

CHEMICAL HERITAGE FOUNDATION

**JANKO NIKOLIĆ-ŽUGIĆ**

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview  
Conducted by

Andrea R. Maestrejuan

at

Memorial Sloan-Kettering Cancer Center  
New York City, New York

on

12, 13, and 14 November 1996

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## ACKNOWLEDGEMENT

This oral history is part of a series supported by a grant from the Pew Charitable Trusts based on the Pew Scholars Program in the Biomedical Sciences. This collection is an important resource for the history of biomedicine, recording the life and careers of young, distinguished biomedical scientists and of Pew Biomedical Scholar Advisory Committee members.

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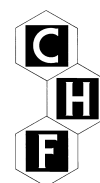
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## JANKO NIKOLIĆ-ŽUGIĆ

1960 Born in Belgrade, Yugoslavia, in November

### Education

1984 M.D., Belgrade University Medical School  
1989 M.Sc., Belgrade University Medical School  
1993 Ph.D., Belgrade University Medical School

### Professional Experience

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1984-1987 Postdoctoral Fellow, Institute for Microbiology and Immunology  
1982-1983 Teaching Fellow

Scripps Research Institute, La Jolla California  
1987-1990 Research Associate, Department of Immunology

Memorial Sloan-Kettering Cancer Center, New York, New York  
1990-1996 Assistant Member, Immunology Program  
1990-1996 Head, Laboratory of T Cell Development  
1990-1996 Head, Flow Cytometry Core Facility  
1996-present Associate Member, Immunology Program

Cornell University School of Medicine, New York City, New York  
1990-1996 Assistant Professor, Cornell Graduate School of Medical Sciences  
1994-present Assistant Professor, Division of Molecular Medicine  
1996-present Associate Professor, Cornell Graduate School of Medical Sciences and the Division of Molecular Medicine

### Honors

1984-1986 Postdoctoral Fellowship, Scientific Council of the Republic of Serbia  
1991-1995 Pew Scholars Program in the Biomedical Sciences Grant

### Selected Publications

Burkly, L.C. et al., 1985. T cell regulation of light chain expression: Preferential enhancement



- of Igx in a primary thymus-dependent response does not require affinity based selection. *Journal of Immunology* 135:1573-76.
- Nikolić-Žugić, J. and M.J. Bevan, 1988. Thymocytes expressing CD8 differentiate into CD4+ cells following intrathymic injection. *Proceedings of the National Academy of Sciences USA* 85:8633-37.
- Nikolić-Žugić, J. et al. , 1989. Characterization of the subset of immature thymocytes which can undergo rapid *in vitro* differentiation. *European Journal of Immunology* 19: 649-53.
- Nikolić-Žugić, J. and M.J. Bevan, 1990. Functional and phenotypic delineation of two subsets of CD4 single positive cells in the adult murine thymus. *International Immunology* 1:135-41.
- Nikolić-Žugić, J. and M.J. Bevan, 1990. The role of self-peptides in positively selecting the T cell repertoire. *Nature* 344:65-67.
- Nikolić-Žugić, J., 1991. Phenotypic and functional stages in thymocyte development. *Immunology Today* 12:65-70.
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- Andjelio, S. et al., 1993. Immature thymocytes become sensitive to calcium-mediated apoptosis with the onset of CD8, CD4 and the T cell receptor expression : A role for bc1-2 ? *Journal of Experimental Medicine* 178:1745-51.
- Nikolić-Žugić, J., ed. 1994. *Intrathymic Development of T Cells*. Austin, Texas: R.G. Landes Company.
- Dyall, R. and J. Nikolić-Žugić, 1995. The majority of post-selection CDC single-positive thymocytes require the thymus to produce long-lived, functional T cells. *Journal of Experimental Medicine* 181:235-45.
- Dyall, R. et al., 1995. CD4-independent priming of murine CTLs by optimal MHC class I-restricted peptides *in vivo*. *International Immunology* 7:1205-12.
- Dyall, R. et al., 1996. T cell receptor (TCR) recognition of MHC class I variants: Intermolecular second-site reversion provides evidence for peptide/MHC conformational variation. *Journal of Experimental Medicine* 184:253-58.

## ABSTRACT

**Janko Nikolić-Žugić** was born and raised in Belgrade, Yugoslavia, which, at the time, was a relatively open Communist country under Josip Broz Tito. His father was an orthopedic surgeon and his mother was a researcher at the Institute for Cultural Development Studies. Nikolić-Žugić was interested in science from a young age, perusing his parents' extensive library and finding issues in molecular biology and the like quite fascinating. He went to his primary school for eight years before moving into a specialization in the natural sciences in his secondary school (Yugoslavia had a *Gymnasium* system). At the age of fifteen or so he became a competitive volleyball player, practice for which occupied most of his nights and weekends. While all of his coursework was intense, and while he enjoyed science, Nikolić-Žugić realized that there were no careers for molecular biologists in Yugoslavia, so he decided to enter the medical track to become a physician.

