

NetMob 2013 // Special session on the D4D challenge

**Third International Conference on the Analysis of Mobile Phone Datasets
With a special day on the Data for Development (D4D) challenge**

Preliminary program
(version 1 : March 22, 2013)

MIT (Cambridge, MA)
May 1-3, 2013



Editors :

Vincent BLONDEL, Adeline DECUYPER, Pierre DEVILLE, Yves-Alexandre de MONTJOYE, Jameson TOOLE, Vincent TRAAG, Dashun WANG

Sponsored by **Orange // Real impact**



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Chair : Vincent BLONDEL, University of Louvain (UCL), Belgium - Chairman

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Nicolas de CORDES, Orange
Valérie PEUGEOT, Orange Labs
Jacques RAGUENEZ, Orange Labs
Zbigniew SMOREDA, Orange Labs
Cezary ZIEMLIKI, Orange Labs

Wednesday May 1, 2013

A data for development day

- 8:30-8:50** **REGISTRATION**
- 8:50-9:00** **WELCOME**
Vincent Blondel (chairman of D4D and NetMob)
Nicolas de Cordes (Orange)
- 9:00-10:15** **SESSION 1 // Mobility**
- 10:15-11:00** **COFFEE BREAK AND POSTER SESSION**
- 11:00-12:15** **SESSION 2 // Transportation**
- 12:15-13:30** **LIGHT LUNCH**
- 13:30-14:00** **KEYNOTE TALK**
Robert KIRKPATRICK, Head of Global Pulse, United Nations
- 14:00-15:30** **SESSION 3 // Social and economic development**
- 15:30-16:15** **COFFEE BREAK AND POSTER SESSION**
- 16:15-17:15** **SESSION 4 // Health**
- 17:15-17:45** **PANEL DISCUSSION : WHAT NEXT ?**
- 17:45-18:00** **AWARD CEREMONY**

Thursday May 2, 2013

NetMob

- 8:45-9:00** **REGISTRATION**
- 9:00-10:00** **SESSION 5 // Mobility patterns**
- 10:00-10:15** **POSTER FLASH SESSION 1 // Mobility**
- 10:15-11:00** **COFFEE BREAK AND POSTER SESSION**
- 11:00-12:00** **SESSION 6 // Mobility modeling**
- 12:00-13:30** **LUNCH**
- 13:30-14:00** **KEYNOTE TALK**
William HOFFMAN, Head of Telecom Industry, World Economic Forum
- 14:00-15:15** **SESSION 7 // Trajectories and regularities**
- 15:15-15:30** **POSTER FLASH SESSION 2 // Network**
- 15:30-16:15** **COFFEE BREAK AND POSTER SESSION**
- 16:15-17:30** **SESSION 8 // Social data collection**

Friday May 3, 2013

NetMob

- 9:30-10:45** **SESSION 9 // Social structure**
- 10:45-11:15** **COFFEE BREAK**
- 11:15-12:00** **SESSION 10 // Privacy**
- 12:00-13:30** **LUNCH**
- 13:30-14:00** **KEYNOTE TALK**
Samuel MADEN, Head of bigdata, MIT
- 14:00-15:00** **SESSION 11 // Information propagation**

A data for development day

Orange challenge

▶ 8:30-8:50 **REGISTRATION**

▶ 8:50-9:00 **WELCOME**

Vincent BLONDEL (chairman of D4D)
Nicolas de CORDES (Orange)

▶ 9:00-10:15 **SESSION 1 // Mobility**

1. THE DIFFERING TRIBAL AND INFRASTRUCTURAL INFLUENCES ON MOBILITY IN DEVELOPING AND INDUSTRIALIZED REGIONS

Alexander AMINI (SENSEable City Lab, MIT)
Kevin KUNG (SENSEable City Lab, MIT)
Chaogui KANG (SENSEable City Lab, MIT)
Stanislav SOBOLEVSKY (SENSEable City Lab, MIT)
Carlo RATTI (SENSEable City Lab, MIT)

2. APPROACHING THE LIMITS OF PREDICTABILITY IN HUMAN MOBILITY : A STUDY OF 500,000 MOBILE PHONE USERS IN COTE D'IVOIRE AFTER THE 2011 CIVIL WAR

Xin LU (Karolinska Institute)
Erik WETTER (Flowminder Foundation, Stockholm, Sweden)
Nita BHARTI (Penn State University)
Andy TATEM (University of Southampton)
Linus BENGTSSON (Flowminder Foundation, Stockholm, Sweden)

