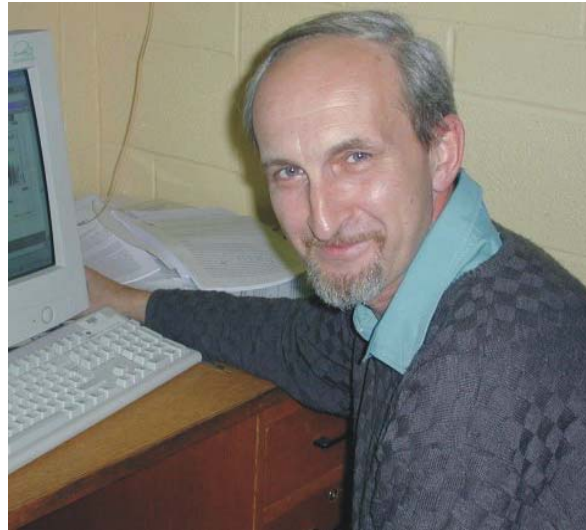


Николай Георгиевич Бухов



14 апреля 2014 года на 63 году жизни скончался один из старейших сотрудников Института физиологии растений им. К.А. Тимирязева РАН доктор биологических наук Николай Георгиевич Бухов

Н.Г. Бухов с 1997 по 2008 год возглавлял лабораторию фотосинтеза.

Основным направлением работ Николая Георгиевича было исследование динамической световой регуляции электрон-транспортной цепи фотосинтеза. Им впервые было показано, что размер пула стромальных восстановителей определяет максимальную скорость альтернативных путей переноса электронов в фотосистеме (I) на свету. Его работами установлена способность хинонов в окисленном состоянии влиять на перенос электронов в фотосистеме (II) как фотохимически, так и нефотохимически. Николай Георгиевич длительное время успешно сотрудничал с известными научными центрами Канады и Германии по изучению фотосинтеза.

Н.Г. Бухов был ярким, талантливым и эрудированным исследователем. Он пользовался большим авторитетом в Институте, был членом Ученого совета Института и членом редколлегии журнала "Физиология растений".

Светлая память о Николае Георгиевиче сохранится в наших сердцах.

Список основных трудов:

KARAPETYAN, NV; RAKHIMBERDIEVA, MG; BUKHOV, NG; GYURJAN, I, **CHARACTERIZATION OF PHOTOSYSTEMS OF CHLAMYDOMONAS-REINHARDI MUTANTS DIFFERING IN THEIR FLUORESCENCE YIELD**, PHOTOSYNTHETICA, 1980, 14/1/p.48-54

BEKASOVA, OD; BUKHOV, NG; KARAPETYAN, NV, **DARK AND PHOTOINDUCED CHANGES IN ABSORBANCE AND FLUORESCENCE OF PHYCOBILISOMES IN PRESENCE OF DITHIONITE**, BIOCHEMISTRY-MOSCOW, 1981, 46/2/p.237-243

ZAKHAROVA, NI; SHUBIN, VV; BUKHOV, NG; KARAPETYAN, NV, **EFFECT OF SECONDARY STRUCTURE ON THE RATE OF P700+ DARK RESTORATION WITH ASCORBATE**, BIOFIZIKA, 1982, 27/4/p.572-577

BUKHOV, NG; KARAPETYAN, YV; VOSKRESENSKAYA, NP, **DIFFERENCES OF FLUORESCENCE INDUCTION IN LEAVES OF BARLEY REARED UNDER BLUE AND RED-LIGHT**, SOVIET PLANT PHYSIOLOGY, 1983, 30/5/p.703-708

BUKHOV, NG; ROZHKOVSII, AD; CHETVERIKOV, AG; VOSKRESENSKAYA, NP, **PIGMENT CONTENT, CONTENT OF PHOTOSYSTEM REACTION CENTERS, AND POTENTIAL PHOTOSYNTHESIS IN BARLEY SEEDLINGS REARED UNDER BLUE AND RED-LIGHT OF DIFFERENT INTENSITY**, SOVIET PLANT PHYSIOLOGY, 1984, 31/5/p.687-692

KUMAKOV, AV; BUKHOV, NG; VOSKRESENSKAYA, NP, **PECULIARITIES OF CO₂-EXCHANGE IN LEAVES OF BARLEY GROWN UNDER DIFFERENT INTENSITIES OF BLUE AND RED-LIGHT**, FIZIOLOGIYA I BIOKIMIYA KULTURNYKH RASTENII, 1984, 16/6/p.534-538