He entered the Belgrade University Medical School and undertook his medical studies while still having an interest in the practice and study of science more broadly. He received guidance and advice from Miodrag L. Lukić and Marija Mostarica-Stojković, who studied immunology, to do some scientific laboratory work abroad in the United States. Nikolić-Žugić took this advice and went for a few months over a few summers to work with Henry H. Wortis at Tufts University in Boston, Massachusetts; this was Nikolić-Žugić's first laboratory experiences and influenced his decision to leave clinical medicine and pursue a scientific career in the United States. He received a master's of science while still in Belgrade, though his studies were interrupted by the civil war, and then a doctoral degree under Lukić, during which time he completed his compulsory military service, working on T cell development. After meeting and marrying his wife, he went on to a postdoctoral position in Michael J. Bevan's lab at the University of California, San Diego studying intrathymic T cells, and then accepted a position at the Memorial Sloan-Kettering Cancer Center in New York, where he began his research on specificity in self-peptide selection by T cell receptors.

Throughout the interview Nikolić-Žugić discusses his views on Yugoslavia, its culture, its educational system, its political structure, and the state of the country after the various social and political upheavals. In addition, at the end of the interview he discusses his experimental method; his wife's work as a flow cytometry operator in his lab; the science-oriented environment of his home; the necessity of animal research; and balancing family life and his career. The interview concludes with his thoughts on his own mentoring style; the way his medical training frames his research, the role of the Pew Scholars Program in the Biomedical Sciences in his work; the "illogic" concept of gene patenting; funding and its relationship to the direction of research in the United States; publishing; and more on science and politics in the former Yugoslavia.

## UCLA INTERVIEW HISTORY

### INTERVIEWER:

Andrea R. Maestrejuan, Interviewer, UCLA Oral History Program; B.A., History, University of California, Irvine, 1988; B.S., Biological Sciences, University of California, Irvine, 1988; C.Phil., History, University of California, Riverside.

### TIME AND SETTING OF INTERVIEW:

**Place:** Nikolić-Žugić's office, Memorial Sloan-Kettering Cancer Center.

**Dates, length of sessions:** November 12, 1996 (122 minutes); November 13, 1996 (159); November 14, 1996 (106).

**Total number of recorded hours:** 6.45

**Persons present during interview:** Nikolić-Žugić and Maestrejuan.

### CONDUCT OF INTERVIEW:

This interview is one in a series with Pew scholars in the biomedical sciences conducted by the UCLA Oral History Program in conjunction with the Pew Charitable Trusts's Pew Scholars in the Biomedical Sciences Oral History and Archives Project. The project has been designed to document the backgrounds, education, and research of biomedical scientists awarded four-year Pew scholarships since 1988.

To provide an overall framework for project interviews, the director of the UCLA Oral History Program and three UCLA faculty project consultants developed a topic outline. In preparing for this interview, Maestrejuan held a telephone pre-interview conversation with Nikolić-Žugić to obtain written background information (curriculum vitae, copies of published articles, etc.) and to agree on an interviewing schedule. She also reviewed prior Pew scholars' interviews and the documentation in Nikolić-Žugić file at the Pew Scholars Program office in San Francisco, including his proposal application, letters of recommendation, and reviews by Pew Scholars Program national advisory committee members. For general background on the recent history of the biological sciences, Maestrejuan consulted J.D. Watson et al., *Molecular Biology of the Gene*. 4th ed. Menlo Park, CA: Benjamin/Cummings, 1987, and Bruce Alberts et al., *Molecular Biology of the Cell*. 3rd ed. New York: Garland, 1994.

The interview is organized chronologically, beginning with Nikolić-Žugić's family background and his early education in Belgrade, Yugoslavia, and continuing through his graduate education in Yugoslavia, his postdoc at Scripps Research Institute, La Jolla, California, and the creation of his lab at the Memorial Sloan-Kettering Cancer Center. Major topics discussed include the civil war in Yugoslavia and its effect on science research there, Nikolić-Žugić's work on intrathymic T cells, science funding, and publishing in the sciences.

### ORIGINAL EDITING:

Gregory M . D . Beyrer, editorial assistant , edited the interview. He checked the verbatim transcript of the interview against the original tape recordings, edited for punctuation, paragraphing, and spelling, and verified proper names. Words and phrases inserted by the editor have been bracketed.

Nikolić-Žugić reviewed the transcript. He verified proper names and made minor corrections and additions.

Jane Collings, senior editor, prepared the table of contents, biographical summary, and interview history.

Jennifer E. Levine, editorial assistant, compiled the index.

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