3. IDENTIFICATION AND CHARACTERIZATION OF HUMAN BEHAVIOR PATTERNS FROM MOBILE PHONE DATA

Pavlos PARASKEVOPOULOS (University of Trento)
Thanh-Cong DINH (University of Trento)
Zolzaya DASHDORJ (University of Trento)
Themis PALPANAS (University of Trento)
Luciano SERAFINI (Fondazione Bruno Kessler)

4. COMMUNICATION FLOW PATTERNS IN THE D4D DATASET

Paul SCHMITT (University of California Santa Barbara)
Morgan VIGIL (University of California Santa Barbara)
Mariya ZHELEVA (University of California Santa Barbara)
Elisabeth M. BELDING (University of California Santa Barbara)



5. MULTI-PERSPECTIVE ANALYSIS OF D4D FINE RESOLUTION DATA

Gennady ANDRIENKO (Fraunhofer Institute IAIS)
Natalia ANDRIENKO (Fraunhofer Institute IAIS)
Georg FUCHS (Fraunhofer Institute IAIS)

► 10:15-11:00 COFFIE BREAK AND POSTER SESSION

► 11:00-12:15 SESSION 2 // Transportation

1. ALLABOARD : A SYSTEM FOR EXPLORING URBAN MOBILITY AND OPTIMIZING PUBLIC TRANSPORT USING CELLPHONE DATA

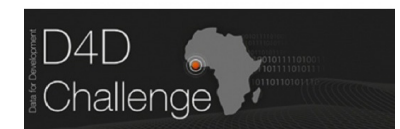
Michele BERLINGERIO (IBM Research Dublin)
Francesco CALABRESE (IBM Research Dublin)
Giusy DI LORENZO (IBM Research Dublin)
Rahul NAIR (IBM Research Dublin)
Fabio PINELLI (IBM Research Dublin)
Marco Luca SBODIO (IBM Research Dublin)

2. MOBILITY MODELING FOR TRANSPORT EFFICIENCY

Vangelis ANGELAKIS (Linköping University)
David GUNDLEGÅRD (Linköping University)
Botond RAJNA (Linköping University)
Clas RYDERGREN (Linköping University)
Katerina VROTSOU (Linköping University)
Richard CARLSSON (Ericsson Research, Services & Software)
Julien FORGEAT (Ericsson Research, Services & Software)
Tracy H. HU (Ericsson Research, Services & Software)
Evan L. LIU (Ericsson Research, Services & Software)
Simon MORITZ (Ericsson Research, Services & Software)
Sky ZHAO (Ericsson Research, Services & Software)
Yaotian ZHENG (Ericsson Research, Services & Software)

3. MP4-A PROJECT : MOBILITY PLANNING FOR AFRICA

Mirco NANNI (KDD Lab, Isti - CNR)
Roberto TRASARTI (KDD Lab, Isti - CNR)
Barbara FURLETTI (KDD Lab, Isti - CNR)
Lorenzo GABRIELLI (KDD Lab, Isti - CNR)
Peter VAN DER MEDE (Goudappel Groep)
Joost DE BRUIJN (Goudappel Groep)
Erik DE ROMPH (Goudappel Groep)
Gerard BRUIL (Goudappel Groep)



4. CROWDSOURCING PHYSICAL PACKAGE DELIVERY USING THE EXISTING ROUTINE MOBILITY OF A LOCAL POPULATION

James MCINERNEY (University of Southampton)
Alex ROGERS (University of Southampton)
Nicholas R. JENNINGS (University of Southampton)

5. TOWARDS A RECOMMENDER SYSTEM FOR BUSH TAXIS,

Sébastien GAMBS (Université de Rennes 1 - INRIA/IRISA)
Marc-Olivier KILLIJIAN (CNRS ; LAAS)
Miguel NÚÑEZ del PRADO CORTEZ (CNRS ; LAAS)
Moussa TRAORÉ (CNRS ; LAAS)

▶ 12:15-13:30 LIGHT LUNCH

▶ 13:30-14:00 KEYNOTE TALK

Robert KIRKPATRICK, Head of Global Pulse, United Nations

▶ 14:00-15:30 SESSION 3 // Social and economic Development

1. MOBILE COMMUNICATIONS REVEAL THE REGIONAL ECONOMY IN CÔTE D'IVOIRE

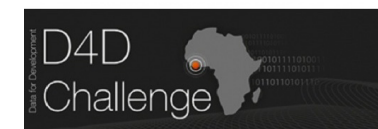
Huina MAO (Indiana University)
Xin SHUAI (Indiana University)
Yong-Yeol AHN (Indiana University)
Johan BOLLEN (Indiana University)