BUKHOV, NG; CHETVERIKOV, AV; ROZHKOVSII, AD; VOSKRESENSKAYA, NP, **DEPENDENCE OF THE SIZE OF PHOTOSYNTHETIC UNITS OF PHOTOSYSTEM-1 AND PHOTOSYSTEM-2 ON THE INTENSITY AND SPECTRAL COMPOSITION OF LIGHT IN BARLEY SEEDLINGS**, BIOFIZIKA, 1984, 29/2/p.289-293

MANUILSKIAIA, SV; MIKHNO, AI; BUKHOV, NG; OSTROVSKAIA, LK; VOSKRENSKAIA, NP, **REORGANIZATION OF PEA CHLOROPLAST MEMBRANE LIPID COMPONENTS UNDER PROLONGED ACTION OF RED AND BLUE-LIGHT**, DOKLADY AKADEMII NAUK SSSR, 1985, 281/1/p.246-249

VOSKRESENSKAYA, NP; KUMAKOV, AV; BUKHOV, NG; DROZDOVA, IS, **JOINT ACTION OF RED AND BLUE-LIGHT ON INDEXES OF PHOTOSYNTHETIC ACTIVITY IN THE BARLEY LEAF**, SOVIET PLANT PHYSIOLOGY, 1985, 32/4/p.491-497

ROZHKOVSII, AD; BUKHOV, NG; VOSKRESENSKAYA, NP, **FLUORESCENCE INDUCTION TRANSIENTS IN THE PROCESS OF DEVELOPMENT AND SENESCENCE OF BARLEY LEAVES DURING PROLONGED INFLUENCE OF BLUE OR RED-LIGHT**, SOVIET PLANT PHYSIOLOGY, 1985, 32/6/p.795-801

ROZHKOVSII, AD; BUKHOV, NG; VOSKRESENSKAIA, NP, **THE RELATIONSHIP BETWEEN THE REACTION CENTERS OF PHOTOSYSTEMS AND CHLOROPHYLL IN BARLEY LEAVES**, DOKLADY AKADEMII NAUK SSSR, 1986, 289/3/p.765-768

BUKHOV, NG; ROZHKOVSII, AD; CHETVERIKOV, AG; VOSKRESENSKAYA, NP, **SIZE OF PHOTOSYNTHETIC UNITS AND RELATIONSHIP BETWEEN THE REACTION CENTERS OF PHOTOSYSTEM-1 AND PHOTOSYSTEM-2 IN BARLEY LEAVES GROWN IN RED AND BLUE-LIGHT OF DIFFERENT INTENSITY**, BIOFIZIKA, 1986, 31/1/p.99-104

BUKHOV, NG; VOSKRESENSKAYA, NP, **PROPERTIES OF THE PHOTOSYNTHETIC APPARATUS IN BARLEY SEEDLINGS REARED UNDER BLUE AND RED-LIGHT OF VERY LOW INTENSITY**, SOVIET PLANT PHYSIOLOGY, 1986, 33/4/p.529-534

KARAPETYAN, NV; BUKHOV, NG, **VARIABLE CHLOROPHYLL FLUORESCENCE AS AN INDEX OF THE PHYSIOLOGICAL-STATE OF PLANTS**, SOVIET PLANT PHYSIOLOGY, 1986, 33/5/p.781-791

DJIBLADZE, TG; BUKHOV, NG; KARAPETYAN, NV, **DEPENDENCE OF CHLOROPHYLL DELAYED FLUORESCENCE IN ALGA CELLS ON THE PRESENCE OF CO₂ AND O₂ IN THE MEDIUM**, BIOFIZIKA, 1986, 31/6/p.976-980

BUKHOV, NG; DZHIBLADZE, TG; KARAPETYAN, NV, **AFTEREFFECT OF HIGH-TEMPERATURES ON KINETICS OF VARIABLE AND DELAYED FLUORESCENCE IN LEAVES**, SOVIET PLANT PHYSIOLOGY, 1987, 34/3/p.349-356

BUKHOV, NG, INFLUENCE OF LIGHT-INTENSITY AND SPECTRAL COMPOSITION ON THE INITIAL-STAGES OF PHOTOSYNTHESIS, SOVIET PLANT PHYSIOLOGY, 1987, 34/4/p.602-610

KOCHUBEI, SM; LYASHENKO, VN; BUKHOV, NG; VOSKRESENSKAYA, NP, THE INFLUENCE OF LIGHT OF DIFFERENT SPECTRAL COMPOSITION ON THE PIGMENT SYSTEM ORGANIZATION ON CHLOROPLASTS, IZVESTIYA AKADEMII NAUK SSSR SERIYA BIOLOGICHESKAYA, 1987, 6/p.902-911

