Social Networks and Economics in Sports conference

May 27th - May 29th, 2013

Laboratory of Algorithms and Technologies for Networks Analysis,
National Research University Higher School of Economics
Center for Applied Optimization, University of Florida.

Monday, May 27th (Room Г-313)

1:00 PM 1:30 PM	Registration
2:00 PM	Welcome (*Panos Pardalos, University of Florida, USA*)
2:30 PM	Scheduling the Brazilian Soccer Tournament: Solution Approach and Practice (*Celso Carneiro Ribeiro, The Fluminense Federal University, Brazil*)
3:30 PM	Coffee break
4:00 PM	Project Success Prediction Through A Markov Chain Model (*Andrei Loukianov, University of South Australia, Australia*)
4:30 PM	Senior sports tourism in Russia (*Marina Shreresheva, Ekaterina Buzulukova, HSE, Russia*)
5:00 PM	Investment and Results, Football versus the Olympic Games – the interesting Case of Portugal in the Economy of Sports (*Eduardo Luis de Campos Soares Tomé, Universidade Lusiada, Portugal*)
5:30 PM	Sources of Success in Russian Football Premier-League (*Teplykh Grigorii, HSE, Russia*)

Tuesday, May 28th (Room Г-313)

9:30 AM	Registration
10:00 AM	Adaptive Systems in Sports (*Arnold Baca, University of Vienna, Austria*)
11:00 AM	Coffee break
11:30 AM	Dance Sport Marketing : creation of public interest in DanceSport and promotion of Dance Championships as an entertainment (*Svetlana Berezka, HSE, Russia*)
12:00 PM	Valuation of football clubs (*Ilia Solntsev, Financial University, Russia*)
12:30 PM	On the optimal structure of an anti-doping agency (*Khakimova Dilyara, Yandex LLC, Russia*)
1:00 PM	Football Sponsor: Fan or Businessman? (*Iuliia Naidenova, Petr Parshakov, Aleksey Chmykhov, HSE, Russia*)
1:30 PM	Lunch
3:00 PM	Network-based Techniques in Sports Analytics (*Sergiy Butenko, Texas A&M University, USA*)
4:00 PM	Coffee break
4:30 PM	SmartSport – Business Solution for Sports Industry (*Elizaveta Pugacheva, Fors, Russia*)
5:00 PM	Time-marketing in social networks: a new look at increasing the competitiveness of the sport (*Andrey Malygin, Moscow University For Industry And Finance Synergy, Russia*)
5:30 PM	Analysis of the Social Network of Russian Premier League Footballers (*Olga Oshmarina, HSE, Russia*)
6:00 PM	Conference Reception

Wednesday, May 29th (Room Г-313)

9:30 AM	Registration
10:00 AM	Decision Making in The Management of Sports Organizations (*Jaime Gil Lafuente , University of Barcelona, Spain*)
11:00 AM	Coffee break
11:30 AM	Winning by Losing: Incentive Incompatibility in Multiple Qualifiers (*Dmitry Dagaev, Konstantin Sonin, HSE, Russia*)
12:00 PM	The Economics of Sports Entertainment in Turkey (*Sebahattin Devecioglu, Firat University, Turkey*)
12:30 PM	Sports Marketing in Russia: Which Marketing Tools successfully work for Russian Sport Clubs and Which will be used in Future? (*Mikhail Nersesov, HSE, Russia*)
1:00 PM	Closing Remarks

Scheduling the Brazilian Soccer Tournament: Solution Approach and Practice

Celso Carneiro Ribeiro

The Fluminense Federal University, Brazil

Sports, with their massive investments in players and structures, have become a big business. Professional and amateur leagues face challenging problems, including logistics, revenue maximization, broadcast rights, fairness issues, game attractiveness, and security. The annual Brazilian soccer tournament is a compact, mirrored double round-robin tournament played by 20 teams in each of its two main divisions; it is possibly the world's most attractive soccer tournament because of the quality of the teams and players in the competition. With substantial revenue and community pride on the line, devising optimal schedules is crucial to players, teams, fans, sponsors, cities, and for security issues. Fair and balanced schedules for all teams are a major issue for ensuring attractiveness and confidence in the tournament outcome. The organizers seek schedules that satisfy a number of constraints. As often as possible, the most important games should be played in weekend rounds so that the open TV channels can broadcast many attractive games. We describe the integer programming formulation of the scheduling problem and the three-phase decomposition approach we proposed for solving it. We also report on the practical experience we observed after two years of running the system and the main results achieved during its successful history.

