

CHEMICAL HERITAGE FOUNDATION

**JAMES B. BLISKA**

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview  
Conducted by

Helene L. Cohen

at

State University of New York, Stony Brook  
Stony Brook, New York

on

30-31 May and 1 June 2000

From the Original Collection of the University of California, Los Angeles

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**REFORMATTING:**

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UNIVERSITY OF CALIFORNIA, LOS ANGELES

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Interviewee agrees to participate in a series of University-conducted tape-recorded interviews, commencing on or about May 29, 2000, and tentatively entitled "Interview with James B. Bliska". This Agreement relates to any and all materials originating from the interviews, namely the tape recordings of the interviews and a written manuscript prepared from the tapes hereinafter collectively called "the Work."

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6. All notices and other official correspondence concerning this Agreement will be sent to the following:

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Attention: Director

If to Interviewee: James B. Bliska  
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Stony Brook, New York 11794-5222

University and Interviewee have executed this Agreement on the date first written above.

INTERVIEWEE

THE REGENTS OF THE UNIVERSITY  
OF CALIFORNIA

James B. Bliska  
(Signature)

Dale E. Treleven  
(Signature)

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State University of New York  
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Director, Oral History Program  
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School of Medicine

Stony Brook, NY 11794-5222

Date 5/30/00

Date June 2, 2000

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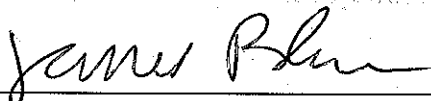
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James B. Bliska, Ph.D.

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## **JAMES B. BLISKA**

1959 Born in Grand Junction, Colorado on 29 December

### Education

1983 B.S., University of Wisconsin, Madison  
1988 Ph.D., University of California, Berkeley

### Professional Experience

1988-1993 Stanford University  
Postdoctoral Fellow, Department of Microbiology  
and Immunology

1993-1999 State University of New York, Stony Brook  
Assistant Professor, Department of Molecular  
Genetics and Microbiology.

1999-present Associate Professor, Department of Molecular  
Genetics and Microbiology.

### Honors

1991 National Institutes of Health Postdoctoral Fellowship  
1994-1998 Pew Scholar in the Biomedical Sciences

### Selected Publications

- Bliska, J.B., and N.R. Cozzarelli, 1987. Use of site-specific recombination as a probe DNA structure and metabolism *in vivo*. *Journal of Molecular Biology* 194:205-18.
- Bliska, J.B. et al., 1991. Mechanism of Tn3 resolvase recombination *in vivo*. *Journal of Molecular Biology* 266:2041-47.
- Bliska, J.B. et al., 1991. Tyrosine phosphate hydrolysis of host proteins by an essential *Yersinia* virulence determinant. *Proceedings of the National Academy of Sciences USA* 88:1187-91.
- Bliska, J.B., and S. Falkow, 1992. Bacterial resistance to complement killing mediated by the Ail protein of *Yersinia enterocolitica*. *Proceedings of the National Academy of Sciences USA* 89:3561-65.



- Bliska, J.B. et al., 1992. The *Yersinia* tyrosine phosphatase: Specificity of a bacterial virulence determinant for phosphoproteins in the J774A. 1 macrophage. *Journal of Experimental Medicine* 176:1625-30.
- Black, D.S., and J.B. Bliska, 1997. Identification of p130Cas as a substrate of *Yersinia YopH* (*Yop51*), a bacterial protein tyrosine phosphatase that translocates into mammalian cells and targets focal adhesions. *EMBO* 16:2730-44.
- Black, D.S. et al., 1998. Identification of an amino-terminal substrate-binding domain in the *Yersinia* tyrosine phosphatase that is required for efficient recognition of focal adhesion targets. *Molecular Microbiology* 29:1263-74.
- Palmer, L.E. et al., 1999. *YopJ* of *Yersinia* spp. is sufficient to cause downregulation of multiple mitogen activated protein kinases in eukaryotic cells. *Infection and Immunology* 67:708-16.
- Orth, K. et al., 2000. Disruption of signaling by *Yersinia* effector *YopJ*, a ubiquitin-like protein protease. *Science* 290:1594-97.
- Black, D.S., and J.B. Bliska, 2000. The RhoGAP activity of the *Yersinia pseudotuberculosis* cytotoxin *YopE* is required for antiphagocytic function and virulence. *Molecular Microbiology* 37:515-27.

