



**The International Conference on Heterocyclic Chemistry, in honor of the late
Professor A.N. Kost's 90th Anniversary**

SCIENTIFIC PROGRAM

Sunday, October 16, 2005

9.00-00.00

REGISTRATION OF PARTICIPANTS (Selection committee office of
Department of Chemistry, MSU)

Monday, October 17, 2005

8.00-10.00

REGISTRATION OF PARTICIPANTS (Selection committee office of
Department of Chemistry, MSU)

10.00-11.00

OPENING CEREMONY (Intellectual Center – Fundamental Library of MSU)

Opening address:

Academician V. V. Lunin,

Dean of Chemistry Department, MSU

Academician N. S. Zefirov, Head of chair of
organic chemistry, Chemistry Department, MSU

D. V. Kravchenko, Director of Chemical Diversity
Research Institute

PLENARY LECTURES

11.00

G. G. Danagulyan (*Institute of Organic Chemistry, Armenia*)

**Amine-Induced Kost-Sagitullin Rearrangement and Competitive
Recyclizations of Pyrimidinium Salts**

11.30

A. P. Ilyin (*Chemical Diversity Research Institute, Khimki*)



Modified Multicomponent Ugi Reactions with Use of Bifunctional Reagents

12.00 O.L.Korovnikova, C.V.Klyatskaya, S.F. Vasilevski (*Institute of Chemical Kinetics and Combustion, Novosibirsk*)

Synthesis and properties of diamagnetic and paramagnetic acetylenic derivatives of 3-imidazoline series

12.30-13.00 **Coffee Break**

13.00 A. Haas (*Ruhr-University Bochum, Germany*)

A Correlation between Number of π -Electrons and Structures of Chalcogen-Nitrogen Compounds

13.30 V. G. Nenaidenko, K. Yu. Chernichenko, V. V. Sumerin, E. S. Balenkova (*Moscow State University*)

Synthesis of the First Completely Heterocyclic Circulene

14.00-15.00 **Lunch Break**

PLENARY LECTURES

Main Building of Moscow State University

15.00 T. S. Yagodzinski (*Technical University of Szczecin, Poland*)

Thioamides as Useful Synthons To Build Up Heterocycles

15.30 A. V. Malkov, M. Bell, L. Dufkova, A. J. P. Steward-Lindon, P. Kosowsky (*University of Glasgow*)

Application of Chiral Heterocycles in Asymmetric Organocatalysis

16.00 E. V. Babaev (*Moscow State University*)

Design of Recyclizations with Inverse ANRORC Mechanism

16.30-17.00 **Coffee Break**

SEMINARS

17.00 D. V. Kravchenko, Yu. G. Puzykin (*Chemical Diversity Research Institute, Khimki*)

Chemical Diversity Research Institute and Modern Industry of Drug Development



- 17.15 V. I. Kazei (*Chemical Diversity Research Institute, Khimki*)
The Role of Preclinical Investigations in the Development of New Drugs
- 17.30 T. I. Danilova (*Sigma-Aldrich, Moscow*)
Heterocyclic Building Blocks and Other Products for Medicinal Chemistry and Organic Synthesis Supplied by Sigma-Aldrich Corporation
- 18.00 **Cocktail Reception**

Tuesday, October 18, 2005

PLENARY LECTURES

- 9.30 L. I. Belen'kiy (*N. D. Zelinsky Institute of Organic Chemistry, Moscow*)
Substrate and Positional Selectivities in Electrophilic Substitution Reactions of Five-Membered Heterocycles Having One Heteroatom
- 10.00 G. I. Koldobskiy (*St. Petersburg State Technological University (Technical University)*)
Methods of Tetrazole Functionalization – Strategy and Outlook
- 10.30 V. A. Ostrovskiy (*St. Petersburg State Technological University (Technical University)*)
Applied Tetrazole Chemistry
- 11.00 G. P. Sagitullina, R. S. Sagitullin (*Omsk State University*)
New Synthetic Potential of Pyridinium Salts Recyclization
- 11.30-12.00 **Coffee Break**
- 12.00 A. F. Pozharskii, A. V. Gulevskaya, O. V. Serdyuk (*Rostov State University*)
Tandem and Cascade Reactions of S_N^H Type in Pyridazines
- 12.30 A. V. Aksenov, I. V. Aksenova (*Stavropol State University*)
Specific Features of Bisheterocycles Behavior in Reactions with Electrophiles and Nucleophiles
- 13.00 V. G. Granik (*National Research Center of Antibiotics, Moscow*)
Amidoacetals in the Synthesis of Heterocyclic Compounds



