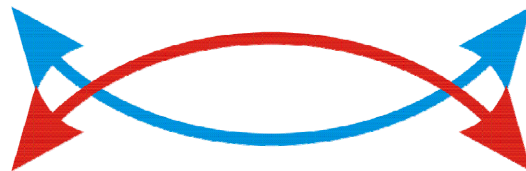# ITHEA International Scientific Society

ITA 2012

Joint International Scientific Events on Informatics

MDA 2012

International Conference
Mathematics of Distances and Applications
July 02 - 05, 2012, Varna (Bulgaria)

PROGRAMME

ITHEA
Varna, 2012

ITA 2012 Main Scientific Events
www.ithea.org

i ̈i ̈i 2012

Third International Conference
Information - Interaction – Intellect

CFDM 2012

IV-th International Conference
Classification, Forecasting, Data Mining

i.Tech 2012

X-th International Conference
Information Research and Applications

GIT 2012

X-th International Conference
General Information Theory

ISK 2012

IV-th International Conference
Information in Scientific Knowledge

IM 2012

International Conference
Informational Modelling

MDA 2012

International Conference
Mathematics of Distances and Applications

MeL 2012

VII-th International Conference
Modern (e-) Learning

KDS 2012

XVIII-th International Conference
Knowledge - Dialogue - Solution

INFOS 2012

V-th International Conference on
Intelligent Information and Engineering Systems

NIT 2012

Third International Conference
Natural Information Technologies

ISSI 2012

VI-th International Summer School on
Informatics

Sunday   01.07.2012
Registration on arrival

Monday 02.07.2012	
09:00-09:30	**Opening**
09:30-13:00	*Session 1* **"Geometric complexity in aperiodic order", part 1**
09:30-10:20	Differential geometry derived from divergence functions: information geometry approach S. Amari
10:20-10:50	Tiling vertices and the spacing distribution of its radial projections T. Jakobi
10:50-11:30	*B r e a k*
11:30-12:00	Complexity of some remarkable aperiodic patterns: Kolakoski sequences, visible Ammann-Beenker points etc*.* B. Sing
12:00-12:30	Bi-Lipschitz equivalence and wobbling equivalence of Delone sets D. Frettloeh
12:30-13:00	An ergodic theorem for generalized random Fibonacci substitutions M. Moll
13:00-14:30	*L u n c h B r e a k*
14:30-19:00	*Session 2* **"Distances in probability, statistics and data analysis"**
14:30-15:20	Aperiodic order in self-assembly with anisotropic particles and competing distances M. Engel
15:20-15:50	Some results on INDSCAL dimension V. Choulakian
15:50-16:20	Intervals as ultrametric approximations according to the supremum norm B. Fichet
16:20-17:00	*B r e a k*
17:00-17:30	Construction of geometric divergence on q-exponential family H. Matsuzoe
17:30-18:00	Geometrical tools for alpha-Voronoi partitions A. Ohara, Y. Nagatani
18:00-18:30	Informational geometric properties of escort transformation on exponential models P. Regnault
18:30-19:00	Distances in the pyramidal hyper clustering high-dimensional data K. Ivanova, K. Vanhoof, K. Markov

	Tuesday - 03.07.2012
9:00-13:00	*Session 3* **"Geometric complexity in aperiodic order", part 2**
9:00-9:50	Distances in N-fold rhombic quasicrystals J. Roth
9:50-10:20	On covering properties of the icosahedral tiling T*(2F) G. Kasner
10:20-10:50	Magnetic currents in aperiodic tilings E. Vedmedenko, U. Grimm
10:50-11:30	*B r e a k*
11:30-12:00	Scaling properties of the Fibonacci trace-map stable set L. Raymond
12:00-12:30	Distance between objects described by predicate formulas T. Kosovskaya
12:30-13:00	Cones of weighted quasimetrics, weighted quasihypermetrics and of oriented cuts V. Grishukin, E. Deza, M. Deza
13:00-14:30	*L u n c h B r e a k*
14:30-19:00	*Session 4* **"Distances in behavioral, life, and physical sciences"**
14:30-15:20	Dissimilarity cumulation theory E. Dzhafarov
15:20-15:50	Ultrametric Fechnerian scaling of discrete object sets H. Colonius, E. Dzhafarov
15:50-16:20	Pseudo-quasi metrics on jointly distributed random variables J. Kujala, E. Dzhafarov
16:20-17:00	*B r e a k*
17:00-17:30	Metric tensor as degree of coherence in the dynamical organization of the central nervous system S. Roy, R. Llinas
17:30-18:00	The generalization of matrix multiplication A. Simonov
18:00-18:30	Physical structures theory and measurement theory E. Vityaev
18:30-19:00	Symmetrization: ranking and clustering in protein interfaces G.Feverati, C.Lesieur, L.Vuillon
20:00	B a n q u e t