KARAPETYAN, NV; DZHIBLADZE, TG; BUKHOV, NG, KINETIC CURVES OF VARIABLE AND DELAYED FLUORESCENCE IN PLANT-LEAVES AND ALGAL CELLS AS A FUNCTION OF COMPOSITION OF THE GASEOUS MEDIUM, SOVIET PLANT PHYSIOLOGY, 1987, 34/6/p.863-872

BUKHOV, NG; ORLOV, OP; CHAIANOVA, SS; TITOVA, ZV; VOLODARSKII, AD, CHANGES OF THE ATP INTRACELLULAR LEVEL DURING THE ILLUMINATION OF EUGLENA CELLS, ADAPTED TO THE DARK WITH DIFFERENT PHOTOSYNTHETIC ACTIVITY, DOKLADY AKADEMII NAUK SSSR, 1988, 298/3/p.761-764

DZHIBLADZE, TG; BUKHOV, NG; KARAPETYAN, NV, RELATIONS BETWEEN KINETIC CURVES OF VARIABLE FLUORESCENCE AND DECISECOND COMPONENT OF DELAYED FLUORESCENCE IN PLANT-LEAVES, BIOFIZIKA, 1988, 33/1/p.121-125

BUKHOV, NG; KARAPETYAN, NV, PHOTOTRANSFORMATION KINETICS OF P700 IN SUBCHLOROPLAST FRAGMENTS OF THE PHOTOSYSTEM-I FROZEN TO -170-DEGREES, BIOFIZIKA, 1988, 33/6/p.990-995

BUKHOV, NG; PRASANNA, M; SABAT, SS, INFLUENCE OF DESICCATION OF LEAF ON THE KINETICS OF VARIABLE FLUORESCENCE OF CHLOROPHYLL, DOKLADY AKADEMII NAUK SSSR, 19889, 308/1/p.251-255

BUKHOV, NG; SABAT, SC; MOHANTY, P, SEQUENTIAL LOSS OF PHOTOSYNTHETIC FUNCTIONS DURING LEAF DESICCATION AS MONITORED BY CHLOROPHYLL FLUORESCENCE TRANSIENT, PLANT AND CELL PHYSIOLOGY, 1989, 30/3/p.393-398

BUKHOV, NG; RAKHIMBERDIEVA, MG; KARAPETYAN, NV, DARK RELAXATION OF VARIABLE FLUORESCENCE IN PEA LEAVES, SOVIET PLANT PHYSIOLOGY, 1989, 36/4/p.547-556

BUKHOV, NG; RAKHIMBERDIEVA, MG; KARAPETYAN, NV, ON THE NATURE OF SLOW TRANSIENT PHENOMENA OF VARIABLE AND DELAYED LEAF FLUORESCENCE, SOVIET PLANT PHYSIOLOGY, 1989, 36/6/p.839-846

BUKHOV, NG; SABAT, SC; MOHANTY, P, ANALYSIS OF CHLOROPHYLL-A FLUORESCENCE CHANGES IN WEAK LIGHT IN HEAT-TREATED AMARANTHUS CHLOROPLASTS, PHOTOSYNTHESIS RESEARCH, 1990, 23/1/p.81-87

BUKHOV, NG; DROZDOVA, IS; BONDAR, VV; ORLOV, OP, RELATIONSHIP BETWEEN LIGHT AND DARK STAGES OF PHOTOSYNTHESIS DURING ONTOGENY OF BARLEY LEAVES, DOKLADY AKADEMII NAUK SSSR, 1991, 316/6/p.1509-1512

BUKHOV, NG; MOHANTY, P; RAKHIMBERDIEVA, MG; KARAPETYAN, NV, ANALYSIS OF FLUORESCENCE INDUCTION TRANSIENTS .2. MAJOR PART OF THE LIGHT-INDUCED DECLINE IN VARIABLE FLUORESCENCE MAY NOT BE LINKED TO PH GRADIENT, PHOTOSYNTHETICA, 1991, 25/1/p.113-124

BUKHOV, NG; MOHANTY, P; RAKHIMBERDIEVA, MG; KARAPETYAN, NV, ANALYSIS OF DARK-RELAXATION KINETICS OF VARIABLE FLUORESCENCE IN INTACT LEAVES, PLANTA, 1992, 187/1/p.122-127