- 13.30 V. P. Litvinov (*N. D. Zelinsky Institute of Organic Chemistry, Moscow*)
Cascade Heterocyclizations in the Synthesis of Nitrogen Heterocycles and Their Fused Analogues

14.30-15.00 **Lunch Break**

Invited and Contributed Lectures

Section A – Five-Membered Heterocycles

- 15.00 A. N. Maslivets, K. S. Bozdyreva, Yu. N. Bannikova, N. L. Racheva, A. V. Babenysheva, A. A. Novikov, S. A. Smirnova, A. A. Smolyak, I. V. Mashevskaya (*Perm State University*)
Synthesis of Azaheterocyclic Systems Based on Use of Dioxo-Heterocycles
- 15.15 A. R. Kurbangalieva, N. F. Devyatova, G. A. Chmutova (*A. V. Butlerov Institute of Chemistry, Kazan State University*)
Structural Diversity of Products of Reactions of Mucochloric Acid with Sulfur Binucleophiles
- 15.30 M. V. Reinov (*Moscow State University*)
Cycloaddition of products of dehydrochlorination of *N*-benzyltrifluoroacetimidoyl chlorides to fullerene C₆₀
- 15.45 K.A.Kochetkov (*A.N.Nesmeyanov Institute of Organoelement Compounds Russian Academy of Sciences*)
Stereoselectiv approach to tryptophne
- 16.00-16.30 **Coffee Break**
- 16.30 G. A. Chmutova, E. R. Ismagilova, T. I. Madzhidov, A. I. Movchan (*A. V. Butlerov Institute of Chemistry, Kazan State University*)
Solvation Effects in the Chemistry of Pyrazol-5-ones
- 16.45 E. K. Beloglazkina, A. G. Mazhuga, N. A. Frolova, I. V. Yudin, S. Z. Vatsadze, N. V. Zyk (*Moscow State University*)



New Pyridylmethylene-Substituted 2-Thiohydantoins and 2-Alkylthio-3,5-dihydroimidazol-4-ones: Synthesis and Complexation of Transition Metal Cations

17.00 Yu. V. Shklyaev (*Institute of technical chemistry Russian Academy of Sciences, Perm*)

The synthesis of partially hydrogenated azines and azoles: dihydroisoquinolines, spiropyridines, spiropyrrolines, polyhydroindolines

17.15 E. V. Sadchikova, V. S. Mokrushin, V. A. Bakulev (*Ural State Technical University – UPI, Ekaterinburg*)

Chemistry of Heterocyclic Diazo Compounds and Diazonium Ions

17.30 P. B. Terent'ev, L. N. Yanushene, A. P. Stankavichus (*Moscow State University; Kaunas Medical University, Lithuania*)

Reactions of Isatin-3-monoxime O-Acyl Derivatives with Nucleophiles

17.45 N. E. Golantsov, A. V. Karchava, M. A. Yurovskaya (*Moscow State University*)

Optically Active Indole Derivatives with Chiral Substituent at Nitrogen Atom: Preparation and Use in Asymmetric Synthesis

18.00 S. V. Kurbatov, A. V. Tatarov, R. Goumont, F. Terrier (*Rostov State University*)

Cycloaddition and Substitution Reactions of Super Electrophilic Nitrobenzofuroxanes

Invited and Contributed Lectures

Section B – Six-Membered Heterocycles

15.00 V. I. Saloutin, Ya. V. Burgart, O. N. Chupakhin (*I. Ya. Postovskii Institute of Organic Synthesis, Ekaterinburg*)

Fluorine-Containing Coumarins and Chromones

15.15 B. S. Lukyanov, Yu. S. Alekseenko, E. L. Mukhanov, K. N. Khalanskii, M. B. Lukyanova, S. O. Bezuglyi, A. V. Metelitsa (*Scientific-Research Institute of Physical and Organic Chemistry, Rostov State University*)

