

Nikolay Bochkov



Personal Details

Name	Nikolay Bochkov
Dates	Born 19/10/31
Place of Birth	Russia (Tambor region)
Main work places	Moscow
Principal field of work	Human Cytogenetics
Short biography	See below

Interview

Recorded interview made	Yes
Interviewer	Peter Harper
Date of Interview	27/05/2005
Edited transcript available	See below

Personal Scientific Records

Significant Record sets exists
Records catalogued
Permanent place of archive
Summary of archive

Biography

Nikolay Bochkov was born into a farming family in the Tambor region of Russia, the family suffering great privations during World War Two. He graduated in Medicine from Moscow University and from 1955-8 undertook research studies on regeneration in the Centre of Sukhumi, on the Black Sea, learning cytogenetics in the unit of Dubinin and Prokofieva Belgovskaya. Moving to Obninsk in 1963, he linked with Nikolay Timofeef-Resovsky, also continuing cytogenetic studies in Moscow. In 1967-8 he was sent to study human genetics in USA, working primarily with Klaus Patau at Madison, but also visiting other centres. In 1968 he was appointed Director of the new Moscow Medical Genetics Institute, building an extensive and broadly based team of research workers. He is currently Vice President of the Russian Academy of Medical Sciences.

Interview with Professor Nikolay Bochkov, 27th May, 2005

PSH. First of all, may I just say for the recording I am talking with Professor Nikolay Bochkov in Ufa, Russia. It is 27 May 2005.

So, Nikolay, can I ask first of all, what part of Russia did you grow up in?

NB. I was born in Tambor region. This is about 300 Km from Moscow in South East direction. It is between Stalingrad and Moscow. I studied in school in the country. The distance between school and home was about 6 Km. Every day I follow the 6 Km one side and the 6 Km the other side.

PSH. On foot?

NB. On foot. In raining, in frost, in sun and snow. I graded 10 classes in school and moved to Moscow to study medicine in Moscow Medical School. After the Moscow Medical School I began postgraduate studies and my PhD was about regenerative process in the small intestine. It's cell division and reparative process after excision. It was really experimental biology. This time was really, truly the Lysenko time. But I rose among people who were well educated and of course I understand what Lysenko means really to science not only genetics but biology.

PSH. Were you given teaching in any kind of genetics during your study of biology in university?

NB. No, really no genetics, anti-genetics it was

PSH. So did they teach you the Michurin type genetics?

NB. Yes. It is really Lamarckism. Of course, my teachers gave me some books about real genetics, about good biology, so I was quite educated and understood how foolish is the Lysenko doctrine.

PSH. Did your teachers also realise that this was . . . ?

NB. Definitely, because one of my teachers was unemployed, because in 1948 he lost his position in the Department of Biology medical school because he was a Mendelist.

PSH. Who was this?

NB. It was Professor Blakhez. He later became a historical professor in History of Biology and his pupils, I worked with these people. They understand absolutely, but they concentrated on regeneration. This is a good topic and no influence from Lysenko.

PSH. So may I ask what year was it that you completed these studies on regeneration?

NB. Well I studied as a student from 1955 until '58 preparing the PhD, and I have not a flat in Moscow so I moved to Sukhumi, a capital of Abkazia, where there was the Institute of Experimental Pathology and Therapy. They of course invited me and gave me the possibility for my family flat. I continued for 2 or 3 years with this investigation. Then it was in the beginning of 1961, Professor Dubinin; I arrived together with four or five people. Prokovieva-Belgovskaya was among his team. I arrived to Sukhumi to work on comparative radio-sensitivity of testis in monkeys and mice. The idea was elucidate the doubling dose of radiation from human heredity and monkeys are closer to humans, that's why in most western countries experiments were fulfilled on mice. I just begin to organise the position for them and I contact with these people about to leave and I really throw out all my experiments about regeneration. I already had good progress and begin to study genetics as a student. After this experience was ended, after 2 or 3 months, I follow to Moscow and study Drosophila and study all aspects of Mendelism. Lysenko was in this period because I begin to study genetics in 1961. Lysenko was thrown out in October '64 after Krushchev.

PSH. So did you go back to Moscow as a student, or did you have a position which you were working in.

NB. No, I arrived to Moscow to study genetics. But I have the same position in the Institute. I was a member of the Institute in Sukhumi. I spent several months just studying. Then I came back and began to study myself, concentrating on radiation genetics and worked with some radiation genetics on mice to study the different radio-sensitivity at different steps, different phases of meiosis.