DROZDOVA, IS; BONDAR, VV; BUKHOV, NG, EFFECT OF LEAF SENESCENCE ON INDUCTION TRANSIENTS OF VARIABLE CHLOROPHYLL FLUORESCENCE, ATP CONTENT, AND CONTENT OF CALVIN CYCLE METABOLITES, SOVIET PLANT PHYSIOLOGY, 1992, 39/4/p.404-410

BUKHOV, NG; DROZDOVA, IS; BONDAR, VV; MOKRONOSOV, AT, **BLUE, RED AND BLUE PLUS RED-LIGHT CONTROL OF CHLOROPHYLL CONTENT AND CO₂ GAS-EXCHANGE IN BARLEY LEAVES - QUANTITATIVE DESCRIPTION OF THE EFFECTS OF LIGHT QUALITY AND FLUENCE RATE**, *PHYSIOLOGIA PLANTARUM*, 1992, 85/4/p.632-638

BUKHOV, NG; MOHANTY, P, **ANALYSIS OF THE HEAT-STRESS INDUCED QUENCHING OF VARIABLE CHLOROPHYLL-A FLUORESCENCE IN BEET SPINACH LEAVES - POSSIBLE ACCUMULATION OF OXIDIZED QUENCHER P-680+ UNDER HIGH ILLUMINATION**, *JOURNAL OF PLANT BIOCHEMISTRY AND BIOTECHNOLOGY*, 1993, 2/2/p.111-116

BUKHOV, NG; BONDAR, VV; DROZDOVA, IS, **LONG-TERM EFFECTS OF BLUE OR RED-LIGHT ON ATP AND ADP CONTENTS IN PRIMARY BARLEY LEAVES**, *PLANTA*, 1995, 196/2/p.211-216

BUKHOV, NG; DROZDOVA, IS; BONDAR, VV, **LIGHT RESPONSE CURVES OF PHOTOSYNTHESIS IN LEAVES OF SUN-TYPE AND SHADE-TYPE PLANTS GROWN IN BLUE OR RED-LIGHT**, *JOURNAL OF PHOTOCHEMISTRY AND PHOTOBIOLOGY B-BIOLOGY*, 1995, 30/1/p.39-41

Heber, U; Bukhov, NG; Neimanis, S; Kobayashi, Y, **Maximum H⁺/h nu(PSI) stoichiometry of proton transport during cyclic electron flow in intact chloroplasts is at least two, but probably higher than two**, *PLANT AND CELL PHYSIOLOGY*, 1995, 36/8/p.1639-1647

Bukhov, NG; Carpentier, R, **The efficiency of electron transfer from Q(A)(-) to the donor side of photosystem II decreases during induction of photosynthesis: Evidences from chlorophyll fluorescence and photoacoustic techniques**, *PHOTOSYNTHESIS RESEARCH*, 1996, 47/1/p.13-20

Bukhov, NG; Boucher, N; Carpentier, R, **Transformation of the photoacoustic signal after treatment of barley leaves with methylviologen or high temperatures**, *PHOTOCHEMISTRY AND PHOTOBIOLOGY*, 1996, 63/3/p.296-301

Bukhov, NG; Bondar, VV; Drozdova, IS; Kara, AN; Kotov, AA; Maevskaya, SN; Vasilev, AA; Voevudskaya, SY; Voronin, PY; Mokronosov, AT, **Development of storage roots in radish (*Raphanus sativus*) plants as affected by light quality**, *JOURNAL OF PLANT PHYSIOLOGY*, 1996, 149/3-4/p.405-412

Bukhov, NG; Wiese, C; Neimanis, S; Heber, U, **Control of Photosystem II in spinach leaves by continuous light and by light pulses given in the dark**, *PHOTOSYNTHESIS RESEARCH*, 1996, 50/2/p.181-191

Shugaev, AG...Bukhov, NG, **Opposite trends of seasonal changes in ADP content and respiration rate in sugar beet roots**, *JOURNAL OF PLANT PHYSIOLOGY*, 1997, 150/1-2/p.53-56

Bukhov, NG, **Leaf senescence: An evaluation of limiting steps in photosynthesis by means of chlorophyll fluorescence-quenching coefficients and P700 redox changes in leaves**, *RUSSIAN JOURNAL OF PLANT PHYSIOLOGY*, 1997, 44/3/p.303-310

Kotov, AA; Kara, AN; Drozdova, IS; Bondar, VV; Bukhov, NG; Mokronosov, AT, **Light quality and source-sink relations in radish plants**, *DOKLADY AKADEMII NAUK*, 1997, 355/1/p.117-119

Bukhov, NG; Boucher, N; Carpentier, R, **Aftereffect of short-term heat shock on photosynthetic reactions in barley leaves**, *RUSSIAN JOURNAL OF PLANT PHYSIOLOGY*, 1997, 44/4/p.526-532