Synthesis and Investigation of Spiropyrans Containing Unusual π -Acceptors

15.30 A. D. Shutalev (*Moscow State Academy of Fine Chemical Technology*)

New Synthesis of Functionalized Pyrimidines

15.45 A. S. Dorofeev (*N. D. Zelinsky Institute of Organic Chemistry, Moscow*)



Electrocatalytical Oxidation of Piperidin-4-ones

16.00-16.30 **Coffee Break**

16.30 V. K. Yu, A. Zh. Kabdaraisova, E. E. Fomicheva, K. D. Parliev, S. N. Shin, D. Velch (*A. B. Bekturov Institute of Chemical Sciences, Almaty, Kazakhstan*)

Predicted and Unexpected Biological Properties of Piperidine-Containing Ethers

16.45 Kh. S. Shikhaliev, A. V. Zorina, Yu. A. Kovygin, M. Yu. Krysin (*Voronezh State University*)

Arylmaleimides Recyclization During Reactions with Binucleophiles as A General Approach To Build Up Hydrogenated Heterocyclic Systems

17.00 Yu. S. Chekryshin, Yu. V. Shklyayev, N. V. El'chishcheva, A. G. Tolstikov, Zh. A. Vnutskikh (*Institute of Technical Chemistry, Perm*)

Oxidative Dimerization of Picolines and Synthesis Based on Formed Dipyridylethanes (-ethenes) and Pyridoin

17.15 O. V. Mikhalev, I. V. Fedyanin, B. N. Tarasevich, I. G. Il'ina, K. P. Butin (*Moscow State University*)

Polymorphism of 4-Methyl-2-(Picrylamino)pyridine

17.30 O. V. Mikhalev, I. V. Fedyanin, B. N. Tarasevich, I. G. Il'ina, K. P. Butin (*Moscow State University*)

Unusual Reaction between Picryl Chloride and 2-Amino-4-methylpyridine

17.45 B. A. Ivin (*St. Petersburg State Chemicopharmaceutical Academy*)

Chemical Transformation of 1,3-Heterocycles as A Route to Preparation of Biologically Active Azoles, Azines and Malonamic Acids

18.00 G. G. Danagulyan (*Institute of Organic Chemistry, Armenia*)

C-C Recyclizations as An Example of Isomerization Rearrangement of Pyrimidines

18.15 V. O. Koz'minykh, A. V. Aksenov, E. N. Koz'minykh, S. I. Firgang (*North-Caucasus State Technical University; Stavropol State University; N. D. Zelinsky Institute of Organic Chemistry, Moscow*)

Simple Preparation of 3-Substituted Quinoxalin-2(1H)-ones



- 18.30 S. N. Morozkina, S. I. Selivanov, Sh. N. Abusalimov, A. G. Shavva (*St. Petersburg State University*)
Synthesis, Molecular Structure Investigation and Biological Properties 17 α -acetoxy-7 β -methyl-3-methoxy-6-oxahomo-8 α -estra-1,3,5(10)-triene

Wednesday, October 19, 2005

PLENARY LECTURES

- 9.30 V. D. Orlov, T. V. Berezkina, M. A. Kolosov, V. N. Kotlyar, A. Kh. Marrugo (*V. N. Karazin Kharkov National University*)
The Direction of Heterocyclization Reactions as a Function of Properties of Interacting Molecules (Unsaturated Carbonyl Compounds and Nucleophiles)
- 10.00 M. N. Preobrazhenskaya (*G. F. Gause Institute of New Antibiotics, Moscow*)
Synthesis of Indole Derivatives Using Reactions of Indole Ring Protonation
- 10.30 N. M. Przhevalskii (*K. A. Timiryazev Moscow Agriculture Academy*)
Synthesis of Indolylalkylamines and Related Structures from Arylhydrazines and γ - and δ -Halogenocarbonyl Compounds (Grandberg Reaction)
- 11.00-11.30 **Coffee Break**
- 11.30 A. V. Butin (*Kuban State Technological University*)
Benzylfurans in Synthesis of Benzannelated Nitrogen Heterocycles
- 12.00 Yu. Yu. Morzherin, T. V. Glukhareva, E. V. Deeva, N. A. Zybina (*Ural State Technical University – UPI, Ekaterinburg*)
Reactions of *tert*-Amino Effect in Heterocyclic Chemistry
- 12.30 G. V. Grishina (*Moscow State University*)
Stereoselective Synthesis and Stereochemistry of Saturated Functionalized Aza-Heterocycles
- 13.00-14.00 **Lunch Break**
- 14.00-15.00 **Poster Session**