PSH. That was in Sukhumi?

NB. That was in Sukhumi. But I work in Sukhumi in my genetic period only 2 years and I moved to Obninsk where Professor Timofeef-Resovsky proposed that he will retire, because I arrived earlier than he arrived.

PSH. May I ask, when you went back to study in Moscow, who were the people who gave you information on Drosophila and other forms of genetics in Moscow at that time?

NB. At that time you know, in the laboratory of Professor Dubinin, was a laboratory of radiation genetics in the Institute of Biophysics, Russian Academy of Sciences, but it was Professor Dubinin, he was

boss. He is very strong commander, very strong team. It was Professor Sidorov, Professor Sokolov, Professor Arsenieva, Professor Prokofieva, Professor Glembotzki, and some other people. And I studied. I have training about background of genetics among these people.

PSH. Was *Drosophila* in the laboratory at that point?

NB. Yes. Definitely

PSH. It was then allowed in the laboratory of Dubinin?

NB. Because Dubinin received the possibility to study all aspects of radiation genetics on *Drosophila*, on plants, on mammals, on monkeys, because it was a special control for atomic programme from government.

PSH. Was he having problems with Lysenko still, he was doing this work but Lysenko was not able to stop it?

NB. Lysenko cannot stop it because their laboratory of radiation genetics was introduced as a special problem for Russian Academy of Sciences. Lysenko worked in the Institute of Genetics and cannot do anything about this because radiation, this is external influence. No problem for Krushchev.

PSH. So you went to Obninsk and at that time who was head of the laboratory in Obninsk?

NB. In Obninsk it was a very good, very clever team of geneticists. Timofeef Resovosky was head of department. The department had several laboratories and he was head of the laboratory too. It was radiation genetics. In this Timofeef Resovsky, his wife Elena Reskovsky worked together. Professor Ivanov arrived from Urals. Professor Korogodin was a radiologist more than a geneticist. Professor Medvedev, Zhores Medvedev, I worked with him sometimes. Professor Ginter arrived later. Myself I had a group of radiation human cytogenetics. I worked with human lymphocytes and radiation.

PSH. Am I right that you had learnt the cytogenetic techniques already in Sukhumi?

NB. Yes. I begin there. I begin to do it in Sukhumi and because I was acquainted very well with my study of the regeneration process I had the microscopic technique very well, and that is why bone marrow from mice, and suspension, preparing slides and so on I have a very good proposition and realised it and to study first in our country and maybe in other countries. I received bone marrow

from monkeys and incubated it in media together with colchicine and study very good preparations and I evaluated rhesus monkeys had 42 chromosomes; before, Prokovieva-Belgovskaya thought this was 46/48 chromosomes.

PSH. So which year was this?

NB. It was in 1962. I moved to Obninsk in 1963 but in Moscow I started cytogenetics in Prokovieva-Belgovskaya laboratory and she had two cytogenetic laboratories. One was in the system of Academy of Medical Sciences, one is Academy of Science in the Engelgardt's Institute. She studied human chromosomes mainly in the Institute of Human Morphology in the Academy of Medical Sciences. I lived not so far from Moscow. It is 100 kilometres and usually 2 or 3 times a week I follow to Moscow to study the frequency of chromosomal anomalies among newborns. I evaluate it by sex chromatin from newborns and compare phenotype and genotype. It was a good investigation about frequency of chromosomal aberration in our country and at the same time I was studying the method of karyotyping. But after four years I wrote to the WHO and I received a fellowship from the World Health Organisation to specialise in America for cytogenetic investigation. I had a plan to visit. This is approved in Geneva, WHO, to visit, to work with Patau in Madison, then to visit more shortly Professor Neel, Professor McKusick, Professor German in New York. So I spent one and half years at the end of 1967/1968 and I prepared very good work about radiation cytogenetics where I combined chromosomes after radiation together with Dr Patau who is very good. He has very good methods. He understands chromosomes very well like a shepherd knows his sheep.