2. UBIQUITOUS SENSING FOR MAPPING POVERTY IN DEVELOPING COUNTRIES

Christopher SMITH (ICRI : Cities)
Afra MASHADI (Bell Labs, Alcatel-Lucent)
Licia CAPRA (University College London)

3. ANALYZING SOCIAL DIVISIONS USING CELL PHONE DATA

Orest BUCICOVSCHI (University of California San Diego)
Rex W. DOUGLASS (University of California San Diego)
David A. MEYER (University of California San Diego)
Megha RAM (University of California San Diego)
David RIDEOUT (University of California San Diego)
Dongjin SONG (University of California San Diego)



4. DEVELOPMENT, INFORMATION AND SOCIAL CONNECTIVITY IN COTE D'IVOIRE

Clio ANDRIS (Santa Fe Institute)
Luís M. A. BETTENCOURT (Santa Fe Institute)

5. CAN FIRES, NIGHT LIGHTS AND MOBILE PHONES REVEAL BEHAVIORAL FINGERPRINTS USEFUL FOR DEVELOPMENT ?

David PASTOR-ESCUEDO (Universidad Politécnica de Madrid)
Thierry SAVY (ISC-PIF, Paris)
Miguel A. LUENGO-OROZ (Universidad Politécnica de Madrid)

▶ 15:30-16:15 COFFIE BREAK AND POSTER SESSION

▶ 16:15-17:15 SESSION 4 // Health

1. MITIGATING EPIDEMICS THROUGH MOBILE MICRO-MEASURES

Mohamed KAFSI (Ecole Polytechnique Fédérale de Lausanne)
Ehsan KAZEMI (Ecole Polytechnique Fédérale de Lausanne)
Lucas MAYSTRE (Ecole Polytechnique Fédérale de Lausanne)
Lyudmila YARTSEVA (Ecole Polytechnique Fédérale de Lausanne)

2. CELL PHONE MOBILITY AND EPIDEMIC SPREAD IN THE IVORY COAST

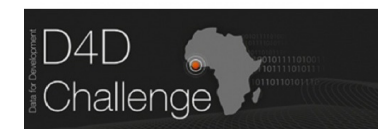
Duygu BALCAN (Institute for Scientific Interchange)
Bruno GONÇALVES (Aix Marseille Université)

3. EXPLOITING CELLULAR DATA FOR DISEASE CONTAINMENT AND INFORMATION CAMPAIGNS STRATEGIES IN COUNTRY-WIDE EPIDEMICS

A. LIMA (University of Birmingham)
M. DE DOMENICO (University of Birmingham)
V. PEJOVIC (University of Birmingham)
M. MUSOLESI (University of Birmingham)

4. LINKING THE HUMAN MOBILITY AND CONNECTIVITY PATTERNS WITH SPATIAL HIV DISTRIBUTION

Katarina GAVRIC (UNS, Serbia)
Sanja BRDAR (UNS, Serbia)
Dubravko CULIBRK (UNS, Serbia)
Vladimir CRNOJEVIC (UNS, Serbia)



▶ 17:15-17:45 **PANEL DISCUSSION // What next ?**

Nicolas de CORDES, Orange
Robert KIRCKPATRICK, Global Pulse, United Nations
Sandy PENTLAND, MIT
Guillaume JOSSE, Groupe 8, France
Francis AKINDES, Bouaké, Ivory Coast
Moderated by Vincent BLONDEL, chairman of D4D

▶ 17:45-18:00 **AWARD CEREMONY**

Best overall
Best scientific
Best development
Best visualization



▶ 8:45-9:00 REGISTRATION

▶ 9:00-10:00 SESSION 5 // Mobility patterns

1. FREQUENCIES, TEMPORAL PATTERNS, AND SPATIAL REGULARITY OF MOBILE-PHONE DATA

Philipp HÖVEL (Northeastern University, Technische Universität Berlin, Humboldt-Universität),
Filippo SIMINI (Northeastern University, Università di Padova, Budapest University of Technology and Economics),
Chaoming SONG (Northeastern University, Dana-Farber Cancer Institute),
Albert-László BARABÁSI (Northeastern University, Dana-Farber Cancer Institute, Harvard Medical School)