Invited and Contributed Lectures

Section C – Condensed Heterocycles

- 15.00 A. S. Fisyuk, A. Yu. Mukanov, V. B. Rabinovich (*Omsk State University*)
Application of Domino Reactions in Synthesis of Annelated Tetrahydropyrimidin-2(1H)-thiones (-ones)
- 15.15 V. M. Lyubchanskaya (*National Research Center of Antibiotics, Moscow*)
Neitzescu Reaction in Synthesis of Heterocyclic Compounds
- 15.30 S. Yu. Ryabova (*National Research Center of Antibiotics, Moscow*)
3-Arylaminoindole Derivatives in Synthesis of β -Carbolines
- 15.45-16.15 **Coffee Break**
- 16.15 V.I.Terenin, A.S.Ivanov (*Department of Chemistry M.V.Lomonosov Moscow State University*)
The new nucleophilic transformation of azinium systems
- 16.30 V. A. Makarov (*National Research Center of Antibiotics, Moscow*)
New Synthesis of Condensed 1,3-Thiazin-4-ones on the Base of Dithiocarbamates
- 16.45 A.V.Manaev, I.N.Okhrimenko, V.F.Traven (*D. Mendeleev university of chemical technology of Russia*)
The synthesys of new derivatives of 4-hydroxycarbostyryl
- 17.00 K. S. Bozdyreva, A. N. Maslivets (*Perm State University*)
Nucleophilic and Thermolytic Heterocyclizations and Recyclizations of Pyrrolo[1,2-a]quinoxaline-1,2,3-triones



Invited and Contributed Lectures

Section D – Macroheterocycles

- 15.00 L. G. Voskresenskii, S. V. Akbulatov, A. Startseva, A. V. Varlamov (*Peoples Friendship University of Russia, Moscow*)
Tandem Transformations of Fused Tetrahydroazepines under Treatment with Activated Alkynes
- 15.15 E. V. Tulyakova, O. A. Fedorova, Yu. V. Fedorov, A. V. Anisimov (*Moscow State University*)
Phenyl-Substituted Azathiocrown Ethers-Based Photosensitive Systems
- 15.30 O. A. Fedorova, A. V. Chebun'kova, S. P. Strokach, E. N. Ushakov, A. V. Koshkin, S. P. Gromov, M. V. Alfimov, V. Lokshin, A. Sama (*Photochemistry Center of RAN, Moscow; Institute of Problems of Chemical Physics, Chernogolovka*)
Photochromic Azacrown Ethers on the Base of Spironaphthoxazines and Chromenes: Synthesis, Ditopic Complexation, and Cation-Dependent Photochromic Properties
- 15.45-16.15 **Coffee Break**
- 16.15 N. E. Borisova, M. V. Kuznetsov, V. V. Roznyatovskii, M. D. Reshetova, Yu. A. Ustynyuk, V. N. Khrustalev, G. G. Aleksandrov, I. L. Eremenko, I. I. Moiseev (*Moscow State University*)
New Polydentate Azomethines. Synthesis and Complexes
- 16.30 T. I. Lomova (*Institute of Solution Chemistry, Ivanovo*)
Directed Synthesis of Macroheterocyclic Compounds with Practically Useful Coordination Properties
- 16.45 K. D. Praliev, B. K. Yu, T. K. Isakova (*A. B. Bekturov Institute of Chemical Sciences, Almaty, Kazakhstan*)
Conformational Behavior of 3,7-Dihetera(*N,N*-;*N,S*-;*N,O*-)bicyclononan-9-oles