Kara, AN; Kotov, AA; Bukhov, NG, **Specific distribution of gibberellins, cytokinins indole-3-acetic acid, and abscisic acid in radish plants closely correlates with photomorphogenetic responses to blue or red light**, *JOURNAL OF PLANT PHYSIOLOGY*, 1997, 151/1/p.51-59

Bukhov, NG; Boucher, N; Carpentier, R, **The correlation between the induction kinetics of the photoacoustic signal and chlorophyll fluorescence in barley leaves is governed by changes in the redox state of the photosystem II acceptor side. A study under atmospheric and high CO₂ concentrations**, *CANADIAN JOURNAL OF BOTANY-REVUE CANADIENNE DE BOTANIQUE*, 1997, 75/9/p.1399-1406

Bukhov, NG; Bondar, VV; Drozdova, IS, **Effects of blue and red light of low intensity on chlorophyll a and b contents in barley leaves and light curves of photosynthesis**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 1998, 45/4/p.428-432

Ivanov, B; Kobayashi, Y; Bukhov, NG; Heber, U, **Photosystem I-dependent cyclic electron flow in intact spinach chloroplasts: Occurrence, dependence on redox conditions and electron acceptors and inhibition by antimycin A**, PHOTOSYNTHESIS RESEARCH, 1998, 57/1/p.61-70

Bukhov, NG; Makarova, VV; Krendeleva, TE, **Coordinated changes in the redox state of photosystems I and II in sunflower leaves at different irradiances**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 1998, 45/5/p.551-557

Bukhov, NG; Boucher, N; Carpentier, R, **Loss of the precise control of photosynthesis and increased yield of non-radiative dissipation of excitation energy after mild heat treatment of barley leaves**, PHYSIOLOGIA PLANTARUM, 1998, 104/4/p.563-570

Bukhov, NG; Wiese, C; Neimanis, S; Heber, U, **Heat sensitivity of chloroplasts and leaves: Leakage of protons from thylakoids and reversible activation of cyclic electron transport**, PHOTOSYNTHESIS RESEARCH, 1999, 59/1/p.81-93

Bukhov, N; Makarova, V; Bondar, V; Drozdova, I; Egorova, E; Kotova, L; Kotov, A; Krendeleva, T, **Photosynthetic apparatus in primary leaves of barley seedlings grown under blue or red light of very low photon flux densities**, PHOTOSYNTHESIS RESEARCH, 1999, 60/2-3/p.179-189

Cornic, G; Bukhov, NG; Wiese, C; Bligny, R; Heber, U, **Flexible coupling between light-dependent electron and vectorial proton transport in illuminated leaves of C-3 plants. Role of photosystem I-dependent proton pumping**, PLANTA, 2000, 210/3/p.468-477

Bukhov, NG; Samson, G; Carpentier, R, **Nonphotosynthetic reduction of the intersystem electron transport chain of chloroplasts following heat stress. Steady-state rate**, PHOTOCHEMISTRY AND PHOTOBIOLOGY, 2000, 72/3/p.351-357

Bukhov, NG; Carpentier, R, **Heterogeneity of photosystem II reaction centers as influenced by heat treatment of barley leaves**, PHYSIOLOGIA PLANTARUM, 2000, 110/2/p.279-285

Kreslavski, VD; Balakhnina, TI; Khrustin, MS; Bukhov, NG, **Pre-treatment of bean seedlings with choline compounds increases the resistance of photosynthetic apparatus to UV-B radiation and elevated temperatures**, PHOTOSYNTHETICA, 2001, 39/3/p.363-368

Bukhov, N; Carpentier, R; Samson, G, **Heterogeneity of Photosystem I reaction centers in barley leaves as related to the donation from stromal reductants**, PHOTOSYNTHESIS RESEARCH, 2001, 70/3/p.273-279

Bukhov, N; Egorova, E; Krendeleva, T; Rubin, A; Wiese, C; Heber, U, **Relaxation of variable chlorophyll fluorescence after illumination of dark-adapted barley leaves as influenced by the redox states of electron carriers**, PHOTOSYNTHESIS RESEARCH, 2001, 70/2/p.155-166

Bukhov, NG; Heber, U; Wiese, C; Shuvalov, VA, **Energy dissipation in photosynthesis: Does the quenching of chlorophyll fluorescence originate from antenna complexes of photosystem II or from the reaction center**, PLANTA, 2001, 212/5-6/p.749-758