But in my last week in America I received a long distance call from Moscow through our embassy. I forget a little what happened but it was a call from the President of the Academy of Medical Sciences and he invited me to be the Director, organiser, Director of the Institute of Medical Genetics. I arrived after I discussed this with Professor Timofeef Resovsky my position. He said yes, of course Nikolay, you must do it. I have already material for doctors degree. I moved to Moscow when my family lived in Obninsk. During my one and half year I prepared all the documents. I think about people who can be involved. I think about laboratories, about equipment and so on. Approximately after one year in 1969 the Institute of Medical Genetics was opened officially and we began very intensive work and many young people likened to me. We worked very intensively. After two or three years we had the authority and then after ten years we organised the XIV International Congress of Genetics. So this is my biography.

At the same time I said to you during my children years I was involved in very strong agricultural labour during the war. I have a special position. I am a participant of war.

PSH. Did your family suffer very much in the war?

NB. Really yes. My father was very badly wounded until the end, and his brother was killed. My mother, she lost three brothers, three brothers were invalid with amputation of the legs. It was very difficult because during the war she had four children and one old mother, in law.

PSH. And were you the oldest of the children?

NB. I have a brother who is two years older. It means he was 12 years old at the beginning of the war. I was 10. And the other brothers less. And myself 10 and 12 we worked in the fields and so on.

PSH. I suppose all the adults were in the war fighting and so the women and the children must do the work.

NB. Yes of course. I begin to plough; all the agricultural work on collective farm.

PSH. May I ask, when you began the Institute of Medical Genetics, who were the main people you brought as first colleagues to start with you?

NB. Of course several people helped me in the Institute very much. It was maybe the cleverest decision of my life; I collected Prokovieva-Belgovskaya, Efroimson, Malinovsky, Nikolay Medvedev. This was really geneticists and Pogosjanz cytogeneticist. They were members of a scientific council and they helped me to collect science to discuss our problems and so on.

PSH. That's a very wise decision

NB. Yes.

PSH. And so these people formed some council even though they were based in many different centres?

B. Yes. Yes.

PSH. And of the people who came to work with you in Moscow who were the first people who came?

NB. People who came, Professor Alexandz Zakharov. He was elected as a member of the Academy of Medical Science. He was a very good cytogeneticist, very clever. We studied together at the Human Institute of Experimental Biology during PhD. He was a very good cytogeneticist and organised a laboratory of general cytogenetics and Professor Prokovieva-Belgovskaya moved her laboratory to the Institute of Medical Genetics; it was a laboratory of Human Cytogenetics. Professor Nazarov his is now, he was in psychiatry and studied young people's mental disturbances. Professor Malinovsky concentrated on the general problem of anthropogenetics. Then later I organised a group of Immunogenetics with Professor Petzov was invited. I organised all the work on mutagenesis, it was my field.

PSH. Did Professor Ivanov come later to join you?

NB. Professor Ivanov and Professor Ginter, they arrived 3 or 4 years later. I invited Professor Ivanov and Professor Ginter, he was at that time not a professor, but for me it was very difficult to organise a flat for them. It was very difficult to arrive in Moscow without. I organised it and they moved from Obninsk to Moscow and they received there some rooms, a flat, 3 rooms and two rooms flat. One person arrived from Sukhumi who was a good biochemical geneticist. One person I invited from Tadzikistan. She studied haemoglobinopathies from different places.

PSH. In 1978 you organised the International Genetics Congress and I was in Moscow at that time. Was this a difficult decision for the Russian Government to organise this congress or did they particularly wish to have it because of the past history of difficulties?

NB. Yes of course, from 1966 we organised a Genetic Society. It was called All Union Society of Geneticists and Selectionists, named after Vavilov. It was a very strong society and of course for our society it was very important to try to develop genetics more and more. If we organise genetics congress maybe we would get some support from the Government. In the beginning of the seventies, before seventy three, we discussed this problem and we tried to pursue the people in Government and especially in Central Committee of party, that it was necessary to invite geneticists to organise an International Congress in Moscow, because in 1937 it was cancelled. We received their permission to invite the International Congress to Moscow during the 13th Congress in Berkley. In Berkley in 1973 was the Congress. We were already in a position so that we can invite. The problem was that not only Moscow invited, but other cities too.

We will be voting. During discussion, I participated in this discussion as a member of Praesidium of our Society and several other people. Many geneticists from other countries said, your country has some restriction on visas, and then our President, it was Professor Turbin, before he was a Lysenkoist but he moved from Lysenko. But it's OK, he was working, as a plant geneticist. He's from Bielorussia, and when somebody said you have a restriction for visa, this professor, who didn't know any English said "No Restriction"! And at Moscow it was approved. From this year of course we began to prepare the Congress. It was the Academy of Medical Sciences, the Minister of Health, the Government all decided the questions. We decided to mainly have plenary sessions and to do it in the University, to open and to close in Bolshoi theatre and it was good.