- 17.00 E. E. Nifant'ev, E. N. Rasadkina, Yu. B. Evdokimenkova, P. V. Slitkov, V. G. Badrin, B. K. Shcherbakov (*Moscow State Pedagogical University*)
Oligoarylenamidophosphites – New Class of Heterocyclic Systems
- 17.15 S. S. Karlov, G. S. Zaitseva (*Moscow State University*)
Metallatranes, Metallocanes and Their Nitrogen Analogues: Synthesis, Structure and Reactivity

Thursday, October 20, 2005

PLENARY LECTURES

- 9.30 S. A. Shevelev (N. D. Zelinsky Institute of Organic Chemistry, Moscow)
Synthesis of Fused Heterocyclic Systems on the Base of Products of Methyl Group Functionalization in 2,4,6-Trinitrotoluene
- 10.00 I.V. Alabugin, T.Zeidan, B.Breiner, S.V.Kovalenko, M M.anoharan, R.Clark
(*Department of Chemistry and Biochemistry, Florida State University*)
New Photochemical Reactions of Heterocyclic Alkynes
- 10.30 A. V. Varlamov (*Peoples Friendship University of Russia, Moscow*)
Tandem Transformations of Fused Tetrahydropyridines under Treatment with Activated Alkynes
- 11.00 S. P. Gromov, S. N. Dmitrieva, A. I. Vedernikova, M. V. Churakova
(*Photochemistry Center of RAN*)
New Methodology of Benzazacrown Ethers Synthesis by Transformation of Macrocycle of Benzocrown Ethers
- 11.30-12.00 **Coffee Break**
- 12.00 I. V. Borovlev, O. P. Demidov (*Stavropol State University*)
1,3-Diazapyrenes – Synthesis and Some Properties
- 12.30 V. G. Kartsev (*InterBioScreen Ltd.*)
Role of Natural Compounds in the Drug Developments – New Tendencies in the Chemistry of Isoquinoline Alkaloids



13.00 A. A. Tolmachev, D. M. Volochnyuk, S. V. Ryabukhin, M. V. Vovk (*T. G. Shevchenko National University, Kiev, Ukraina*)

Electrophilic Functionalization of Amino-Substituted π -Redundant Heterocycles

13.30-14.30 **Lunch Break**

14.30-15.30

Poster Session

Seminar

15.00 A.F. Nasonov (*Chemical Diversity Research Institute, Khimki*) "**Practical demonstration of some applications of the ChemoSoft software to the design of drug-like compounds**"

Invited and Contributed Lectures

Section E – Small Heterocycles

15.30 A. M. Magerramov, M. A. Allakhverdiev, A. N. Khalilov, G. Alieva (*Baku State University, Azerbaijan*)

Synthesis of Mono- and Bisthiiranes on the Base of *p*-Xylene

15.45 S. V. Popkov, L. V. Kovalenko (*D. I. Mendeleev Russian University of Chemical Technology*)

Synthesis and Biological Activity of 1-Azolylmethyl-6-benzylidene-2-substituted 2-Methylcyclohexanols

16.00 M. A. Kuznetsov (*St. Petersburg State University*)

Oxidative Aminoaziridination – Synthesis and Transformations of *N*-(*N*-Heteroaryl)aziridines

16.15 Yu. B. Koptelov (*St. Petersburg State University*)

Generation of Labile Azomethine Imines By Catalytic Opening of Diaziridine Ring of 6-Aryl-1,5-diazabicyclo[3.1.0]hexanes