Project Success Prediction Through a Markov Chain Model

Andrei Loukianov

University of South Australia, Australia

We propose a model and an analytical approach to determine a probability of a successful project delivery. The fundamental idea is to include standard project metrics in the stochastic analysis of the project outcome. Our model is effectively a perturbed Markov Chain (MC).

Senior sports tourism in Russia

Ekaterina Buzulukova and Marina Sheresheva
National Research University Higher School of Economics, Moscow, Russia

There are a few publications devoted to senior tourism however it is the subject of growing research interest because of world population ageing and its important social impact. The present paper aims to examine the aspirations, opportunities and readiness of Russian senior people to travel locally and abroad for sport objectives. Moreover attractive for seniors sport activities will be selected. A quantitative research method in the form of self-complete questionnaire was chosen. The sample is selected through several the most popular Russian social networks interest groups. The anticipated results should fill the research gap by identifying the amount of seniors who is ready to travel for sport objectives, selecting the proper sport activities and possible directions of sport tourism. The social goal of current research is to increase the popularity of sport activities within Russian senior people. Due to small amount of senior people who is ready to travel for sport objectives the only way to find a partner is to organize the social network of sports enthusiasts or participate in groups of special sports interests. According to TNS (www.tns-global.ru) research the main driver of growing internet users is raising number of elder people (50+) who spend more than 30% of their time in social networks. In consequence of this tendency the possibility to involve seniors to sports tourism activities in Russia has significantly increased.

Economics of Sports: Investment and Results, Football versus the Olympic Games – the interesting Case of Portugal.

Eduardo Luis de Campos Soares Tomé

Universidade Lusiada, Portugal

This paper intends to analyze the interesting case of Portugal as sporting force. We begin by analyzing the statistics on the Portuguese success in sport when available. We conclude that there is a big divide, between football, and all the other Olympic sports put together. In Europe Portugal ranks in the first 6 regarding football but only in the mid 30s (in 48 countries) when regarding the Olympic Games. We try to define the reasons of that big difference. First we analyze the level of investment in football in Portugal with the level of investment in other countries. Second we compare the level of investment in Olympic Games in Portugal with the level of investment in other countries. Finally we compare the investment in football in Portugal with the investment in the Olympics in the country. We conclude that in all the three cases, the level of investment explains much of the success in Sport. Portugal has a well- developed national policy and system on football, which produces results. But the country has nothing comparable in terms of the Olympics and therefore results don't happen. We therefore recommend a more balanced investment and the presence of the 4 big football clubs in the Olympic sports as a way of improving the Portuguese performance in the Olympics. That improvement would have reflections in the country health and productivity, and would be socially beneficial.

Sources of Success in Russian Football Premier-League

Teplykh Grigorii

National Research University Higher School of Economics, Perm, Russia

We analyse panel data of Russian football clubs for 2008-2011. The main purpose of this research is to investigate key factors of success in Russian football Premier-League. The data includes indicators of financial resource, fan support, club's history, coach, quality of players and sport performance. An instrumental estimation is implemented to control for endogeneity.

Adaptive Systems in Sports

Arnold Baca

University of Vienna, Austria

Technological systems are getting increasingly important for physical activity monitoring and assessment in general and for supervising load and performance in mass and elite sport in particular. Miniature sensors and computing devices are attached to the athletes or integrated into the sports equipment in order to acquire and process performance or load related data. Ubiquitous computing technologies are thus applied to implement systems, which provide athletes with feedback information on the quality of the motion just performed. Due to the rapid progress in hardware capabilities and the potential of data processing methods, it can be expected that "the emphasis in the future developments will shift to development of intelligent systems that could not only analyze the data but suggests strategies and interventions" [Baca, A., Dabnichki, P., Heller, M., and Kornfeind, P. (2009). Ubiquitous computing in sports: A review and analysis. Journal of Sports Sciences, 27 (12) (2009), 1335-1346]. Moreover, sports equipment will be able to sense new conditions in the environment and adapt accordingly. Essential bases for almost any such system are the successful recognition of patterns underlying the sports movement just performed and/or the prediction of future states. These analyses do not only consider kinematic parameters, but, moreover, also kinetic and physiological data. Different methods and models have proven to be useful. In the presentation, a survey of hard- and software approaches is given. Pros and cons are discussed with regard to their applicability for intelligent devices supporting athletes. Practical applications are presented and experiences reported.