## ABSTRACT

**James B. Bliska** was born in Grand Junction, Colorado, in 1959, the youngest of four children. His father was an architect originally from Ann Arbor, Michigan who died when James was only five years old. His mother was an elementary school teacher from Minnesota. His family moved throughout the United States several times during his youth, a lifestyle that provided several challenges for Bliska. It was, however, the yearly summer trips to his family's lake house that sparked his interest in biology; and with the positive influence of his high-school biology teacher, Bliska was able to focus his interests.

Bliska attended Western State College of Colorado for one year and then transferred to the University of Wisconsin. It was not until his employment as a dishwasher in Oliver Smithies' genetics lab that Bliska began to try his hand at research. Eventually he was performing the majority of the lab procedures and became published. This experience led him to develop a great interest in academic research and to switch his declared major from biology to bacteriology. Bliska applied to several Ph.D. programs, and upon receiving his B.S. in Bacteriology in 1983, he matriculated into the University of California, Berkeley's Molecular Biology Ph.D. program, where he worked in Nicholas R. Cozzarelli's Lab researching DNA topology during site-specific recombination reactions. He then collaborated with a lab at the University of California, San Francisco studying drug resistance in trypanosomes. This research led him down the path of infectious disease, one that would shape his career.

After receiving his doctorate in 1988, Bliska began his postdoc research in Stanley Falkow's lab at Stanford University, where he attempted to purify a biologically active form of a *Yersinia* surface membrane protein. He then switched his focus to *Yops* (*Yersinia* outer membrane proteins) in a collaborative effort with Jack E. Dixon. He met his wife, Janice Valmassoi, in Dixon's lab at Stanford.

In 1993 Bliska accepted a post as a principal investigator in the microbiology department of the State University of New York, Stony Brook and in 1999 received academic tenure as an associate professor. Since his arrival at SUNY Stony Brook his research has focused primarily on *Yops* as bacterial toxins and the type-III secretion systems used by *Yersinia* to deliver them into host cells. He studies these bacterial-host cell interactions in hopes of explaining a widely conserved method of toxin delivery that has widespread medical applications.

Throughout his oral history Bliska emphasizes the importance of balancing personal and academic responsibilities. Bliska has received several grants, including a postdoc and a Pew Scholars Program in the Biomedical Sciences grant, which he discusses in the oral history interview. He has published many articles on a variety of subjects in his young career.

## UCLA INTERVIEW HISTORY

### INTERVIEWER:

Helene L. Cohen, Interviewer, UCLA Oral History Program. B.S., Nursing, UCLA; P.N.P., University of California, San Diego/UCLA; M.A., Theater, San Diego State University.

### TIME AND SETTING OF INTERVIEW:

**Place:** Bliska's office at State University of New York at Stony Brook.

**Dates, length of sessions:** May 30, 2000 (104 minutes); May 31, 2000 (73); June 1, 2000 (92).

**Total number of recorded hours:** 4.5

**Persons present during interview:** Bliska and Cohen.

### 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' 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, Cohen held a telephone preinterview conversation with Bliska to obtain written background information (curriculum vitae, copies of published articles, etc.) and agree on an interviewing schedule. She also reviewed prior Pew scholars' interviews and the documentation in Bliska's 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 technical background, Cohen consulted J.D. Watson et al., *Molecular Biology of the Gene*. 4th ed. Menlo Park, California: Benjamin/Cummings, 1987; Bruce Alberts et al., *Molecular Biology of the Cell*. 3rd ed. New York: Garland, 1994; Horace F. Judson, *The Eighth Day of Creation*. New York: Simon and Schuster, 1979; and recent issues of *Science* and *Nature*.

The interview is organized chronologically, beginning with Bliska's childhood in Denver, Colorado and Minneapolis, Minnesota, and continuing through his undergraduate work at University of Wisconsin, Madison, his graduate work at University of California, Berkeley, his postdoc at Stanford University, and the establishment of his own lab at State University of New York at Stony Brook. Major topics discussed include his study of bacteriology in the Oliver Smithies laboratory, his entry into the field of infectious diseases, and his current work on *Yop* toxins in mammalian cells and the regulation and function of the type-III secretion

systems.

#### ORIGINAL EDITING:

Dan Ryan, 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.

Bliska reviewed the transcript. He verified proper names and made minor corrections and additions.

William Van Benschoten, senior writer, prepared the table of contents and the interview history. Dan Ryan assembled the biographical summary. Deborah Truitt, editorial assistant, compiled the index.

#### SUPPORTING DOCUMENTS:

The original tape recordings of the interview are in the university archives and are available under the regulations governing the use of permanent noncurrent records of the university. Records relating to the interview are located in the office of the UCLA Oral History Program.

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