2. DISCOVERING URBAN AND COUNTRY DYNAMICS FROM MOBILE PHONE DATA WITH SPATIAL CORRELATION PATTERNS

Roberto TRASARTI (Istituto di Scienza e Tecnologie dell'Informazione),
Ana-Maria OLTEANU-RAIMOND (Orange Labs),
Mirco NANNI (Istituto di Scienza e Tecnologie dell'Informazione),
Thomas COURONNÉ (Orange Labs),
Barbara FURLETTI (Istituto di Scienza e Tecnologie dell'Informazione),
Fosca GIANNOTTI (Istituto di Scienza e Tecnologie dell'Informazione),
Zbigniew SMOREDA (Orange Labs),
Cezary ZIEMLIKI (Orange Labs)

3. LOCATION PATTERNS OF MOBILE USERS : A LARGE-SCALE STUDY

Ashwin SRIDHARAN (AT&T Labs),
Jean BOLOT (Technicolor)

4. A MULTI-SCALE MULTI-CULTURAL STUDY OF COMMUTING PATTERNS INCORPORATING DIGITAL TRACES

Yiangxiang YANG (MIT),
Marta C. GONZALEZ (MIT)

▶ 10:00-10:15 POSTER FLASH SESSION 1 // Mobility

▶ 10:15-11:00 COFFEE BREAK & POSTER SESSION

► 11:00-12:00 **SESSION 6 // Mobility modeling**

1. SCALING THEORY OF HUMAN MOBILITY AND SPATIAL NETWORKS

Pierre DEVILLE (Université catholique de Louvain),
Dashun WANG (Northeastern University, Dana Farber Cancer Institute),
Chaoming SONG (Northeastern University, Dana Farber Cancer Institute),
Nathan EAGLE (Northeastern University),
Vincent BLONDEL (Université catholique de Louvain),
Albert-László BARABÁSI (Northeastern University, Dana Farber Cancer Institute, Harvard Medical School)

2. PROXY NETWORKS FOR HUMAN MOBILITY IN EUROPE : THE IMPACT ON EPIDEMIC MODELING

Michele TIZZONI (Institute for Scientific Interchange),
Paolo BAJARDI (University of Torino),
Adeline DECUYPER (Université Catholique de Louvain),
Guillaume KON KAM KING (CNRS),
Christian SCHNEIDER (MIT),
Vincent BLONDEL (Université Catholique de Louvain),
Zbigniew SMOREDA (Orange Labs),
Marta C. GONZALEZ (MIT),
Vittoria COLIZZA (INSERM, Université Pierre et Marie Curie, Institute for Scientific Interchange)

3. HUMAN MOBILITY MODELING AT METROPOLITAN SCALES

Sibren ISAACMAN (Loyola University),
Richard BECKER (AT&T Lab),
Ramón CÁCERES (AT&T Lab),
Margaret MARTONOSI (Princeton University),
James ROWLAND (AT&T Lab),
Alexander VARSHAVSKY (AT&T Lab),
Walter WILLINGER (AT&T Lab)

4. GEOGRAPHIC SIMILARITY WITHIN SOCIAL NETWORKS

Jameson L. TOOLE (MIT),
Carlos HERRERA (Universidad Politécnica de Madrid),
Christian M. SCHNEIDER (MIT),
Marta C. GONZÁLEZ (MIT)

► 12:00-13:30 **LUNCH**

▶ **13:30-14:00 KEYNOTE TALK**

William HOFFMAN, Head of Telecom Industry, World Economic Forum

▶ **14:00-15:15 SESSION 7 // Trajectories and regularities**

1. LATE FOR GOOD

Vsevolod SALNIKOV (University of Namur),
Renaud LAMBIOTTE (University of Namur)

2. DO MOBILE PHONE DATA ALLOW ESTIMATING REAL HUMAN TRAJECTORY ?

Sahar HOTEIT (LIP6, MIT),
Stefano SECCI (LIP6),
Stanislav SOBOLEVSKY (MIT),
Guy PUJOLLE (LIP6),
Carlo RATTI (MIT)

3. DEPICT URBAN ACTIVITIES FROM REAL MOVEMENT WITH AUTO-GPS

Teerayut HORANONT (University of Tokyo),
Apichon WITAYANGKURN (University of Tokyo),
Ryosuke SHIBASAKI (University of Tokyo)

4. AGGREGATED OD TRACKS OF MOBILE PHONE DATA FOR THE RECOGNITION OF DAILY MOBILITY SPACES : AN APPLICATION TO LOMBARDIA REGION

Paolo TAGLIOLATO (Politecnico di Milano),
Fabio MANFREDINI (Politecnico di Milano),
Paola PUCCI (Politecnico di Milano)