Dance Sport Marketing : creation of public interest in DanceSport and promotion of Dance Championships as an entertainment.

Svetlana Berezka

National Research University Higher School of Economics, Moscow, Russia

Dance sport is one of the most spectacular and beautiful sport. But unfortunately, Russian dance couples, who demonstrate good results at the international championships, is quite unknown to the general public, and audience space at Cpampiomships are not filled. The purpose of this study, to analyze the foreign and Russian practice of DanceSport marketing and to identify the main problems in promotion of Dance Championships and their causes. The results anticipated could provide understanding of the roots of difficulties in the DanceSport and dance events promotion in Russia. As possible solutions to the problems the speaker identify using the tools of social media marketing and the ability to create The Network of Excellence.

Valuation of football clubs

Ilia Solntsev
Financial University, Moscow, Russia

Along with development of sports industry as independent economy sector, investments in its certain branches are growing: we see more businessmen investing in football clubs (FC) and consider it not just as a hobby or a social burden, but as a true business, more FC participate in M&A deals, finally FC are returning to debt and equity capital markets, and long expected IPO of Manchester United became proof of that. Besides in the past few years there has been tremendous progress in football fans' interest for their clubs' finances. In this regard we face a real need for a modern valuation model, which will consider the specifics of the FC. Such model could be based on income, market and asset approaches, but with certain adjustments due to the football business. Especially we should consider its revenues and expenditures structure, methods of calculating the discount rate and a set of special performance indicators.

On the optimal structure of an anti-doping agency

Khakimova Dilyara

Yandex LLC

In this paper we analyze the problem of preventing doping. Doping leads to a number of adverse effects including effects on health of athletes and youths that follow them and negative perceptions of sports by the general public. Anti-Doping Agencies such as World Anti-Doping Agency are responsible for coordinating and monitoring the fight against doping in sport. We build a model of a sport competition with possible usage of doping by athletes. Doping is not directly observed but can be detected by the agency at some cost. We analyze how the organization of anti-doping activities by the agency, such as inspecting only the winner versus all the participants of a tournament, influences the decisions of athletes to use doping in the resulting equilibrium of the competition game. Using methods of mechanism design, we look for the optimal structure of the agency, when we introduce social losses in the model. While the latter problem can not be solved analytically we provide numerical algorithm and describe the general properties of the optimal structure of the agency.

Football Sponsor: Fan or Businessman?

Iuliia Naidenova, Petr Parshakov and Aleksey Chmykhov

National Research University Higher School of Economics, Perm, Russia

"Football" or "soccer" is one of the most popular sports. It attracts a lot of people all over the world. Each match of top football teams attracts thousands of people to the stadium. Although professional football clubs, which play in national premier leagues and in international competitions, generate considerable revenues from the broadcasting deal, ticket sales and merchandise, almost all of them requires sponsors' support. Each football club generally has several sponsors: kit sponsor, shirt sponsor and lower-level sponsors. Sponsors are usually large corporations that are willing to provide funds in return for advertising. Some researchers in the field of sport management regard sponsorship as a marketing technique (Firica, 2008; Reiser et al., 2012). Corporations can derive benefit from sponsorship due to an increase in brand recognition and growth of customer loyalty. Assuming the rationality of corporations as economic agents, we expect sponsorship deals are economically expedient. Therefore sponsor should obtain a positive return on investments in football club. As far as we imply that sponsorship influences on corporation's relationship with customers, and the decision to become a sponsor should lead to an increase in revenues. However, the dependence between investment in sponsorship and companies' revenue is reciprocal. On the one hand, investments in sponsorship are often linked to competitive advantages that increase companies' revenue (and maximize value for all stakeholders). On the other hand, companies with higher revenue can invest more in sponsorship. Our aim is to analyze this dynamic relationship. We consider model to be dynamic because, obviously, company's investments may influence revenue with significant time delay. Though, some statistical problems arise while modeling this process. The first one is endogeneity: mutual dependence is the main source of this problem. One of the most common approaches to deal endogeneity is IV approach. We construct IV using data about football team and company Twitter popularity. In models that do not take into account the reverse effect, there is some endogeneity, which biases the model's evaluation results towards a higher importance of sponsorship for companies. The next problem is that there are many factors that influence company's revenue variance. To extract sponsorship impact in is essential to control all other source of variance. That is the reason we include plenty of control variables in our model. In this paper these problems are attempted to be solved as reasonable as possible to make right conclusions about company's rationality in sponsorship investments decisions. We propose a methodology which seems to be suitable to analyze the effect of sponsorship. On a practical point of view, we are trying to understand should we consider sponsor's money as investments or expenses.

