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# PROGRAM



**Long-Term Consequences  
of Nuclear Tests for  
the Environment  
and Population Health**

(Semipalatinsk Test Site/Altai Case Study)

Russian Academy of  
Science Siberian Branch

Scientific Committee on  
Problems of the  
Environment  
SCOPE-RADTEST

Altai Region  
Administration

NATO Scientific and  
Environmental Affairs  
Division

Scientific Committee of the Program on Liquidation  
of Radiation Impact Consequences upon Altai  
Region Population Caused by Nuclear Tests at the  
Semipalatinsk Test Site.

("Semipalatinsk Test Site/Altai Case Study" Program)

NATO/SCOPE-RADTEST ADVANCED RESEARCH  
WORKSHOP

**LONG-TERM CONSEQUENCES OF NUCLEAR  
TESTS FOR THE ENVIRONMENT AND  
POPULATION HEALTH  
(SEMIPALATINSK TEST SITE/ALTAI CASE  
STUDY)**

September 5-10, 1994  
Barnaul, Russia

# **SEPTEMBER 5 - 10**

## **Workshop Co-Directors:**

**Prof. Charles S. Shapiro (U.S.A.)**

**Prof. Jakov N. Shoikhet (Russia)**

*Dear \_\_\_\_\_!*

*We are glad to invite You to participate in the Workshop, that is to take place on September 5-10, 1994.*

**Location Place: "Ob" Rest Home, Conference Hall  
Address: 77 Zmeinogorsky trakt, Barnaul, Siberia,  
Russia**

**Contact telephones: 3852 239840**

**3852 239359**

**FAX: 3852 239358**

**e-mail [zev@biomed.altai.su](mailto:zev@biomed.altai.su)**

**The languages of the Workshop: English, Russian  
Simultaneous translation is provided**

**Participants registration address:**

**"Ob" Rest Home, 77 Zmeinogorsky trakt, Barnaul,  
Siberia, Russia**

**Since September 4, 1994, 3 P.M.**

*Organizing Committee*

# SEPTEMBER 5

10.30 – 11.30

**RADTEST Executive Committee Meeting**

**12.00 OPENING OF THE WORKSHOP**

**WELCOME:**

Altai Region Administration and Legislative Assembly

12.30 – 15.00

**Plenary Session**

***Prof. Valentin A. Koptug***

*Vice-President of SCOPE, Vice-President of Russian Academy of Sciences, the President of Siberian Branch of Russian Academy of Sciences (Novosibirsk, Russia)*

**"Radiation Safety of the Population as One of the Aspects of Stable Development of Siberia" (20 min.)**

***Dr. Luis Veiga da Cunha***

*(North Atlantic Treaty Organization, Belgium)*

**"Opportunities Offered by NATO for Support of NATO and Cooperation Partner Scientists" (20 min.)**

***Prof. Charles S. Shapiro***

*RADTEST Executive Director (San Francisco State University, USA)*

**"RADTEST Project: Past, Present and Future" (20 min.)**

***Dr. Juri S. Tsaturov***

*The Head of Russian Nationwide RADTEST Committee (Moscow, Russia)*

**"Participation of Russian Experts in the RADTEST Project" (20 min.)**



# SEPTEMBER 6

9.00 – 13.00 Plenary Session

## PROGRAMS ON RADIATION SAFETY OF THE POPULATION AND THE ENVIRONMENT, LIQUIDATION OF THE RADIATION IMPACT CONSEQUENCES.

*Prof. Jakov N. Shoikhet, Prof. Vladimir M. Loborev, Prof. Valery I. Kiselev*

*("Semipalatinsk Test Site/Altai Case Study" Program, Barnaul, Russia)*

**"Complex State Program on Estimation of Radiation Impact Consequences Caused by Nuclear Tests at the Semipalatinsk Site upon Altai Region Population. Methodology, Problems and Perspectives."**

(20 min.)