16.30-17.00 **Coffee Break**



Invited and Contributed Lectures

Section F – General Problems of Chemistry of Heterocycles

Sponsored by New Chemistry Horizons Laboratories

- 15.30 S. S. Zlotskii, D. L. Rakhmankulov (*Ufa State Oil Technical University*)
New Homogenic Catalytic Transformations of Cyclic Acetals
- 15.45 R. E. Trifonov, V. A. Ostrovskii (*St. Petersburg State Technological University (Technical University)*)
Protolytic Equilibriums of Azoles and Azines
- 16.00 D. V. Kravchenko (*Chemical Diversity Research Institute, Khimki*)
Synthesis of Combinatorial Libraries of Heterocyclic Sulfamides
- 16.15 M. A. Mironov, M. I. Tokareva, M. N. Ivantsova, V. S. Mokrushin (*Ural State Technical University – UPI, Ekaterinburg*)
New Heterocycles Syntheses from Isocyanides
- 16.30-17.00 **Coffee Break**
- 17.00 Yu. G. Trishin, V. I. Namestnikov, A. I. Stash, V. E. Zavodnik, V. K. Bel'skii (*St. Petersburg State Technological University of Natural Polymers*)
Bicyclic Fluorophosphanes – Formation in Reactions of Pentafluorophenyl Derivatives of P(III)
- 17.15 E. B. Averina, O. A. Ivanova, E. M. Budynina, T. S. Kuznetsova, N. S. Zefirov (*Moscow State University*)
Tetranitromethane and Halogenonitromethanes – Unique Reagents for the Synthesis of Nitro-Substituted Heterocycles
- 17.00
- 17.30 M. V. Chudinov, K. V. Seregin, A. M. Yurkevich, V. I. Shvets (*Moscow State Academy of Fine Chemical Technology*)
Monoalkylhydrazines in Nucleoside Chemistry: Synthesis and Applications
- 17.45 N. S. Novikova, S. I. Maksimenko, R. V. Kondrat'eva, V. E. Kuz'min (*A. V. Bogatski Physico-Chemical Institute, Odessa*)



New Banana-like Liquid Crystals on the Base of Heterocyclic Compounds

Friday, October 21, 2005

Invited and Contributed Lectures

Chemical Diversity Research Institute presents:

Section G – Heterocyclic Compounds in Modern Pharmaceutical Design:

High-Throughput Discovery Concepts

- 10.00 A. Kiselyov (ChemDiv, Inc., San Diego, USA)
Targeting the Hedgehog Signaling Pathway with Small Heterocyclic Molecules
- 10.20 K. Balakin (*Chemical Diversity Research Institute, Khimki*)
Chemoinformatics: Recent Advances in Rational Library Design
- 10.40 A. Kiselyov (*ChemDiv, Inc., San Diego, USA*)
Application to Development of Specific and Dual Inhibitors of VEGFR-2 with *in vivo* Activity
- 11.00 A. Nasonov (*Chemical Diversity Research Institute, Khimki*)
ChemoSoft – just one more drug design software or a novel idea in the computer-aided drug design (CADD)?

Invited and Contributed Lectures

Section A – Five-Membered Heterocycles (extension)

- 12.00 T. A. Koval'chuk, N. M. Kuz'menok (*Belarus State Technical University*)
Reactions of 3-(2-Arylviny)-5-hydroxy-1-tosyl-5-phenyl-4,5-dihydro-1H-pyrazoles with *N*-Nucleophiles
- 12.15 V. O. Topuzyan, A. A. Oganesyanyan, M. V. Mkrtchyan, L. G. Arutyunyan, M. M. Kazandzhyan, M. S. Ovsepyan (*Institute of Fine Organic Chemistry, Armenia*)
New Method of Synthesis of 1,2-Disubstituted-4-arylidene-5-imidazolones
- 12.30 S. V. Chepyshev, A. V. Prosyanyk (*Ukrainian State University of Chemical Engineering, Dnepropetrovsk*)



An investigation of the formation mechanism of 1-alkyl-3-alkylamino-1H-2,5-pyrrolidones

12.45 R.A. Gossage, A.A. Deshpande, J. T. Banks (*Chester Woodleigh Small Laboratories of Organic Chemistry, Department of Chemistry, Acadia University, Wolfville, Nova Scotia, Canada; Department of Chemistry, University of New Brunswick, Fredericton, New Brunswick, Canada*)

An Investigation of the conversion of N-acyl-2-oxazolidones into 2-oxazolines mediated by metal oxides

13.00 **CLOSING CEREMONY**

19.00 **BANQUET**