1. Firica, J. (2008), "Sports Sponsorship – Means Of Communication", Journal of Applied Economic Sciences, Vol. III, Iss. 4 (6)
2. Reiser, M., Breuer, C., and Wicker, P. (2012), "The Sponsorship Effect: Do Sport Sponsorship Announcements Impact the Firm Value of Sponsoring Firms?", International Journal of Sport Finance, Vol. 7, No. 3, pp. 232-248

Network-based Techniques in Sports Analytics

Sergiy Butenko
Texas A&M University, USA

This presentation discusses several applications of network analysis techniques to sports analytics. The considered examples include (1) mining touch-by-touch soccer game data; (2) ranking American college football recruiting classes using publicly available scholarship offer/acceptance data, and ranking American college football teams based on their win/loss record. The availability of touch-by-touch soccer game data (collected by StatDNA) provides an opportunity to analyze the team interactions from a network perspective. In particular, the information on passes between pairs of players can be summarized in the form of a network, where players are represented by nodes and passing interactions between pairs of players are represented by weighted directed arcs, with the weight of the arc from player A node to player B node being the number of successful passes completed by A to B. Then social network analysis (SNA) techniques can be utilized to study the structural properties of the network representing the team play, such as centrality, connectivity, cohesiveness, and robustness. While opportunities for exploiting the SNA and, more generally, network-based data mining techniques in soccer analytics are abundant, in this report we restrict ourselves to illustrating some of the basic techniques along these lines. With over 120 football teams in Football Bowl Subdivision (FBS) ranking the recruiting classes and the teams based on their win/loss record (as required by the rules) are challenging problems of high importance for the parties involved. Traditional approaches to rankings in college football heavily rely on subjective expert opinions. We propose unbiased network-based analytical methods for ranking recruiting classes and teams that are based only on publicly available information. The performance of the proposed approaches is illustrated using data from recent years.

Time-marketing in social networks: a new look at increasing the competitiveness of the sport

Andrey Malygin

Moscow University For Industry And Finance Synergy, Russia

Time-marketing - a unique concept that describes the client's time as a marketing tool. Social networks create new methods time-marketing of clients sports organizations. The speech is considered original approaches to the use of the sports organizations of different types of social networks for time-marketing.

Analysis of the Social Network of Russian Premier League Footballers

Olga Oshmarina

National Research University Higher School of Economics, Nizhny Novgorod, Russia

Every sports team wants to improve its performance and become the champion. A number of foreign governments and sports clubs management experts realized that the results can be improved not only through the involvement of money but with the help of a comprehensive ongoing analysis of their performance and the performance of rivals. One of the ways of such an analysis is the analysis of social networks.

In this talk we present the analysis of the social network of Russian Premier League footballers. The players characteristics of season 2011-2012 are chosen. We construct a social network with the footballers as the nodes of the graph. Edges between pair of players are weighted based on their similarity in attributes. We use different clustering techniques to classify players by their characteristics. Obtained results are discussed in the talk.