5. UNDERSTANDING HUMAN MOBILITY DUE TO LARGE-SCALE EVENTS

Faber HENRIQUE Z. XAVIER (Pontifical Catholic University of Minas Gerais),
Lucas M. SILVEIRA (Pontifical Catholic University of Minas Gerais),
Jussara M. ALMEIDA (Universidade Federal de Minas Gerais)
Carlos HENRIQUE S. MALAB (Oi Telecom)
Artur ZIVIANI (National Laboratory for Scientific Computing Brazil),
Humberto T. MARQUES-NETO (Pontifical Catholic University of Minas Gerais)

▶ **15:15-15:30 POSTER FLASH SESSION 2 // Network**

▶ 15:30-16:15 COFFEE BREAK & POSTER SESSION

▶ 16:15-17:30 SESSION 8 // Social data collection

1. DETECTING FACE-TO-FACE MEETINGS USING SMARTPHONE SENSORS

Piotr SAPIEZYNSKI (University of Denmark),
Arkadiusz STOPCZYNSKI (University of Denmark),
Sune LEHMAN (University of Denmark)

2. VEHICULAR TRAFFIC ESTIMATION LEVERAGING LOCATION AREA UPDATES OF MOBILE PHONES

Andreas JANECEK (University of Vienna),
Danilo VALERIO (Telecommunication Research Center),
Karin A. HUMMEL (Communication System Group),
Carlo RICCIATO (Telecommunications Research Center),
Helmut HLAVACS (University of Vienna)

3. EMERGENCE OF CONGESTION IN ROAD NETWORKS BASED ON REALISTIC DEMAND OBTAINED FROM MOBILE PHONE DATA

Serdar COLAK (MIT),
Christian M. SCHNEIDER (MIT),
Pu WANG (Central South University),
Marta C. GONZALES (MIT)

4. INDICATORS OF WEALTH, ECONOMIC DIVERSITY AND SEGREGATION IN CÔTE D'IVOIRE USING MOBILE PHONE DATASETS

Thoralf GUTIERREZ (UCL),
Gautier KRINGS (Real Impact, UCL),
Vincent BLONDEL (UCL)

5. CAN CELL PHONE TRACES MEASURE SOCIAL DEVELOPMENT ?

Vanessa FRIAS-MARTINEZ (Telefonica Research),
Victor SOLO (Columbia University), Jesus Virseda (Carlos III University),
Enrique FRIAS-MARTINEZ (Telefonica Research)

► 9:30-10:45 **SESSION 9 // Social structure**

1. MOBILE COMMUNICATION IN BUSINESS NETWORKS : STRUCTURE AND LEADERSHIP

Gauthier KRINGS (Real Impact),
Didier BACLIN (Real Impact),
Loic JACOBS VAN MERLEN (Real Impact),
Marcelo LOBATO PIMENTA (Telefonica/Vivo),
Felipe DE ABREU GALLI (Telefonica/Vivo)

2. A PLACE-FOCUSED MODEL FOR SOCIAL NETWORK FORMATION IN CITIES

Chloë BROWN (University of Cambridge),
Anastasios NOULAS (University of Cambridge),
Cecilia MASCOLO (University of Cambridge),
Vincent BLONDEL (UCL)

3. A COMPARATIVE STUDY OF DECENTRALIZED ROUTING IN SOCIAL NETWORK BASED ON MOBILE PHONE DATA

Carlos HERRERA (MIT),
Christian M. SCHNEIDER (MIT),
Thomas COURONNE (Orange Labs),
Zbigniew SMOREDA (Orange Labs),
Rosa M. BENITO (MIT),
Marta C. GONZALES (MIT)

4. MIGRATION AND ETHNIC SEGREGATION : EVIDENCE FROM ESTONIA'S MOBILE PHONE LOGS

Joshua BLUMENSTOCK (University of Washington),
Ott TOOMET (Tartu University)

5. WHY DOES MY PHONE ALWAYS RING WHEN I AM ABOUT TO MAKE A CALL ?

Jeppe JUUL (University of Copenhagen),
Albert-Laszlo BARABASI (Northeastern University, Harvard Medical School, Dana-Farber Cancer Institute)

► 10:45-11:15 **COFFEE BREAK**

► 11:15-12:00 **SESSION 10 // Privacy**

1. DE-ANONYMIZING D4D DATASETS

Kumar SHARAD (University of Cambridge Computer Laboratory),
George DANEZIS (Microsoft Research)

2. DIFFERENTIALLY PRIVATE MODELING OF HUMAN MOBILITY AT METROPOLITAN SCALES

Darakhshan J. MIR (Rutgers University),
Ramon CACERES (AT&T Labs),
Sibren ISAACMAN (Loyola University Maryland),
Margaret MARTONOSI (Princeton University),
Rebecca N. WRIGHT (Rutgers University)