Bukhov, NG; Kopecky, J; Pfundel, EE; Klughammer, C; Heber, U, **A few molecules of zeaxanthin per reaction centre of photosystem II permit effective thermal dissipation of light energy in photosystem II of a poikilohydric moss**, PLANTA, 2001, 212/5-6/p.739-748

Drozdova, IS; Bondar, VV; Bukhov, NG; Kotov, AA; Kotova, LM; Maevskaya, SN; Mokronosov, AT, **Effects of light spectral quality on morphogenesis and source-sink relations in radish plants**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2001, 48/4/p.415-420

Bukhov, NG; Samson, G; Carpentier, R, **Non photosynthetic reduction of the intersystem electron transport chain of chloroplasts following heat stress. The pool size of stromal reductants**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2001, 74/3/p.438-443

Heber, U; Bukhov, NG; Shuvalov, VA; Kobayashi, Y; Lange, OL, **Protection of the photosynthetic apparatus against damage by excessive illumination in homoiohydric leaves and poikilohydric mosses and lichens**, JOURNAL OF EXPERIMENTAL BOTANY, 2001, 52/363/p.1999-2006

Egorova, EA; Bukhov, NG, **Photochemical properties of photosystem 2 in primary leaves of barley seedlings grown under various blue or red irradiances**, PHOTOSYNTHETICA, 2002, 40/3/p.343-347

Heber, U; Wiese, C; Neimanis, S; Savchenko, G; Bukhov, NG; Hedrich, R, **Energy-dependent solute transport from the apoplast into the symplast of leaves during transpiration**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2002, 49/1/p.32-43

Bukhov, NG; Rajagopal, S; Carpentier, R, **Characterization of P700 as a photochemical quencher in isolated Photosystem I particles using simultaneous measurements of absorbance changes at 830 nm and photoacoustic signal**, PHOTOSYNTHESIS RESEARCH, 2002, 74/3/p.295-302

Bukhov, NG; Dzhibladze, TG, **The effect of high temperatures on the photosynthetic activity of intact barley leaves at low and high irradiance**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2002, 49/3/p.332-335

Rajagopal, S; Bukhov, NG; Carpentier, R, **Changes in the structure of chlorophyll-protein complexes and excitation energy transfer during photoinhibitory treatment of isolated photosystem I submembrane particles**, JOURNAL OF PHOTOCHEMISTRY AND PHOTOBIOLOGY B-BIOLOGY, 2002, 67/3/p.194-200

Egorova, EA...Bukhov, NG, **Effect of elevated temperatures on the activity of alternative pathways of photosynthetic electron transport in intact barley and maize leaves**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2002, 49/5/p.575-584

Bukhov, N; Egorova, E; Carpentier, R, **Electron flow to photosystem I from stromal reductants in vivo: the size of the pool of stromal reductants; controls the rate of electron donation to both rapidly and slowly reducing photosystem I units**, PLANTA, 2002, 215/5/p.812-820

Bukhov, NG; Carpentier, R, **Measurement of photochemical quenching of absorbed quanta in photosystem I of intact leaves using simultaneous measurements of absorbance changes at 830 nm and thermal dissipation**, PLANTA, 2003, 216/4/p.630-638

Bukhov, NG; Hedrich, R; Heber, U, **Energy-dependent solute uptake into the symplast of leaves: ATP/KCl, ATP/sucrose, ATP/D-serine and H⁺/ATP stoichiometries of transmembrane transport**, PLANT BIOLOGY, 2003, 5/2/p.159-166

Heber, U; Bukhov, NG; Wiese, C; Hedrich, R, **Energized uptake of ascorbate and dehydroascorbate from the apoplast of intact leaves in relation to apoplastic steady state concentrations of ascorbate**, PLANT BIOLOGY, 2003, 5/2/p.151-158

Rajagopal, S; Bukhov, NG; Carpentier, R, **Photoinhibitory light-induced changes in the composition of chlorophyll-protein complexes and photochemical activity in photosystem-I submembrane fractions**, PHOTOCHEMISTRY AND PHOTOBIOLOGY, 2003, 77/3/p.284-291

Bukhov, NG; Sridharan, G; Egorova, EA; Carpentier, R, **Interaction of exogenous quinones with membranes of higher plant chloroplasts: modulation of quinone capacities as photochemical and non-photochemical quenchers of energy in Photosystem II during light-dark transitions**, BIOCHIMICA ET BIOPHYSICA ACTA-BIOENERGETICS, 2003, 1604/2/p.115-123