*Prof. Vladimir M. Loborev, Prof. Jakov N. Shoikhet, Prof. Valery I. Kiselev,*

*Dr. Vladimir V. Sudakov, Dr. Vladimir I. Djachenko, Dr. Anatoly A. Lagutin*

*("Semipalatinsk Test Site/Altai Case Study" Program, Barnaul, Moscow, Russia)*

**"Radiation Influence of the Semipalatinsk Test Site Upon Altai Region" (20 min.)**

*Prof. V.I. Andrijushin, Prof. Vadim*

*A. Logachev, Prof. Anatoly M. Matushenko,*

*Dr. G. Krasilov, Dr. J.V. Dubasov, Dr. Jury*

*S. Stepanov, Dr. Jury S. Tsaturov,*

*Dr. A.K. Chernishov, Dr. O. Shanov*

*(Moscow, Russia)*

**"Chronological List of Nuclear Tests at the Semipa-**

## **SEPTEMBER 6**

latinsk Nuclear Test Site and Their Radiation Effects". (20 min.)

***Prof. Kazimir A. Karimov***

*(Academy of Sciences of Kyrgyzstan, Kyrgyzstan)*

**"Integrated Program of Radiation and Ecological Investigations: Environmental Consequences of Nuclear Tests for Kyrgyzstan from the Semipalatinsk and Lob-Nor Test Sites"** (20 min.)

***Prof. Boris Segerstahl***

*(International Institute for Applied Systems*

*Analysis, Austria)*

**"IIASA Project on Radiation Safety of the Biosphere: Goals and Status"** (20 min.)

***Dr. Michael Marelli***

*(US Department of Energy, USA)*

**"US Atmospheric Testing in the Pacific"** (20 min.)

**Break** (20 min.)

***Mr. Ken Johnston***

*(Atomic Weapons Establishment, UK)*

**"Overview of British Nuclear Test Program"**  
(20 min.)

***Prof. Jury A. Izrael, Dr. Evgeny D. Stukin,***

***Dr. Alexei G. Rjaboshapko***

*(Institute of Global Climate and Ecology, Moscow, Russia)*

**"Some Approaches to Russian Data Bank on Nuclear Explosions and Its Attachment with Analogous Foreign Banks"** (20 min.)

# SEPTEMBER 6

***Dr. Lars-Erik De Geer***

*(National Defense Research Establishment, Sweden)*

**"Some Spinoff Data from Studying Nuclear Weapons Tests for UNSCEAR" (20 min.)**

## DISCUSSION

13.00 – 14.00 **Lunch**

14.30 – 18.45 **Plenary Session**

## **DOSIMETRY. POPULATION IRRADIATION DOSES RECONSTRUCTION**

***Prof. Vladimir M.Loborev, Dr. Vladimir V.Sudakov, Prof. Jakov N.Shoikhet***

*("Semipalatinsk Test Site/Altai Case Study" Program, Barnaul, Moscow, Russia)*

**"Issues of Reconstruction and Verification of Irradiation Doses in the Regions of Nuclear Tests Radioactive Products Local Fallout" (20 min.)**

***Dr. Albrecht M. Kellerer***

*(University of Munich, Germany)*

**"Approaches to Dose Reconstruction" (20 min.)**

***Dr. Vladimir V.Sudakov, Prof. Vladimir M.Loborev, Dr. V.I.Zelenov,***

***Dr. M.N.Gabbasov, Dr. A.S.Markovtsev***

*("Semipalatinsk Test Site/Altai Case Study" Program, Moscow, Russia)*

**"Mathematic Modeling in Dose Reconstruction of**



## **SEPTEMBER 6**

**the Population Exposed to Nuclear Tests Radioactive Local Fallout" (20 min.)**

***Dr. Lynn R. Anspaugh***

*(Lawrence Livermore National Laboratory, USA)*

**"Dosimetry Issues: Past, Present and Future"**

**(20 min.)**

***Dr. Steven L. Simon***

*(Republic of the Marshall Islands Nationwide Radiological Study, Marshall Islands)*

**"Results of Radiological Monitoring Program of Marshall Islands Republic" (20 min.)**

***Dr. Richard Henderson***

*(Los Alamos National Laboratory, USA)*

**"Beta Skin Doses From Local Fallout" (20 min.)**

**Break (10 min.)**

***Prof. Mao Yongze***

*(SCOPE CHINA RADPATH, China)*

**"A Model for Nuclear Cloud Movement and Fallout Estimation" (20 min.)**

***Prof. V.V. Adushkin, Dr. V.V. Shuvalov***

*(Institute of Geo-Spheres Dynamics, Moscow, Russia)*

**"Numerical Modeling of Environmental Contamination Under Nuclear Tests" (15 min.)**

***Prof. V.I. Andrijushin, Prof. Vadim***

***A. Logachev, Prof. Anatoly M. Matushenko,***

## SEPTEMBER 6

*Dr. G.Krasilov, Dr. J.V.Dubasov, Dr. Jury S.Stepanov, Dr. A.K.Chernishov*

*(Moscow, Russia)*

**"Primary Data of Air-Born and Ground-Based Radiation Survey After the First Soviet Nuclear Test in 1949 and Their Modern Interpretation" (15 min.)**

