Scientific School for Young Scientists and Neurosurgeons:

Cervical Spine Surgery: Current State and Development Trends

PROGRAM

MOSCOW
April 21-22, 2016
Organising Committee

BASKOV, Vladimir Andreyevich  
MD, PhD, Head of Neurosurgery Department, Scientific-Clinical Center of JSC “Russian Railways”, Associate Professor, Neurosurgery Department, Russian Medical Academy of Continuous Education, Secretary of the Russian Society “Spinal Cord”, Moscow

KALININ, Andrei Andreyevich  
MD, PhD, Staff Neurosurgeon, Neurosurgery Center at Irkutsk Railroad Clinical Hospital of JSC “Russian Railways”, Assistant Professor, Course of Neurosurgery ISMU, Researcher, Irkutsk Scientific Center of Surgery and Traumatology, Irkutsk

DRAKIN, Ivan Andreyevich  
MD, Neurosurgeon, Spine and Spinal Cord Pathology Center, Scientific-Clinical Center of JSC "Russian Railways", Moscow

BELYKH, Evgenii Georgiyevich  
MD, Neurosurgeon, Researcher, Irkutsk Scientific Center of Surgery and Traumatology, Irkutsk

Purpose
To enhance knowledge about the causes of degenerative spine disease and consequences of traumatic spinal injuries, diagnosis and modern treatment approaches. The practical course will facilitate learning of modern methods of diagnosis and minimally invasive surgical treatment technologies for the cervical spine.

Participation
Neurosurgeons, young scientists, residents, graduate students and students are welcome to participate in the scientific school. Participation is free.

Exhibition
The following companies will present their new technologies as a part of the school: SpineGuard S.A.R.L., Ulrich Medical GmbH, Ltd. "Multi-Systems Technology". Contact: Alexey N. Ishchenko, PhD

Location
Conference Hall  
Scientific-Clinical Center of JSC "Russian Railways"  
123567, Volokolamskoye Highway, 84. Moscow
Faculty (Alphabetically)

MD, PhD, Professor, Department of Traumatology and Orthopaedics, People's Friendship University of Russia, Moscow

MD, PhD, Head of Spine and Spinal Cord Pathology Center, Scientific-Clinical Center of JSC "Russian Railways", Professor of Neurosurgery Chair, Russian Medical Academy of Continuous Education, President of Russian Society “Spinal Cord”, Member of Association of Neurosurgeons of Russia, European Association of Neurosurgical Societies and World Federation of Neurosurgical Societies, Moscow

MD, PhD, Deputy Chief Physician, Surgery Division, Orthospine Clinic, Executive Secretary of the Russian Society “Spinal Cord”, Moscow

MD, PhD, Chief Neurosurgeon of JSC “Russian Railways”, Head of Neurosurgery Center at Irkutsk Railroad Clinical Hospital of JSC “Russian Railways”, Head of Neurosurgery Course, ISMU, Head of Neurosurgery Research Department, IS CST, Professor of Department of Traumatology, Orthopedics and Neurosurgery, ISMACO, Chairman of Association of Spine Surgeons of Irkutsk Region, Irkutsk

MD, PhD, Neurosurgeon of the Spine and Spinal Cord Pathology Center of the Scientific-Clinical Center of JSC “Russian Railways”, Academician of the Russian Academy of Medical and Technical Sciences, Member of AOSpine, Moscow

MD, PhD, Professor, Head of the Department of Neurosurgery, Russian Medical Academy of Continuous Education, Chief Neurosurgeon of the Central Region of the Russian Federation, Laureate of the Russian Government Award, Moscow

MD, PhD, Professor of Operative Surgery Department, Moscow State Medical and Dental University Named After A. I. Yevdokimov, Leading Specialist in Spine Surgery, "Union" Clinic, Member of AOSpine, Moscow

MD, PhD, Director, Center of Traumatology and Orthopedics, Yaroslavl Railroad Clinical Hospital, Chief Traumatologist of North Railroad, Member of International Society of Orthopaedic Surgery and Traumatology
GUSCHA, Artem Olegovich
MD, PhD, Professor of Russian Academy of Sciences, Head of the Department of Neurosurgery of the Scientific Center of Neurology, Professor of Neurosurgery Chair, RMAPO, President of the Russian Association of Surgeons-Vertebrologists, Laureate of the Russian Government Award, Moscow

KONOVALOV, Nikolay Aleksandrovich
MD, PhD, Professor, Department of Neurosurgery, Russian Medical Academy of Continuous Education, Head of Spinal Neurosurgery Department, N. N. Burdenko Scientific Research Neurosurgery Institute, Board Member of the Association of Surgeons-Vertebrologists, Moscow