Wednesday - 04.07.2012	
9:00-13:00	*Session 5* **"Discrete geometry, combinatorics, and distances", part 1**
9:00-9:50	External symmetries of regular embeddings of graphs J. Siran
9:50-10:20	Distances on antimatroids Y. Kempner, V. Levit
10:20-10:50	On the split structure of lifted groups, I A. Malnic
10:50-11:30	*B r e a k*
11:30-12:00	An infinite family of half-arc-transitive graphs with universal reachability relation D. Marusic
12:00-12:30	Acute triangulations of surfaces C. Zamfirescu
12:30-13:00	Hereditary polytopes A. Weiss
13:00-14:30	*L u n c h B r e a k*
14:30-19:00	*Session 6* **"Distances in graphs"**
14:30-15:20	Distance-transitive graphs admit semiregular automorphisms K. Kutnar
15:20-15:50	How the minimum number of cycles of length m in a strongly connected tournament of order n depends on the maximum distance between two vertices S. Savchenko
15:50-16:20	Logarithmic distances in graphs P. Chebotarev
16:20-17:00	*B r e a k*
17:00-17:30	The L-eccentricity and the exchange property of least central subtrees M. Hamina, A. Lankinen, M. Peltola
17:30-18:00	On the discretization of distance geometry problems A. Mucherino, C. Lavor, L. Liberti, N. Maculan
18:00-18:30	Distance based indices--Gutman index V. Andova
18:30-19:00	Some results on fullerene graphs R. Skrekovski

	Thursday - 05.07.2012
9:00-13:00	*Session 7* **"Coding theory"**
9:00-9:50	A brief survey of metrics in coding theory E. Gabidulin
9:50-10:20	Metric based recommender systems A. Akhtarzada, C. Calude, J. Hosking
10:20-10:50	Rank codes over Gaussian integers and space time block codes H. Asif, E. Gabidulin, B. Honary
10:50-11:30	*B r e a k*
11:30-12:00	Classification results for (v,k,1) cyclic difference families with small parameters T. Baicheva, S. Topalova
12:00-12:30	New classes of metric spaces of measurable multisets and sets A. Petrovsky
12:30-13:00	Hardware implementation of rank codec I. Sysoev, E. Gabidulin
13:00-14:30	*L u n c h B r e a k*
14:30-19:00	*Session 8* **"Discrete geometry, combinatorics, and distances", part 2**
14:30-15:20	Counting area and volume for non-Euclidean polyhedra through side lengths A. Mednykh
15:20-15:50	Regular inversive polytopes N. Johnson
15:50-16:20	Several distance problems in proverb classification D. Bokal, J. Jerebic, A. Taranenko
16:20-17:00	*B r e a k*
17:00-17:30	Translational and geodesic distances and spheres in the 8 homogeneous 3-geometries E. Molnar
17:30-18:00	On t-path closed graphs J. Koolen
18:00-18:30	Non-concurrent longest cycles in lattice graphs T. Zamfirescu
18:30-19:00	Cube-like polytopes and complexes E. Schulte

	Friday - 06.07.2012
	Excursion
	Departures

Important information for participants in ITA 2012, Varna, Bulgaria

Please read carefully!

1. Contacts

Mobile numbers of the members of the committee:
+359 878 89 07 07, +359 878 89 07 08, +359 878 89 07 25
Panorama hotel: (+359 52) 36 28 98 www.panoramahotel.bg

2. Travel to the conference

1.1. From Varna

The PANORAMA HOTEL is located less than 10 km by the way from Varna to the Golden Sands resort.
Please, see the map http://www.panoramahotel.bg/get_eng.html .
The busses from Varna to Golden Sands (Zlatni pyasatsi): 9, 109, 209, 309, 409.
The name of the bus stop is "PANORAMA".

1.2. From Sofia

Besides the direct flight to Varna and/or the transfer flight from Sofia, there are two possible variants to get from Sofia to Varna:
- by train from the Central Railway Station: www.bdz.bg
- by bus from the Central Bus Station (right beside the Central Railway Station:
www.centralnaavtogara.bg .)

1.3. In Sofia

The transportation from the Sofia Airport to the Central Railway Station and the Central Bus Station can be as follows: By bus – 84 or 284 from the Airport to "Hotel Pliska" stop, and then 213 or 214 to the Central Station.
Note: Luggage bigger than the average will require an extra ticket as well.
- shuttle-bus - from the airport to the station. The price is 1.50 BGN (possible additional taxes for the luggage).
- taxicab: **we do not recommend** to use this transport, or in case you do always check the prices on the stickers on the windows, because the foreigners especially are often offered incredibly high prices.

2. Medicines

We want to remind if you use some special medicines not to forget them.

3. Currency

The fixed official exchange rate: 1 EUR = 1.95583 BGN (leva).
In the change offices the exchange rate may vary from 1.9 to 1.95.
When you change money, please be careful when choosing the change office. At the airport usually the rates are not preferable.
Some change offices use on their front tables fixings which aren't used for the standard procedures – it might be for write the fixing on the front table, which is not the real rate for usual exchange (it may be the rate for checks or for exchanged amount more than 10,000 lv.). Please, always read the all the notices (usually written with smaller letters) and ask the clerk for the exact total you'll receive from the exchange.
 We recommend exchanging not more than 50 EUR or USD at a time.

Caution!
Be careful with your money, documents and other important personal belongings.
Make sure you keep them safe with yourself, not putting them in your luggage, as you can easily become a victim of pickpockets or thieves otherwise.
Please be alert in the city public transport as well as in the bus/train when approached by strangers and never leave your baggage unattended.