PSH. It was very good.

NB. I remember it was very difficult for me, but for me it was very good organising in Moscow.

PSH. Did you ever have any fear that the same would happen to your Congress like happened to the previous Congress?

NB. You mean now?

PSH. No I was wondering whether you remembered what happened in the 1936 congress, whether you were afraid the same might happen again to you?

NB. That was difficult. I hoped not.

PSH. Just finally, the time when Lysenko was thrown out in 1964, this must have been a very interesting time. How did this official change happen? Was it very sudden?

NB. No it wasn't really sudden, because the position was if somebody worked in the Lysenko problem it was OK. After 1, 2 or 3 years it was just during discussion, not financial support. Lysenko has an experimental ranch near Moscow and he concentrated on this. Dubinin was appointed Director to the Institute of Genetics. It was renamed from the Institute of Genetics to the Institute of General Genetics and some Lysenko co-workers continued to work at this Institute. It was step by step. First of all at the end of 1964, probably in December, there was a big conference about experimental mutagenesis and we feel that this is really genetics and at that time in January and February 1965 the Minister of Education organised two special seminars for teachers from the universities. It was a very good seminar.

PSH. And who were the main people who were able to do the teaching?

NB Oh yes, it was quite enough because many professional geneticists had a very active position at this time.

PSH. And were there new books written?

NB. At that time yes. This lecture was published for instance, Professor Timofeef-Resovsky had two topics.

PSH. And was there also a book by Professor Efroimson? I was told he wrote some new book

NB. Professor Efroimson has had many books. I think from my point of view the best book he wrote was 'Introduction to Medical Genetics'. The book Introduction to Medical Genetics was written at the beginning of 1960 before Lysenko time and when he was ready to publish the organisers, the authorities decided to print the first hundred examples, 100 copies and send to different places and to see the reviews. I wrote about this book. Medvedev wrote about this book, many many other professors about this book all with a very good impression and then I think it was 1966 we received the first edition of this book, this book Introduction to Medical Genetics was very important because many people studied human genetics, medical genetics from this book. After probably 2 years he wrote the second edition which was very good too. But Professor Efroimson wrote the book of immuno-genetics, from my point of view in this book was very much information but systematically very difficult. The problem was he wasn't really an immuno-geneticist. But in any case it as a good source of information. Later he wrote a book about the genetics of genealogy and so on.

PSH. I have always wondered, how did it happen that people noticed my own book and made a Russian translation, because that was quite early and many people seemed to use my genetic counselling book, but I never knew why did people make the decision to do it in Russian.

NB. The people who are interested in medical genetics of course received the information about your book in the institute library or in the Moscow library or during their visits abroad. And people usually know what is a good book and what is not. We had two books about genetic counselling. One book was proposed not from medicine. It was proposed, I don't remember now the authors, they were some biologists and it was translated and published, but in our Institute, when we received your book I read and I understood it, so it was both good for our post graduate students and physicians and so on. I made a proposition to the publishing

house very attentively argued that it was necessary to translate this book and the Institute of Medical Genetics will translate this book and I have a scientific redaction. I contacted the authority of publishing house. They said Nikolay, we believe you; translate please.

PSH. So thank you. And who was the man who did the translating? I never knew.

NB. He is now a member of staff at postgraduate University.

PSH. Is he at this meeting?

NB. No.

PSH. If you see him maybe you will give my thanks.

NB. Ok I will do it. Sometimes I meet him.

PSH. So just before we finish. There is one question I have been asking all the people I talk with, and that question is who do you think has been the biggest influence in the development of your career in genetics?

NB. My career?

PSH. Yes. Who do you say is the person who had the most influence?

NB. Probably myself.

PSH. True, and after yourself?

NB. This is a complex process because Prokovieva-Belgovskaya, Timofeef-Resovsky they know me from a scientific point of view. First I was handicapped, I was. I was young and professionally educated in medical genetics. Nobody was so educated in medical genetics. I am lucky.

PSH. Well Nikolay, thank you so much for sparing the time for talking. It is a privilege and thank you so much.

End of recording