Egorova, EA; Bukhov, NG; Heber, U; Samson, G; Carpentier, R, **Effect of the pool size of stromal reductants on the alternative pathway of electron transfer to photosystem I in chloroplasts of intact leaves**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2003, 50/4/p.431-440

Maevskaya, SN; Egorova, EA; Bukhov, NG, **Effect of elevated temperature on nitrite and nitrate reduction in leaves and intact chloroplasts**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2003, 50/5/p.599-603

Rajagopal, S; Egorova, EA; Bukhov, NG; Carpentier, R, **Quenching of excited states of chlorophyll molecules in submembrane fractions of Photosystem I by exogenous quinones**, BIOCHIMICA ET BIOPHYSICA ACTA-BIOENERGETICS, 2003, 1606/1-3/p.147-152

Rajagopal, S; Bukhov, NG; Tajmir-Riahi, HA; Carpentier, R, **Control of energy dissipation and photochemical activity in photosystem I by NADP-dependent reversible conformational changes**, BIOCHEMISTRY, 2003, 42/40/p.11839-11845

Bukhov, NG; Govindachary, S; Egorova, EA; Joly, D; Carpentier, R, **N,N,N',N'-tetramethyl-p-phenylenediamine initiates the appearance of a well-resolved I peak in the kinetics of chlorophyll fluorescence rise in isolated thylakoids**, BIOCHIMICA ET BIOPHYSICA ACTA-BIOENERGETICS, 2003, 1607/2-3/p.91-96

Drozdova, IS; Maevskaya, SN; Egorova, EA; Barabanshchikova, NS; Dzhibladze, TG; Bukhov, NG, **Temporal pattern of photosynthesis under continuous illumination of radish plants**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2004, 51/1/p.41-47

Bukhov, N; Carpentier, R, **Alternative Photosystem I-driven electron transport routes: mechanisms and functions**, PHOTOSYNTHESIS RESEARCH, 2004, 82/1/p.17-33

Bukhov, NG; Govindachary, S; Rajagopal, S; Joly, D; Carpentier, R, **Enhanced rates of P700(+) dark-reduction in leaves of Cucumis sativus L. photoinhibited at chilling temperature**, PLANTA, 2004, 218/5/p.852-861

Polesskaya, OG; Dzhibladze, TG; Kashirina, EI; Alekhina, ND; Bukhov, NG, **Photosynthetic CO₂ fixation in the second leaf of wheat seedlings growth at different conditions of nitrogen nutrition**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2004, 51/3/p.326-332

Bukhov, NG; Govindachary, S; Egorova, EA; Carpentier, R, **Recovery of photosystem I and II activities during re-hydration of lichen Hypogymnia physodes thalli**, PLANTA, 2004, 219/1/p.110-120

Govindachary, S; Bukhov, NG; Joly, D; Carpentier, R, **Photosystem II inhibition by moderate light under low temperature in intact leaves of chilling-sensitive and -tolerant plants**, PHYSIOLOGIA PLANTARUM, 2004, 121/2/p.322-333

Bukhov, NG; Egorova, EA; Govindachary, S; Carpentier, R, **Changes in polyphasic chlorophyll a fluorescence induction curve upon inhibition of donor or acceptor side of photosystem II in isolated thylakoids**, BIOCHIMICA ET BIOPHYSICA ACTA-BIOENERGETICS, 2004, 1657/2-3/p.121-130

Drozdova, IS; Pustovoitova, TN; Dzhibladze, TG; Barabanshchikova, NS; Zhdanova, NE; Maevskaya, SN; Bukhov, NG, **Endogenous control of photosynthetic activity during progressive drought: Influence of final products of photosynthesis**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2004, 51/5/p.668-675

Egorova, EA...Bukhov, NG, **Modeling of alternative pathways of electron transport to photosystem I in isolated thylakoids**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2004, 51/5/p.579-583

Balnokin, YV; Kurkova, EB; Myasoedov, NA; Lun'kov, RV; Shamsutdinov, NZ; Egorova, EA; Bukhov, NG, **Structural and functional state of thylakoids in a halophyte Suaeda altissima before and after disturbance of salt-water balance by extremely high concentrations of NaCl**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2004, 51/6/p.815-821

Bukhov, NG, **Dynamic light regulation of photosynthesis - (A review)**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2004, 51/6/p.742

Bukhov, NG; Egorova, EA, **Evidence for the operation of alternative electron transport routes through photosystem I in intact barley leaves under weak and moderate white light**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2005, 52/1/p.1

Egorova, EA...Bukhov, NG, **Populations of photosystem 1 units rapidly and slowly reduced by stromal reductants represent photosystem 1 alpha and photosystem 1 beta complexes: Evidence from irradiance-response curves of P700 photooxidation in intact barley leaves**, PHOTOSYNTHETICA, 2005, 43/1/p.147