3. UNIQUE IN THE CROWD : THE PRIVACY BOUNDS OF HUMAN MOBILITY

Yves-Alexandre de MONTJOYE (MIT, UCL),
César A. HIDALGO (MIT, Harvard University, Instituto de Sistemas Complejos de Valparaiso),
Michel VERLEYSSEN (UCL)
Vincent BLONDEL (UCL, MIT)

▶ 12:00-13:30 LUNCH

▶ 13:30-14:00 KEYNOTE TALK

Samuel MADEN, Head of bigdata, MIT

▶ 14:00-15:00 SESSION 11 // Information propagation

1. THE USE OF MOBILE PHONE CALL RECORD DATA FOR MALARIA CONTROL AND ELIMINATION STRATEGIC PLANNING

A.J. TATEM (University of Southampton, National Institute for Health),
Z. HUANG (University of Florida),
U. KUMAR (University of Florida)
D. PINDOLIA (University of Florida),
C. LOURENCO (Clinton Health Access Initiative, Boston)

2. TIME-VARYING NETWORKS AND THE WEAKNESS OF STRONG TIES

Marton KARSAI (Northeastern University, Aalto University),
Nicola PERRA (Northeastern University),
Alessandro VESPIGNANI (Northeastern University, Harvard University, Institute for Scientific Interchange Foundation)

3. LIMITED COMMUNICATION CAPACITY UNVEILS STRATEGIES FOR HUMAN INTERACTION

Giovanna MIRITELLO (Universidad Carlos III de Madrid, Telefonica Research),
Rubén LARA (Telefonica Research),
Manuel CEBRIAN (NICTA, University of California at San Diego),
Esteban MORO (Universidad Carlos III de Madrid, Universidad Autonoma de Madrid)

4. IS SOCIAL INFLUENCE ALWAYS POSITIVE ? EVIDENCE FROM A LARGE MOBILE NETWORK

Rodrigo BELO (Carnegie Melon University),
Pedro FERREIRA (Carnegie Melon University)

D4D WEDNESDAY MAY 1, 2013

- 1. Exploring the Multilevel Community Structure in the D4D Dataset**
X. LIU, T. MURATA, K. WAKITA
- 2. Social Capital for Economic Development : Application of Time Series Cluster Analysis on Personal Network Structures**
B. LIM, D. DORAN, V. MENDIRATTA, M. RODRIGUEZ, D. KLABJAN
- 3. Estimating Human Dynamics in Cote d'Ivoire Through D4D Call Detail Records**
K. WAKITA, R. KAWASAKI
- 4. « Calling Abidjan » - Improving Population Estimations with Mobile Communication Data**
H. STERLY, B. HENNIG, K. DONGO
- 5. Communication Patterns, Human Mobility and Socio-Economic Developments of Ivory Coast**
M. LIN, W.-J. HSU, Z. QI LEE
- 6. Understanding ethnical interactions on Ivory Coast**
A. J. MORALES, W. CREIXELL, J. BORONDO, J.C. LOSADA, R.M. BENITO
- 7. Impacts of External Shocks in Commodity-Dependent Low-Income Countries : Insights from mobile phone call detail records from Cote D'Ivoire**
A. FAJEBE, P. BRECKE
- 8. Regional patterns of socio-economic activity in Côte d'Ivoire**
M. DUSI, M. AHMED, R. CAPORICCI, N. CHEESEMAN
- 9. Regional Development – Capturing a nation's sporting interest through call detail analysis**
D. MC GOWAN, N. HURLEY
- 10. Rapid Assessment of Population Movements in Crises : The Potential and Limitations of Using Nighttime Satellite Imagery and Mobile Phone Data**
N. BHARTI, X. LU, L. BENGTSSON, E. WETTER, A. TATEM
- 11. Analysing and mapping population movements from anonymous cellphone activity data**
H. GLASS, I. KIRKPATRICK, A. SCHIFF
- 12. Spotted : Connecting People, Locations and Real-World Events in a Cellular Network**
R. TRESTIAN, F. ZAMAN, G.-M. MUNTEAN
- 13. Towards an early warning system : the effect of weather on mobile phone usage. A case study in Abidjan**
J. PEDRO CRAVEIRO, F. M. V. RAMOS, E. KANJO, N. EL MAWASS
- 14. Does conflict affect human mobility and cellphone usage ? Evidence from Côte d'Ivoire**
S. LINARDI, S. KALYANARAMAN, D. BERGER
- 15. Symbolic clustering of users and antennae**
M. CERINSEK, J. BODLAJ, V. BATAGELJ
- 16. Discovering common structures in mobile call data : An efficient way to clustering ego graphs**
S. AGHA MUHAMMAD, K. VAN LAERHOVEN