MANUKOVSKY, Vadim Anatoliievich
MD, PhD, Staff Neurosurgeon, N. I. Pirogov First City Clinical Hospital, Moscow

NEKRASOV, Mihail Alekseevich
MD, PhD, Director of Scientific-Clinical Center of JSC "Russian Railways", Moscow

PFAF, Victor Frantsevich
MD, PhD, Professor, Head of the Laboratory of Experimental Pathomorphology, I. M. Sechenov First Moscow State Medical University, Laureate of the Russian Government Award, Leading Specialist in Morphology of Connective Tissue Regeneration, Wound Healing, and Scar Sclerotic Processes, Moscow

SHECHTER, Anatoly Borisovich
MD, Chief Neurosurgeon of the Pacific Fleet of the Navy of the Russian Federation. (Vladivostok)

SHEPELEV, Valery Vladimirovich
PhD, Doctor of Physical Sciences, Professor, Head of Biophotonics Laboratory, Institute of Photonic Technologies Russian Academy of Sciences, Troitsk, Laureate of the Russian National Award "Vocation" for Contribution to the Development of Medicine, Made by Representatives of Non-Medical Professions (2001), Moscow

SOBOL, Emil Naumovich
SOROKOVIKOV, Vladimir Alekseyevich
MD, PhD, Professor, Director of Irkutsk Scientific Center of Surgery and Traumatology, Head of Traumatology, Orthopaedics and Neurosurgery Chair, Irkutsk State Medical Academy of Continuous Education, Irkutsk

ZHIDKOVA, Elena Anatolievna
MD, Head of the Health Department of JSC "Russian Railways", Moscow

Invited Guest Lecturers:

SONNTAG, Volker Karl Henz
MD, Vice-Chairman of the Department of Neurosurgery at the Barrow Neurological Institute, Professor of Clinical Surgery at the University of Arizona and Chairman of the Spine Section, Vice-President, American Association of Neurological Surgeons (2001-2002), Board of Directors of the American Association of Neurological Surgeons and the American Board of Neurological Surgeons (2003-2004), President of the North American Spine Society (2001), Phoenix, Arizona, United States

BOLGER, Ciaran,
MD, Professor of Clinical Neuroscience, Head of Department, Royal College of Surgeons in Ireland, Director of Research Development, National Neurosurgery Unit, Beaumont Hospital, President of Eurospine (2011), Dublin, Ireland

PREUL, Mark Charles
MD, Director, Neurosurgery Research, Newsome Family Endowed Chair of Neurosurgery Research, Barrow Neurological Institute, Division of Neurological Surgery, St. Joseph's Hospital and Medical Center, Professor, Arizona State University, Phoenix, Arizona, United States

GIERS, Morgan Borezi
PhD, Post-Doctoral Fellow, Barrow Neurological Institute, Adjunct Professor, Arizona State University, Phoenix, Arizona, United States

MOSZKO, Slawomir
MD, Neurosurgeon, Vice-Chief, Department of Neurosurgery and interventional Neuroradiology, Klinikum Deggendorf, Deggendorf, Germany

KIVELEV, Juri Vladimirovich
MD, Ph.D., Staff Neurosurgeon, Turku University Central Hospital, Turku, Finland
## SCHEDULE
### Thursday, April 21, 2016
#### Practice Course

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Moderators</th>
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</thead>
<tbody>
<tr>
<td>8:00–9:00</td>
<td>Registration</td>
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<tr>
<td><strong>Session 1.</strong></td>
<td><strong>Modern Treatment System and Fusion Techniques of the Cervical Spine</strong></td>
<td>Vadim A. Byvaltsev, Andrey V. Baskov</td>
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<tr>
<td>9:00–10:00</td>
<td>Video Translation from the OR: Cervical Spine Fixation</td>
<td>Ivan A. Drakin</td>
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<tr>
<td>10:00–11:00</td>
<td><strong>Guest Speaker: Current, Past and Future C1-C2 Fixation</strong></td>
<td>Volker K.H. Sonntag</td>
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<tr>
<td>11:00–12:00</td>
<td>Issues of Craniovertebral Junction Stabilization for the Injuries and Diseases of the Cervical Spine: Diagnosis, Clinical Symptoms and Treatment Tactics</td>
<td>Michael A. Nekrasov</td>
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<tr>
<td>12:00–13:00</td>
<td>Video Translation From the OR: Laser Reconstruction of the Intervertebral Disc in Degenerative Cervical Spine</td>
<td>Vladimir A. Baskov</td>
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<td>13:00–14:00</td>
<td>Lunch</td>
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<tr>
<td>14:00–14:30</td>
<td>Workshop on Percutaneous Puncture of the Intervertebral Discs at Different Levels</td>
<td>Vladimir A. Baskov</td>
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<tr>
<td>15:30–16:30</td>
<td>Workshop on Stabilization of the Cervical Spine</td>
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### Friday, April 22
#### Lectures