*Dr. Vladimir I.Djachenko, Prof. Vladimir M.Loborev, Dr. Vladimir V.Sudakov, Dr. V.I.Zelenov, Dr. M.N.Gabbasov, Dr.*

*N.M.Volobujev, Dr. V.A.Resontov*

*("Semipalatinsk Test Site/Altai Case Study" Program, Moscow, Russia)*

**"Dose Reconstruction of Altai Region Population Caused by the Nuclear Test of August 29, 1949" (15 min.)**

*Dr. V.I.Zelenov, Prof. Vladimir M.Loborev, Dr. Vladimir V.Sudakov, Dr.*

*A.S.Markovtsev, Dr. M.V.Bocharov*

*("Semipalatinsk Test Site/Altai Case Study" Program, Moscow, Russia)*

**"Method of Dose Reconstruction on the Basis of Some Archive Data of Radiation Survey. Altai Population Irradiation Dose Due to the Nuclear Test of August 7, 1962" (10 min.)**

*Prof. V.I.Andrjushin, Prof. Vadim*

*A.Logachev, Prof. Anatoly M.Matushenko,*

*Dr. G.Krasilov, Dr. J.V.Dubasov, Dr. Jury*

*S.Stepanov, Dr. A.K.Chernishov,*

*Dr. O.Shanov*

*(Moscow, Russia)*

**"On Estimation of External Radiation Doses of Population as Result of Nuclear Tests at The Semipalatinsk Test Site" (15 min.)**

## SEPTEMBER 6

**Prof. Oleg N. Prokofjev, Dr. Anatoly  
A. Lagutin, Dr. A.I. Goncharov, Dr. Fyodor  
V. Sukhorukov**

*("Semipalatinsk Test Site/Altai Case Study" Program,  
Barnaul, Sankt-Peterburg, Novosibirsk, Russia)*

**"Systematic Approaches to Estimation of Retrospec-  
tive Dose Caused by Local Fallout After Nuclear  
Tests According to the Concentration of Cs-137, or  
Sr-90 in the Soil." (15 min.)**

**Dr. Mikhail P. Grinev**

*("Semipalatinsk Test Site/Altai Case Study" Program,  
Moscow, Russia)*

**"Attempts to Dose Reconstruction of External Irra-  
diation on the Response of Quartz-Ceramic Materi-  
als Thermoluminescence"  
(10 min.)**

**Dr. Lev N. Smirenniy, Dr. Mikhail P. Grinev**

*("Semipalatinsk Test Site/Altai Case Study" Program,  
Moscow, Russia)*

**"Attempts to Use Tooth Enamel ESR-Spectrometry  
For Retrospective Individual Dose Reconstruction"  
(10 min.)**

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# SEPTEMBER 7

9.00 – 13.00 Plenary Session

## DOSIMETRY. POPULATION IRRADIATION DOSES RECONSTRUCTION

***Prof. Konstantin I. Gordeev,***

***Dr. A.N. Lebedev, Dr. M.N. Savkin.***

*("Semipalatinsk Test Site/Altai Case Study" Program,  
Moscow, Russia)*

**"Basis of the Method of Retrospective Reconstruction Parameters of Radiation Situation, Determining the Internal Irradiation Upon the Trace of Nuclear Test" (20 min.)**

***Prof. Ye Changqing***

*(Institute of Radiation Medicine, China)*

**"Assessment of Internal Radiation Dose from the Fallout of Nuclear Explosions" (20 min.)**

***Prof. Oleg K. Vlasov***

*("Semipalatinsk Test Site/Altai Case Study" Program,  
Moscow, Russia)*

**"Radioactive Contamination of Agricultural Products Estimation in the Spots of Local Fallout Caused by a Nuclear Test" (15 min.)**

***Prof. Rene Kirchmann, Prof. Christian Vandecasteele***

*(University of Liege, CEN/SCK, Belgium)*

**"Food Chain Transfer of Radiostrontium from Different Sources" (20 min.)**

***Dr. David Breshears***

# SEPTEMBER 7

*(Los Alamos National Laboratory, USA)*

**"Estimation of Radionuclide Ingestion: Lessons from Dose Reconstruction from Fallout from the Nevada Test Site"** (20 min.)