- 17. Data Analysis and Mining of Mobile Phone Dataset**
C. BADENES OLMEDO, S. MUÑOZ HERNANDEZ
- 18. First steps for a Synthetic Population of Ivory Coast**
A. APOLLONI, A. CAMACHO, K. EAMES, J. W. EDMUNDS, S. FUNK
- 19. Place Identification and Prediction in the D4D Data Set using Machine Learning**
N. GHOURCHIAN, D. PRECUP
- 20. Patterns of Cell Towers in Mobile Cellular Network**
J. XIONG, G. RANJAN, L. CHEN, Z.-L. ZHANG
- 21. Mobile Phone Data Analysis of Cote d'Ivoire**
D. GÜNDOĞDU
- 22. Properties of Dynamic Networks**
R. ANAND, C. K. REDDY
- 23. Constrained link prediction on the D4D dataset**
B. ZONG, P. BOGDANOV, A. K. SINGH
- 24. Interactive Visualization of Cellphone Network Data Using D3 : The Case of Ivory Coast**
M. RODRIGUEZ, V. MENDIRATTA, B. LIM, D. DORAN, D. KLABJAN
- 25. NVizABLE : A Web-Based Network Visualization Interface**
J. SMITH, J. STEVENS, M. Y. IDRIS
- 26. Mobile Data Delivery through Opportunistic Communications among Cellular Users : A Case Study for the D4D Challenge**
Y. ZHU, C. ZHANG, Y. WANG
- 27. EEMC : An Energy-Efficient Mobile Crowdsensing Mechanism by Reusing Call/SMS Connections**
H. XIONG, L. WANG, D. ZHANG
- 28. Real-time streaming mobility analytics**
A. GARZÓ, I. PETRÁS, C. ISTVÁN SIDLÓ, A. A. BENCZÚR
- 29. Visualization of traffic**
J. BODLAJ, M. CERINSEK, V. BATAGELJ
- 30. Daily Commuting in Ivory Coast : Development Opportunities**
M. MAMEI, L. FERRARI
- 31. Building a minimal traffic model from mobile phone data**
M. ZILSKE, K. NAGEL
- 32. A Tale of Peoples' Movement Patterns in Developing Countries**
K. YADAV, A. KUMAR, V. NAIK, A. SINGH
- 33. Commuting Dynamics 4 Change**
R. MAESTRE, R. LARIO, M. MUÑOZ, R. ABAD, J. GONZALEZ, A. MARTÍN, E. PEREZ, JL. FDEZ-PACHECO

34. **The geography and carbon footprint of mobile phone use in Cote d'Ivoire**
V. SALNIKOV, D. SCHIEN, H. YOUN, R. LAMBIOTTE, M. T. GASTNER
35. **Analysis of New Strategies for Resources Allocation and Infrastructure Development in Côte d'Ivoire by Mapping Telecommunication Densities**
Y. HUI, M. LIU, P. HUI
36. **Social, Disconnected or In between : Mobile Data reveals urban mood**
E. KANJO, N. EL MAWASS, J. PEDRO CRAVEIRO, F. M. V. RAMOS
37. **Studying Intercity Travels and Traffic Using Cellular Network Data**
W. WU, E. YEOW CHEU, Y. FENG, D. NGAN LE, G. ENG YAP, X. LI
38. **Human Mobility Flows in the City of Abidjan**
D. NABOULSI, M. FIORE, R. STANICA
39. **Revealing the pulse of human dynamics in a country from mobile phone data**
S. SCEPANOVIC, P. BEN HUI, A. YLA-JAASKI
40. **Profiling workers' activity-travel behavior based on mobile phone data**
F. LIU, D. JANSSENS, G. WETS, M. COOLS
41. **Extracting Large Scale Social Relational Dynamics from Mobile Communications Data**
J. HUCK, P. COULTON, D. WHYATT
42. **Mobility and communication patterns in Ivory Coast**
M. MITROVIC, V. PALCHYKOV, H.-H. JO, J. SARAMÄKI
43. **Detecting Mobility Patterns in Mobile Phone Data from the Ivory Coast**
M. F. DIXON, S. P. AIELLO, F. FAPOHUNDA, W. GOLDSTEIN
44. **Predicting Human Mobility Patterns in Cities**
X-Y. YAN, C. ZHAO, W. WANG
45. **Using Mobile Phone Data to Supercharge Epidemic Models of Cholera Transmission in Africa : A Case Study of Côte d'Ivoir**
A. S. AZMAN, E. A. URQUHART, B. ZAITCHIK, J. LESSLER
46. **Information Dissemination using Human Mobility in Realistic Environment- (E-Inspire)**
R. AGARWAL, V. GAUTHIER, M. BECKER
47. **Design and implémentation of a tool for the Correlation between the rate of prévalence of a pathology and the flow of communication between diverse localities**
T. DJOTIO NDIÉ, Z. NGANMENI, S. J. NOUHO NOUTAT
48. **Human mobility and communication patterns in Côte d'Ivoire : A network perspective for malaria control**
E. A. ENNS, J. H. AMUASI
49. **Exploring Community Structure to Understand Disease Spread and Control Using Mobile Call Detail Records**
M. SARAVANAN, P. KARTHIKEYAN, A. AARTHI, M. KIRUTHIKA, S. SUGANYA
50. **Who should be selected to collect information ?: Exploiting mobility to achieve maximum coverage**
J. LEE, K. LEE, J. JEONG, Y. YI, S. CHONG, Y. KIM