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Moderators</th>
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</thead>
<tbody>
<tr>
<td>7:30–8:00</td>
<td>Arrival, Registration</td>
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<tr>
<td>8:00–8:10</td>
<td>Welcoming Address</td>
<td>Andrey V. Baskov, Vadim A. Byvaltsev, Victor F. Pfaff, Oleg N. Dreal</td>
</tr>
<tr>
<td><strong>Session 1</strong></td>
<td><strong>Anatomy and Biomechanics of the Cervical Spine, Modern Achievements in the Treatment of Spinal Degeneration: Basic Science</strong></td>
<td>Andrey V. Baskov, Mark C. Prul, Vadim A. Byvaltsev</td>
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<tr>
<td>8:10–8:30</td>
<td>3D Neck Anatomy</td>
<td>Vadim A. Byvaltsev, Mark C. Preul, Evgenii G. Belykh</td>
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<tr>
<td>8:30–9:10</td>
<td>Surgical Anatomy and Biomechanics of the Cervical Spine</td>
<td>Andrey V. Baskov</td>
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<tr>
<td>9:10–9:40</td>
<td>Intervertebral Disc Biology and Features of Its Degeneration</td>
<td>Anatoly B. Shechter</td>
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</tbody>
</table>
9:40–10:05  **Guest Speaker:** Bone Morphogenic Proteins' Influence on Intervertebral Disc Cells' Nutrient Consumption and Protein Production: Implications for Tissue Regeneration

Morgan B. Giers, Liudmila A. Bardonova

10:05–10:10  Welcoming Address

Elena A. Jidkova

10:10–10:35  Changes in the Structure and Mechanisms of Cartilage Tissue Regeneration under the Non-Destructive Laser Irradiation

Emil N. Sobol

10:35–11:00  **Guest Speaker:** Tissue Engineered Scaffolds for the Spinal Cord Regeneration

Mark C. Preul

11:00–11:30  Coffee Break

11:30–12:00  **Guest Speaker:** Principles and Clinical Application of Electroconductivity Navigation Device and Its Impacts on the Modern Spine Surgery

Ciaran Bolger

12:00–12:25  **Guest Speaker:** Decision Making in the Cervical Spine Degeneration

Volker K.H. Sonntag

12:25–12:50  **Guest Speaker:** Posterior Instrumentation in the Cervical Spine

Slawomir Moszko

12:50–13:15  The Choice of Surgical Tactics for Injuries of the Cervical Spine

Andrey V. Baskov

13:15–13:40  **Guest Speaker:** Microsurgical Technique of Cervical Foraminotomy

Juri V. Kivelev

13:40–14:05  Surgical Tactics for the Treatment of Various Forms of Degenerative Stenosis of The Cervical Spinal

Artem O. Guscha

14:05–14:30  Intraoperative Complications of Posterior Internal Fixation of the Upper Cervical Spine

Vadim A. Manukovsky, Tahir I. Tamaev

14:30–15:00  Lunch

**Session 2**  **Indications and Treatment Tactic Selection**

Moderators: Oleg N. Dreval, Andrey I. Drakin

11:30–12:00  **Guest Speaker:** Principles and Clinical Application of Electroconductivity Navigation Device and Its Impacts on the Modern Spine Surgery

Ciaran Bolger

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Vadim A. Manukovsky, Tahir I. Tamaev

14:30–15:00  Lunch

**Session 3**  **Minimally Invasive Surgery of the Cervical Spine**

Moderators: Artem O. Guscha, Vladimir A. Sorokovikov

15:00–15:25  Peculiarities of Interbody Cages Use for the Treatment of Degenerative Spine Diseases

Andrey I. Drakin


Nikolay A. Konovalov

15:50–16:15  Quantitative Analysis of the Effects of Percutaneous Laser Reconstruction of the Intervertebral Discs

Igor A. Borshchenko

16:15–16:25  The Trauma of The Cervical Spine: Indications, Surgical Treatment, Clinical Cases

Medetbek Z. Abakirov, Kirill O. Milenin, Rinat R. Abdakhmanov, Yaroslav A. Borisov
16:40–17:05  Surgical Treatment of Combined Cervical Spine Stenosis
Valery V. Shepelev

Fayyad A. Farhat, Kirill O. Milenin

17:30–17:55  Our Experience of The Surgical Treatment of Cervical Myelo- and Radiculopathy
Sergey A. Firsov

18:00–18:30  Closure

Location

Central Clinical Hospital № 1
JSC "Russian Railways"
123567, Moscow, Volokolamskoe highway, 84

Event organized with the support of: JSC «MST», Ulrich Medical GmbH (Germany), Spine Guard, S.A. (France).

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