1ˢᵗ International Workshop on Planning of Ambulance Services:

Theory and Practice

CWI, Amsterdam, June 25-27, 2014

REPRO: From Reactive to Proactive Planning of Ambulance Services

Challenges:

- Forecast calls in time and space
- Optimal locations of bases
- Optimal staffing of personnel?
- DAM and proactive relocations

Partners:

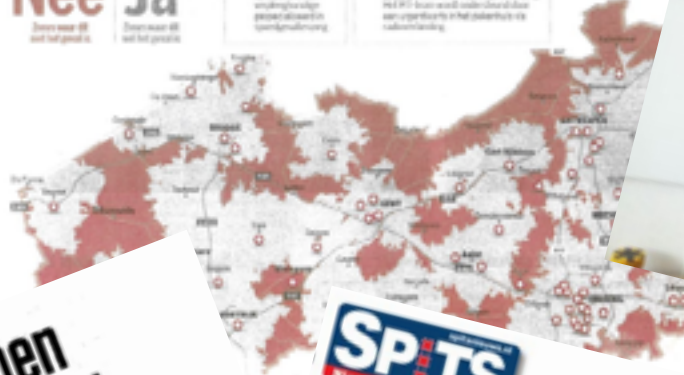## Other parties:

Wiskunde redt levens

Kansberekening en modellering moeten ambulanceplanning in Amsterdam verbeteren.

SPOEDARTS OF -VERPLEEGKUNDIGE NIET OVERAL BINNEN HET KWARTIER

Kwart miljoen Vlamingen buiten bereik spoedhulp

Spoedeisende hulp in kaart
Kan bij 90 procent van de oproepen binnen het kwartier een spoedarts en/of

Nee Ja

'Ambulances kunnen veel tijdwinst boeken'

SP☆TS
Nieuws & Entertainment
Amsterdam

Bruisende buurt?

'Big Data' helpt politie

amstlvn IEDERE ZONDAG SHOPPEN

'Ambulances kunnen veel sneller'

Why this workshop?

Practice:

- Exciting new developments in the area: Dynamic Ambulance Management, Proactive Relocations, "Direct Dispatching", ProQA,…

- Interest in innovations gaining momentum in the emergency sector

Scientific:

- High-speed computing power and networks

- Powerful new solution techniques (ADP, learning, mining,..)

Problem and goal

- Knowledge available all over, but highly dispersed

- Needed: cross-fertilization and exchange of ideas

Today's Schedule

10:30: **Keynote lecture by Prof. Armann Ingolfsson**

12:00: **Session on Forecasting**

13:00: **Lunch**

14:00: **Session on Locations**

15:30: **Session on Patient transportations**

16.15: **Sessions with Master presentations**

17:00: **Poster session and drinks**

Keynote Lecture

Forecasting EMS demand, response times and workload

by Prof. Armann Ingolfsson (Univ. of Alberta)

Next session

Forecasting

1. CAS: Crime Anticipation System
by Dick Willems (Politie Amsterdam/Amstelland)

2. Demand forecasting of Asian and European EMS with spatial analysis
by Thomas Krafft (University of Maastricht)

Some Practical Matters

- Informal dinner tonight: please sign up
- Conference dinner Thursday
- Sessions, memory sticks and laptops
- Posters
- Don't forget to enjoy the city of Amsterdam!

Next session

Locations

1. Simulation model for predicting emergency system state in near future

by Hien NGuyen

2. Time-dependent ambulance allocation

by Dirk Degel

3. Robustness of the Maximal Covering Location Problem

by Rutger Kerkkamp

Next session

Patient Transportations

1. Planning EMS patient transports
by Melanie Reuter

2. Incorporating coverage for emergency calls in scheduling patient transportations
by Pieter van den Berg

Next session

Master Presentations

1. Extending EMS for out-of-hospital cardiac arrest patients

by Tef Jansma

2. The offload zone as a solution to the offload delay of the EMS

by Corine Laan

3. Forecasting call volumes for ambulance services

by Maria Mahfoud

Today's Schedule

09:30: Keynote lecture by Prof. Armann Ingolfsson

11:00: Session on Dynamic Ambulance Management

12:00: Lunch

13:00: Keynote lecture by Prof. Shane Henderson

14:00: Several talks

16.15: Closing

19:00: Conference dinner in Restaurant "Van De Markt"

Keynote Lecture

EMS performance evaluation with analytical stochastic models

by Prof. Armann Ingolfsson (Univ. of Alberta)

Next session

Dynamic Ambulance Management and Dispa

1. DAM: from theory to case studies

by Sandjai Bhulai

2. Minimizing average response times in a DAM model

by Thije van Barneveld

3. A polynomial time method for real-time ambulance redeployment

by Caroline Jagtenberg

Keynote Lecture

Vehicle mix in EMS systems

by Prof. Shane Henderson (Cornell University)

Invited Lecture

The Shortest Path Problem in emergency vehicle routing

by Henk Post

Next session
EMS in Border Regions

1. Cross-border emergency care
by Alexandra Ziemann and Manon Bruens

2. Ambulance planning with and without region borders
by Theresia van Essen

Invited Lecture

Solving the dynamic relocation and dispatching problem using ADP

by Verena Schmid

Today's Schedule

10:00: Keynote lecture by Prof. Shane Henderson

11:00: Coffee break and poster session

12:00: Practitioners talks

13:00: Lunch in restaurant "Polder"

14:00: Practitioners talks

16:30: Wrap-up and closing

17:00: Drinks

Keynote Lecture

Operations Research in EMS in the past, present and future

by Prof. Shane Henderson (Cornell University)

Next session
Practitioners Talks

1. The Optima Corporation: delivering commercially proven simulations-based planning and deployment solutions

by Tim Lynskey and Geoff Goodhew

2. Edge of tomorrow

by Jaap Hatenboer

Next session
Practitioners Talks

1. Performance evaluation and optimisation through the TIFAR framework

by Martin van Buuren

2. Strategic capacity modelling and dynamic ambulance management (invited talk)

by Geert-Jan Kommer

Last session

Practitioners Talk

RBS Care: The intelligent systems for the dispatch centre

by Michiel Bijleveld