Decision Making in The Management of Sports Organizations

Jaime Gil Lafuente

University of Barcelona, Spain

In the last years, the management of sports activities, the ones included in the called "sports spectacle", have turned radically as consequence of the increasing interest in mass media (television principally), including in their programming events that could reach unimaginable audience levels. In addition, the world crisis that most of the countries are suffering, boost that the economic limitations of most of the citizens of these countries can be partially alleviated by the success of either a sport club or certain sportsmen The fortunes that are being paid, for example, for signing a football, basketball or handball player or trainer are millionaire. Thinking about the amounts paid can be scary because in some cases these players or trainers do not will deliver the expected performance to compensate the investment realized. The fuzzy logic technique is a mathematic method adapted to the consumers behavior ambiguity, that we used to find or chose the best nearest candidates, the ones nearest to the ideal ones, avoiding with this mechanism, time consuming, illusions and resources mistakes that is unnecessary to continue having. With this methodology we tried to reduce the uncertainty or the risk, at the moment of signing sportsmen, trainers or sport teams.

The Economics of Sports Entertainment in Turkey

Sebahattin Devecioglu

Firat University, Turkey

We generally understand entertainment as a pleasant, restful, stimulating, and exciting reception phenomenon—as a pleasant experience of the physical system (sensory activities), of the psychological system (ego-motions), the social system of individuals (socio-motions), the cognitive system (wit, intellectual arousal), and the spiritual system. We cannot clearly differentiate entertainment and sports. Sports have become an integral source of entertainment for contemporary societies because spectator sports have every single ingredient of delightful entertainment. (Schramm & Klimmt, 2003, p. 61) Sports generates news as well as entertainment values. That makes it highly attractive for the media. And the history of the media shows that they exploited that lucrative source from the very beginning. Following their own logic, they added highly marketable qualities to the business of sports reporting (Beck & Bosshart, 2003,p.27) Sport, especialy football and entertainment have always been an important part of Turkish society but they are also becoming an increasingly important aspect of the Turkish economy Sports entertainment trend reflects the growing prosperity of the community, the increasing availability of wekeend and leisure time and the diverse tastes of the Turkish community. As a result of sports entertainment trend there has been a marked increase in the undertaking of financial resources to sporting (football) activities by both the government federations, public and private sectors in Turkey (Hone, 2005-02). Sport entertainment are held nearly at all periods of year throughout the world which results in important rise at economy. This competition varies from economy to media (TV, internet, Mobile newspaper, journals , from industry to entertainment, to sport in products and service industry. In this study, aspect of sport entertainment sector in Turkey will be evaluated in the sense of its contribution to Turkish economics

References

1. Schramm, H., & Klimmt, C. (2003). "Nach dem Spiel ist vor dem Spiel."
2. Die Rezeption der Fussball-Weltmeisterschaft 2002 im Fernsehen: Eine Panel-Studie zur Entwicklung von Rezeptionsmotiven im Turnierverlauf. Medien & Kommunikationswissenschaft, 51, 55-81
3. Daniel Beck and Louis Bosshart, Sports and Media, A Quarterly Revıew Of Communication Research, Volume 22 (2003) No. 4
4. Phillip Hone, Assessing the Contribution of Sport to the Economy, Working paper series (Deakin University School of Accounting and Finance) ; 2005-02

Sports Marketing in Russia: Which Marketing Tools successfully work for Russian Sport Clubs and Which will be used in Future?

Mikhail Nersesov

National Research University Higher School of Economics, Moscow, Russia

Sports marketing is a stream of classic marketing, which has been developed by academics and practitioners in the last decades. In Russia the field of sports marketing remains underestimated and underdeveloped, and there is a clear need to fill the gap and to conduct research in the field. The main purpose of this research paper is to compare Russian and international experience in the sports marketing, and to develop a comparative framework of marketing mix techniques. The case-study method will be used, while the value of it for business could be described as that it allows the researcher to examine a problem or question in a practical, real-life situation. The results anticipated could provide understanding of the tools Russian clubs need to use in order to attract the audience and to receive enough money for its future functioning and development. The results of the performed analysis can be used to study the reasons, why some of the foreign practices do not work in the Russian environment, and to propose the ways to adapt the best practices which can be useful for Russian sport clubs.