51. **Large-scale Measurements of Network Topology and Disease Spread : A Pilot Evaluation Using Mobile Phone Data in Côte d'Ivoire**
R. CHUNARA, E. O. NSOESIE
52. **Are gravity models appropriate for estimating the spatial spread of malaria ?**
A. WESOLOWSKI, C. O. BUCKEE
53. **On Models Characterizing Cellular Social Networks**
D. DEKA, S. VISHWANATH
54. **Neighborhood structures in socio-demographic and HIV infection conditions
Indication to the potential of mHealth for tackling HIV/AIDS in Ivory Coast**
A. ARAI, T. HORANONT, A. WITAYANGKURN, R. SHIBASAKI
55. **Disease Outbreak Detection by Mobile Network Monitoring : a case study with the D4D datasets**
N. BALDO, P. CLOSAS
56. **Applying Mobile Datasets in Computational Public Health Research**
J. P. LEIDIG, Y. KUTSUMI, K. A. O'HEARN, C. M. SAUER, J. SCRIPPS, G. WOLFFE
57. **Combining call records and road data for strategic disaster response planning**
Z. HUANG, U. KUMAR

THURSDAY MAY 2, 2013

▶ 10:00-10:15 POSTERS 1 // Mobility

1. **Human Mobility and Predictability enriched by Social Phenomena Information**
Nicolas B. PONIEMAN
2. **Pisa Tourism Fluxes Observatory: deriving mobility indicators from GSM calls habits**
Barbara FURLETTI
3. **Hierarchical Exploration of Human Mobility Regularities**
Zhenhui JESSIE LI
4. **Mining User Mobility Features for Next Place Prediction in Location-based Services**
Anastasios NOULAS
5. **Extracting People's Stays from Cellular Network Data**
Mori KUROKAWA
6. **Building Energy-Efficient Spatio-Temporal Mobility Profiles for Mobile Users**
Kuldeep YADAV
7. **Properties of the Positioning Error of Cell Phone Trajectories**
Michael ULM

- 8. **Privacy in Computational Social Science : An overview**
Riccardo PIETRI
- 9. **Participant Behavior in PHONELAB**
Anandatirtha NANDUGUDI
- 10. **Exploring the Use of Urban Greenspace through Cellular Network Activity**
Ramón CÁCERES

► 15:15-15:30 POSTERS 2 // Network

- 11. **Simulation of Epidemic Spread using Cell-Phone Call Data: H1N1 Case Study**
Enrique FRIAS-MARTINEZ
- 12. **Network-behavior Dynamics in a Medium Size Mobile Phone Network**
Cheng WANG
- 13. **On Information Propagation in Mobile Call Networks**
Kirill DYAGILEV
- 14. **Using telephone network data to study the effects of socio demographics on ego network structure**
Binh PHAN
- 15. **Understanding Social Influence Using Combined Network Analysis and Machine Learning Models**
Dhaval ADJODAH
- 16. **Accelerating internet growth in Asia using viral spreading**
Pål SUNDSØY
- 17. **Determinants of Subscriber Churn in Wireless Networks: The Role of Peer Influence**
Qiwei HAN
- 18. **Understanding Quota Dynamics in Wireless Networks**
Matthew ANDREWS
- 19. **Quantitative Analysis of Community Detection Methods for Longitudinal Mobile Data**
Matthew ANDREWS
- 20. **Calling Patterns in Human Communication Dynamics**
Zhi-Qiang JIANG