COST Action IC0903 — 2009│2013

Information and Communication Technologies (ICT)

MOVE
.m.o.v.e
Knowledge Discovery from Moving Objects

Participating countries: 24

AT, BE, CH, CY, DE, DK, EE, EL, ES, FI, FR, HR, HU, IE, IL, IS, IT, MK, MT, NL, PL, PT, RO, RS, SE, TR, UK

International Collaboration:

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Objectives

- **Establish a network** of **ICT researchers** and **domain specialists** to facilitate the development of methods for knowledge discovery from moving object data.
- **Facilitate collaboration** between researchers in **disparate disciplines** dealing with whole-body movement.
- **Facilitate knowledge transfer** to the scientific community through scientific publications, and to practitioners through practical showcases.
- **Build capacity** in an emerging research field to achieve sustainability beyond the Action: establish a sustainable network of experts, and educate young researchers.

Working Groups

- WG 1: Cross-WG Activities, Showcases, and Evaluation
- WG 2: Representation of Movement Data and Spatio-temporal Data
- WG 3: Analysis of Movement and Spatio-temporal Data
- WG 4: Visual Analytics of Movement and Cognitive Issues

Main Achievements

- Probably the largest international network devoted to the development of methods for the analysis and visualization of whole-body movement.
- Certainly the most interdisciplinary one. Inspired lots of novel ICT research through exposure to real-life applications, unique data sets, and precious domain knowledge.
- Some example domains: animal ecology (animal behavior), marine transport and safety (abnormal vessel movements), transportation planning (bicycle routes), urbanism (e.g. space use in city centers), tourism (visitor management in parks), public health (activity level and body weight), sports (football), neurosciences (drug discovery in zebrafish), anomalies in container itineraries, commuting patterns in mobile phone users, etc., etc.
- Breakthrough algorithms: e.g. for trajectory clustering; trajectory aggregation; stopover detection in bird migration, movement analysis using Brownian bridges (BB), etc. etc.
- A total of 13 workshops held, with integrated data challenges, often leading to STSMs
- Awards: Best paper awards at VAST 2011, 2012 and W2GIS 2013; best demo CDSAA 2013; Nokia Mobile Data Challenge 2012; COST Conference Grant ICT Domain 2012

Gender Balance and Early Stage Researchers

- Gender balance: 9/53 MC members, 3/10 SG members are female.
- Early Stage Researchers: 41/132 Action participants, 3/8 WG co-leaders are ESRs.
- Gender and ESR status are criteria for STSM selection. The Action had a total of 53 STSMs. 46 of STSM beneficiaries were ESR and 9 were female.
- The Action has organized a total of 5 training schools, totalling more than 110 trainees. Of these, 85% were PhD students, 15% postdocs, 5% senior researchers.

Dissemination

- Over 120 joint publicartions in total from 2010 to 10/2013, with more in the pipeline.
- 8 special issues of journals, 3 of which emanating directly from IC0903 workshops.
- 3 textbooks and several review article (one in ACM Computing Surveys).
- 25 keynote speeches in 2012/13 at various conferences and symposia.
- 12 public tutorials & short courses organized in 2012/13, for participants outside IC0903.
- 7 public research workshops organized in 2012/13, with participants from outside IC0903.
- Various movement datasets contributed through chorochronos.org and movebank.org.
- Software: SECONDO moving objects DB system, R package for BB analysis, etc.

Contact details

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