***Dr. Albert M. Marenny, Prof. Evgeny***

***E. Kovalev, Dr. P.A. Vlasov***

*("Semipalatinsk Test Site/Altai Case Study" Program, Moscow, Russia)*

**"Radionuclides in Lung Tissues of Oncologic Patients in Altai Region"** (15 min.)

***Prof. Marvin Goldman***

*(University of California, USA)*

**"Measurement of Plutonium in the Lungs from Fall-out"** (15 min.)

**Break** (20 min.)

## DISCUSSION

13.00 – 14.00 **Lunch**

14.30 – 18.30 **Plenary Session**

## MEDICAL-BIOLOGICAL CONSEQUENCES OF RADIATION IMPACT

***Prof. Jakov N. Shoikhet, Prof. Valery***

***I. Kiselev, Prof. Nikolai F. Gerasimenko, Dr.***

***Vladimir P. Popov, Prof. Valery L. Mironov,***

***Dr. Alexander V. Kirichkov, Prof. Juri***

## SEPTEMBER 7

***I. Vinokurov, Prof. Garry G. Jastrebov***

*("Semipalatinsk Test Site/Altai Case Study" Program,  
Barnaul, Moscow, Russia)*

**"Medical-Ecological Situation in the Regions of Altai Territory, Exposed to Radiation" (20 min.)**

***Prof. Valery I. Kiselev, Prof. Jakov***

***N. Shoikhet, Dr. Anatoly I. Algazin, Dr.***

***Vladimir B. Koljado***

*("Semipalatinsk Test Site/Altai Case Study" Program,  
Barnaul, Russia)*

**"Retrospective Estimation of the Population Health in the Villages Exposed to Radiation Due to the Test of August 29, 1949" (20 min.)**

***Prof. Leonid A. Iljin, Dr. Vladimir F. Demin,***

***Prof. Valery I. Kiselev, Prof. Vladimir***

***M. Loborev, Dr. Vladimir V. Sudakov, Dr.***

***Anatoly I. Algazin***

*("Semipalatinsk Test Site/Altai Case Study" Program,  
Barnaul, Moscow, Russia)*

**"Estimation of Radiological Risk for Altai Region Population Caused by Nuclear Tests at the Semipalatinsk Site" (20 min.)**

***Prof. Alexander F. Lazarev, Prof. Vladimir***

***V. Starinsky, Prof. Jakov N. Shoikhet***

*("Semipalatinsk Test Site/Altai Case Study" Program,  
Barnaul, Moscow, Russia)*

**"Oncologic Morbidity of Altai Region Population" (20 min.)**

## **SEPTEMBER 7**

***Prof. Zinovy S. Barkagan, Dr. Ljudmila***

***P. Tsivkina***

*("Semipalatinsk Test Site/Altai Case Study" Program,  
Barnaul, Russia)*

**"Hematologic Disturbances of Altai Region Population, Exposed to Radiation" (20 min.)**

***Prof. Alexander G. Chuchalin, Prof. Jakov***

***N. Shoikhet, Prof. Georgy V. Trubnikov,***

***Prof. Alexander F. Lazarev***

*("Semipalatinsk Test Site/Altai Case Study" Program,  
Barnaul, Moscow, Russia)*

**"Respiratory Organs Diseases in the Regions of Altai Territory, Exposed to Radiation" (20 min.)**

**Break (20 min.)**

***Dr. Valentina A. Gurjeva***

*("Semipalatinsk Test Site/Altai Case Study" Program,  
Barnaul, Russia)*

**"Gynecologic Diseases in Altai Region Population, Exposed to Radiation" (20 min.)**

***Prof. David G. Zaridze***

*(All-Russian Oncologic Research Center, Moscow, Russia)*

**"Infant Oncologic Morbidity in Four Regions of Kazakhstan, Neighboring the Semipalatinsk Test Site" (20 min.)**

***Prof. Boris I. Gusev***

*(Institute of Radiation Medicine, Semipalatinsk, Kazakhstan)*

**"The Influence of Nuclear Tests at the Semipalatinsk Site upon Population Health of Kazakhstan" (20 min.)**





# SEPTEMBER 8

9.00 – 13.00 Plenary Session

## MEDICAL-BIOLOGICAL CONSEQUENCES OF RADIATION IMPACT.

***Dr. Steven L. Simon***

*(Republic of the Marshall Islands Nationwide Radiological Study, Marshall Islands)*

