turner Fairbank Highway Research Center: key research facility under the Federal Highway Administration (FHWA)
- Candidate labs to be visited (more than 10 labs operating):
  - Saxton Transportation Operations Laboratory
  - Human Factors Laboratory
  - Outdoor Impact Laboratory
  - Digital Highway Measurement Laboratory

Administrative Details

- Program
  - First day (evening):
    - Registration
    - Welcome reception
  - Second day:
    - Two parallel sessions (morning/afternoon)
    - Technical tour (afternoon)
    - Poster sessions (all-day)
  - Third day:
    - Plenary session (morning)
    - Two parallel sessions (afternoon)
    - Poster sessions (all day)
    - Social Event (evening)
  - Fourth Day:
    - two parallel sessions (morning)
    - Poster session (morning)
    - Group picture and adjourn (noon)
- Registration Fees: same as current (TGF 2015)

Program kept general at this stage for added flexibility (number of coffee breaks, lunch time, starting and ending time of sessions …etc.)

Administrative Details

- Deadlines: Two possibilities:same time frame adopted in TGF 2015
  - Same as TGF 2015 time windows
  - Coordinate event with ISTTT2017 event
- Scientific Committee: based on feedback from previous committees committee (Dr. Armin Seyfried, Dr. Victor Knoop, Dr. Winnie Daamen, Dr. Tianshu Li, Dr. Anders Johansson, Dr. Majid Sarvi, Dr. Martin Treiber …etc.)

Thank you

CISR
CENTER FOR INTELLIGENT SYSTEMS RESEARCH

New Business

- 2017 Annual Meeting Call for Papers

New Business

- The **Traffic Analysis Challenge** Using CV Related Data on the ITS Research Data Exchange (RDE) by USDOT ITS JPO:
  - RDE: www.its-rde.net
  - Objective: Promote innovative analysis of RDE CV data
  - Award: Recognition, travel to conferences

- Schedule
  - Spring 2016 – announce competition
  - Summer 2016 – competition begins
  - Fall 2016 – competition ends
  - December-January 2017 – announce award winners

New Business

- **ITS JPO Contributions**
  - Staff and other resources to design, implement and facilitate the challenge

- **Potential TRB Committee Roles**
  - Define problems to address, analysis methods to use or data to analyze
  - Promote the Challenge launch, awards, or other events
  - Judge submissions and select winners

Adjourn

Please don’t forget to sign in!