Information for Participants

1. The conference will take place at the National Research University Higher School of Economics, Moscow, **Pokrovskiy boulevard, 11, Room Γ-313**.
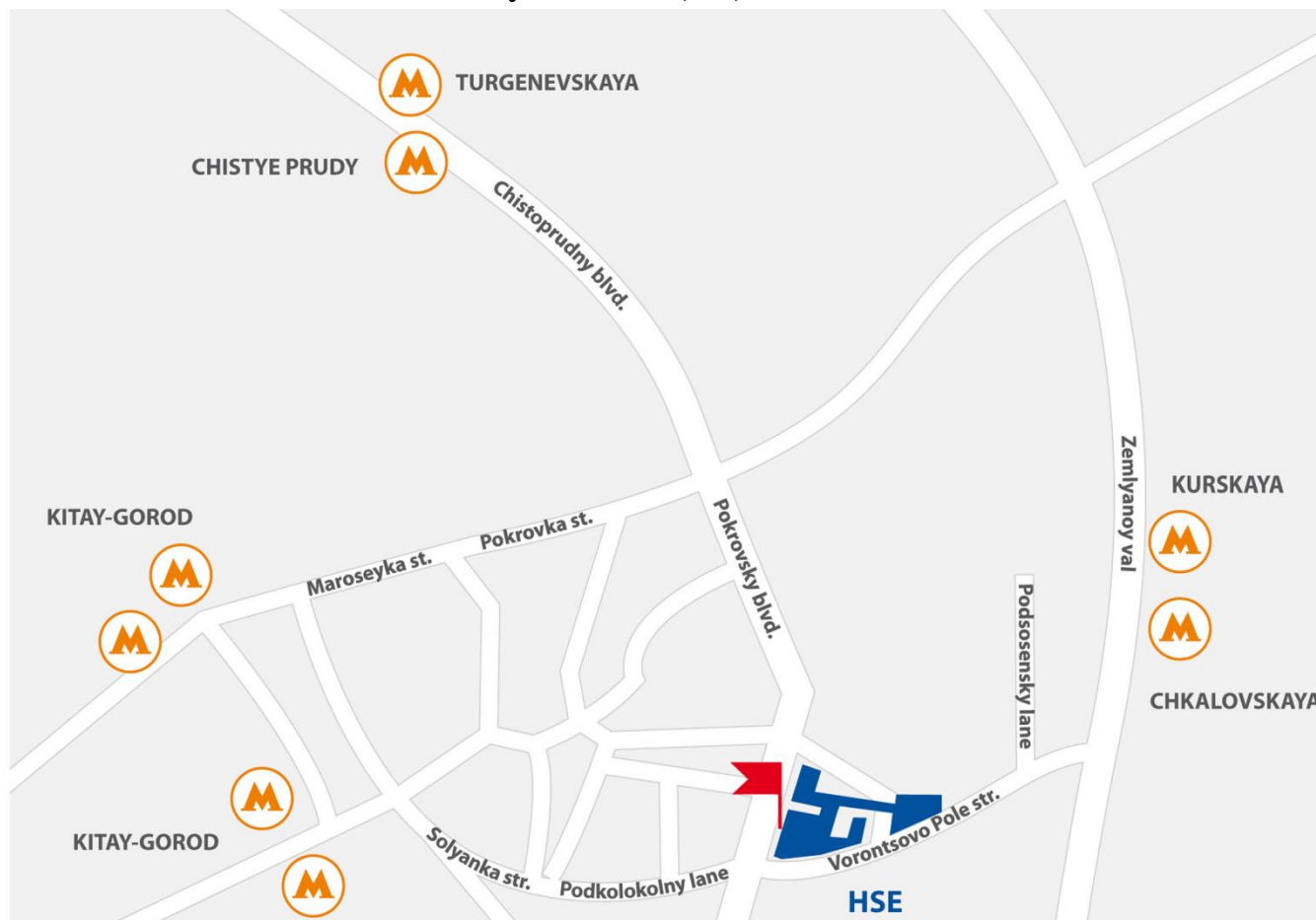
2. **Wi-fi** will be available in the conference building. Please use the following login/password:
    login: hseguest
    password: hsepassword

3. Participants may **have a lunch** in the dining room which is located in the conference building as well as in other restaurants situated near the building.

4. **Organizing committee** and **advisory board** will be located in room Γ-317.