**"A Review of Health Effects Among Marshall Islanders Exposed to Nuclear Weapons Test Fallout Radiation"** (20 min.)

***Dr. John Boice***

*(National Cancer Institute, USA)*

**"Health Studies of Populations Exposed to Radiation"** (20 min.)

***Prof. Zhu Changshou***

*(Ministry of Public Health, China)*

**"Radioactive Contamination from Nuclear Fallout and Health Evaluation in China"** (20 min.)

***Dr. John Boice***

*(National Cancer Institute, USA)*

**"Review of Epidemiological Studies Concerning Radiogenic Carcinomas"** (20 min.)

***Prof. Vladimir K. Shumny, Prof. Vladimir A. Shevchenko***

*("Semipalatinsk Test Site/Altai Case Study" Program, Moscow, Novosibirsk, Russia)*

**"Genetic Changes of Flora and Fauna of Some Altai Territories Exposed to Radiation"** (20 min.)

## SEPTEMBER 8

**Prof. Vladimir A. Shevchenko, Prof. Igor I. Suskov**

*("Semipalatinsk Test Site/Altai Case Study" Program, Moscow, Russia)*

**"Cytogenetic Changes in Altai Region Population, Exposed to Radiation" (20 min.)**

**Break (20 min.)**

**Prof. Nikolai N. Iljinskih**

*("Semipalatinsk Test Site/Altai Case Study" Program, Tomsk, Russia)*

**"Screening of Genetic Abnormalities in Different Regions of Altai Territory" (20 min.)**

**Prof. N.J. Chaizhunosova**

*("Semipalatinsk Medical Institute, Semipalatinsk, Kazakhstan)*

**"The Results of Cytogenetic Study of the Population in the Regions, Neighboring the Nuclear Test Site and Exposed to Combined Impact of Radiation Factor, Pesticides and Mineral Fertilization" (20 min.)**

**Prof. Vladimir A. Kozlov**

*("Semipalatinsk Test Site/Altai Case Study" Program, Novosibirsk, Russia)*

**"Immunologic Changes in Altai Region Population, Exposed to Radiation" (20 min.)**

**Prof. Toleen K. Raisov, Prof. R. Rosenson**

*(Semipalatinsk Medical Institute, Semipalatinsk, Kazakhstan)*

**"Specifications of Immune-Allergic Status of Semipalatinsk Region Population" (20 min.)**

## **SEPTEMBER 8**

***Prof. Evgeny V.Ivanov, Prof. Konstantin I.Gordeev, Prof. Jakov N.Shoikhet, Prof. Valery I.Kiselev***

*("Semipalatinsk Test Site/Altai Case Study" Program, Barnaul, Sankt-Peterburg, Russia)*

**"Strategy and Tactics of Radiation, Medical and Social-Economic Protection of Altai Region Population Exposed To Nuclear Tests at the Semipalatinsk Test Site" (20 min.)**

**13.00 – 14.00 Lunch**

**14.30 – 16.30 DISCUSSION**

**17.00 – 19.00 Working Group Meetings of RADTEST Program**

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# SEPTEMBER 10

## Plenary Session

### GLOBAL RADIONUCLIDE FALLOUT

***Prof. Jury A. Izrael, Dr. Evgeny D. Stukin,  
Dr. N. Shchetinin***

*(Institute of Global Climate and Ecology, Moscow, Russia)*

**"Specification of Contributions of Different Sources  
Into Totality of Radionuclides Deposited on the  
Specific Area of Earth Surface" (20 min.)**

***Dr. Anatoly A. Lagutin***

*("Semipalatinsk Test Site/Altai Case Study" Program Bar-  
naul, Russia)*

**"Global Fallout on the Territory of Altai Region"  
(15 min.)**

***Dr. Evgeny D. Stukin, Dr. Alexei***

***G. Rjaboshapko***

*(Institute of Global Climate and Ecology, Moscow, Russia)*

**"Applications of Radionuclides - Products of Nucle-  
ar Tests in France and PRC as Tracers in the Pro-  
gram of Global Atmospheric Process Investigation"  
(15 min.)**

## DISCUSSION

13.00 - 14.00 **Lunch**

14.30 - 16.00 **DISCUSSION on the Issues of the ARW**