Dzhibladze, TG; Polesskaya, OG; Alekhina, ND; Egorova, EA; Bukhov, NG, **Redox states of photosystems I and II in irradiated leaves of wheat seedlings grown under different conditions of nitrogen nutrition**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2005, 52/2/p.141

Maevskaya, SN...Bukhov, NG, **Effect of light quality on nitrogen metabolism of radish plants**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2005, 52/3/p.304

Bukhov, NG; Egorova, EA, **Identification of ferredoxin-dependent cyclic electron transport around photosystem I using the kinetics of dark P700(+) reduction**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2005, 52/3/p.283

Egorova, EA; Nikolaeva, MK; Bukhov, NG, **Origin of multiphase reduction of P700(+) in broad bean leaves after irradiation with far-red light**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2005, 52/4/p.434

Nikolaeva, MK; Bukhov, NG; Egorova, EA, **Activities of noncyclic and alternative pathways of photosynthetic electron transport in leaves of broad bean plants grown at various light irradiances**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2005, 52/4/p.427

Bukhov, NG; Dzhibladze, TG; Egorova, EA, **Elevated temperatures inhibit ferredoxin-dependent cyclic electron flow around photosystem I**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2005, 52/5/p.578

Bukhov, NG; Egorova, EA, **Nonmonotonic redox conversions of P700 in leaves irradiated with far-red light originate from variable contributions of several alternative electron transport pathways during the induction period**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2005, 52/5/p.571

Zagoskina, NV; Alyavina, AK; Gladysheko, TO; Lapshin, PV; Egorova, EA; Bukhov, NG, **Ultraviolet rays promote development of photosystem II photochemical activity and accumulation of phenolic compounds in the tea callus culture (Camellia sinensis)**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2005, 52/6/p.731

Egorova, EA; Drozdova, IS; Bukhov, NG, **Modulating effect of far-red light on activities of alternative electron transport pathways related to photosystem I**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2005, 52/6/p.709

Egorova, EA; Bukhov, NG; Kurkova, EB; Myasoedov, NA; Balnokin, YV; Popova, LG, **Monophasic kinetics of electron donation from stromal reductants in unicellular halophytic alga Tetraselmis viridis: Relation of the function to characteristic structure of chloroplast membrane system**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2006, 53/2/p.147

Egorova, EA; Bukhov, NG; Shugaev, AG; Los, DA, **Effect of exogenous glucose on electron flow to photosystem I and respiration in cyanobacterial cells**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 4, 2006, 53/3/p.298

Deryabin, A. N.; Sin'kevich, M. S.; Bukhov, N. G.; Trunova, T. I., **Alternative pathways of photosystem I-dependent electron transport in two genetically different potato cultivars in vitro**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2006, 53/4/p.431

Egorova, E. A....Bukhov, N. G., **Mechanisms and functions of photosystem I-related alternative electron transport pathways in chloroplasts**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2006, 53/5/p.571

Bukhov, N. G.; Popova, E. V.; Popov, A. S., **Photochemical activities of two photosystems in Bratonia orchid protocorms cryopreserved by vitrification method**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2006, 53/6/p.793

Bukhov, N. G.; Hedrich, R.; Heber, U., **Energy-dependent solute uptake into the symplast of leaves: ATP/KC1, ATP/sucrose, ATP/D-serine and H⁺/ATP stoichio-mettles of transmembrane transport**, Plant Biology, 2009, 5/p.159

Stadnichuk, I. N.; Lukashev, E. P.; Elanskaya, I. V.; Boichenko, V. A.; Bukhov, N. G., **Increase in the rate of photosynthetic linear electron transport in cyanobacteruim Synechocystis sp PCC 6803 lacking phycobilisomes**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2009, 56/4/p.439

Nikolaeva, M. K.; Maevskaya, S. N.; Shugaev, A. G.; Bukhov, N. G., **Effect of drought on chlorophyll content and antioxidant enzyme activities in leaves of three wheat cultivars varying in productivity**, RUSSIAN JOURNAL OF PLANT PHYSIOLOGY, 2010, 57/1/p.87

Popova, Elena; Bukhov, Nikolai; Popov, Alexandr; Kim, Haeng-Hoon, **CRYOPRESERVATION OF PROTOCORM-LIKE BODIES OF THE HYBRID ORCHID Bratonia (Miltonia flavescens x Brassia longissima)**, CRYOLETTERS, 2010, 31/5/p.426