

# THE SOVIET BRAIN DRAIN IS OUR BRAIN GAIN

## A Career Transition Program for Emigre Scientists and Engineers

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*Scientific Career Transitions assists highly trained Soviet emigre scientists and engineers to find work in their new country by teaching them the behavioral tools needed to network successfully. In twice-weekly group sessions, emigres learn self-reliant job search techniques and practice their communication and interviewing skills. In the program's first full year of operation, 100 of 200 scientists and engineers found work in or close to their original area of expertise with an average job search time of 5.1 months.*

**I**n the recent resettlement wave of Soviet Jews to the United States can be found many highly trained emigres: about 2% are Ph.D.-level scientists and engineers and 20% are engineers. Often these emigres have an especially difficult time finding work in their new country. They tend to want to work in their original narrow specialties, which are not always congruent with available job openings. Many are relatively introverted and thus are somewhat at a disadvantage in finding work through the most likely channel—networking. Behavior patterns that had survival value in the Soviet Union, such as avoiding direct eye contact or being late for appointments, have negative survival value in the United States. Finally, published professional scientists and engineers tend to differ from other emigres in ways that affect their career paths and that demand vocational services tailored to their unique needs:

- They tend to believe that “knowledge is power” and power is mastery.
- They tend to believe in methods, methodologies, systems, disciplined thinking, structures, concepts, and ideologies.
- They tend to value ingenuity, creativity, and contradiction of conventional wisdom.

- They tend to distrust the status quo, authority, and whatever they cannot observe, measure, or prove.
- They tend to be more technology-driven than market-focused.
- They tend to grow up with success stories, mentors, science myths or fables, and “battle stories” that can sustain them from an earlier epoch in their lives, but that in later life may turn sour.
- They tend to be adversarial (buttressed by evidence, theories, or even hunches), a stance that may be accompanied by arrogance or the appearance of it and low self-esteem.
- Their personal relationships tend to be deep and narrow.
- They tend toward shyness/introversion.

In April 1990, Scientific Career Transitions was created to assist published professional Soviet emigre scientists and engineers, primarily on the Ph.D. level, to find jobs in their specialized fields within the U.S. science and technology community. Directed by an astrophysicist who has served as a business consultant to several high-technology companies and guided by an Advisory Board made up of prominent scientists, including a Nobel Laureate; successful alumni of the SCT program; powerful business executives; and others, the SCT program teaches a variety of self-reliant job search counseling techniques designed to generate job offerings congruent with the

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The manual, *Scientific Career Transitions: Getting Started*, may be obtained by writing Dr. Stephen Rosen, 575 Madison Avenue, 7th Floor, New York, New York 10022-2597.

*Table 1*  
CONTRACT AND AGREEMENT

If you are eligible to attend **SCIENCE & TECHNOLOGY CAREER TRANSITIONS WORKSHOPS** and **SEMINARS**, you are asked to sign the following contract and agreement between you and Dr. Stephen Rosen, Chairman, Science & Technology Advisory Board.

I, Dr. Stephen Rosen, agree to provide you with the following services:

- (1) I will advise, counsel, and teach you modern techniques on how to find work in your field of specialty in science or engineering in the U.S.
- (2) I will provide you with a manual or workbook entitled "**Scientific Career Transitions: Getting Started**" that is especially created to help you in your job search.
- (3) I will train, rehearse, and practice with you face-to-face:
  - (a) library research techniques to uncover professional contacts in your field
  - (b) informational interviewing techniques to expand your professional contacts in your field
  - (c) networking techniques to locate job opportunities in your field.
  - (d) job interviewing and salary negotiation techniques to obtain a job in your field
- (4) I will provide you with names of people and organizations who will be able to help you in your search.
- (5) I will help you practice and improve your job interviewing skills, and scientific-conference or colloquia-presentation skills, to help you land a job using televised video-feedback to improve your performance.
- (6) I will add your qualifications to the **Science & Technology Talent Bank** so that I can advertise and sell your talent to my personal and professional contacts in the U.S. science and technology community—which may generate leads and job offers.
- (7) I will strive to give you my best efforts to help you secure employment in your professional specialty.

In consideration of the above services that you will provide to help me in my professional job search, I agree, and contract to do the following:

- (A) I, \_\_\_\_\_, pledge, promise and agree that I will work to the best of my emigre scientist or engineer

abilities for a minimum of eight (8) to ten (10) hours per day, six (6) days per week, to learn, to practice, and to utilize the above-mentioned job-search techniques taught in the **Science & Technology Career Transitions Seminars and Workshops**, and in the Manual "**Scientific Career Transitions: Getting Started.**"

- (B) I, \_\_\_\_\_, pledge, promise and agree that I will notify Dr. Stephen emigre scientist or engineer

Rosen of any job offers I receive within or outside of my professional specialty, and of any jobs or employment in my specialty that I accept within 24 hours after the offer is made or the offer is accepted.

- (C) I, \_\_\_\_\_, pledge, promise and agree that I will strive to give my best emigre scientist or engineer

efforts to attain the following goals, or quotas:

*Table 1 (continued)*  
CONTRACT AND AGREEMENT

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- (i) to discover a minimum of ten (10) new professional contacts per week
- (ii) to conduct a minimum of five (5) face-to-face meetings per week for informational interviews
- (iii) to conduct at least one (1) job interview per week.

I understand that these goals or quotas are essential in order to generate as many *simultaneous* job offers as possible, so that I may choose between alternative or competing offers.

(D) I, \_\_\_\_\_, pledge, promise and agree that I will pair up with a fellow emigre scientist or engineer

emigre as a working partner (or "buddy") who I will speak to every evening, to report to him or her on the progress I have made or the problems I have encountered in my job search each day. Furthermore, I will ask him or her to report on the progress or problems in his or her job search. The purpose of this "buddy system," as it is called, is to utilize teamwork and emotional support to encourage and stimulate the forward movement towards my goal of employment in my field or specialty.

APPROVED:

APPROVED:

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Stephen Rosen, Ph.D.  
Chairman  
Science & Technology  
Advisory Board

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Emigre scientist or engineer

DATE:

DATE:

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highly specialized training of the emigres. An intensive program, it demands a major time commitment from its participants and the self-reliance to develop their own broad network of professional colleagues.

SCT is a highly selective program as well. Emigre scientists and engineers are screened by the SCT director for their

English language communication skills, their technical qualifications in their specialty, their eagerness to work, and their willingness to sign a contract (Table 1) that commits them to spending 8 to 10 hours per day, 6 days a week, to learn, practice and use the job search techniques taught in the SCT program.

### PROGRAM COMPONENTS OF SCIENTIFIC CAREER TRANSITIONS

The centerpiece of the program is the twice-weekly 2-hour Science and Technology Career Transitions Seminar in which participants learn self-reliant job search techniques and, through cognitive and behavioral exercises, practice and sharpen their skills at library research, professional contact development in their specialty, networking, obtaining job interviews, salary negotiation, and job options analysis. The seminar curriculum is cyclic, and a client may start at any time in the cycle and leave at will, depending on how quickly he or she learns the job search methods and finds a job. The average number of sessions attended is four.

Each seminar participant receives the 200-page manual, *Scientific Career Transitions: Getting Started*, which is written in English and organizes the material covered in the seminar; its table of contents is found in Table 2. Therefore, clients who only attend a few sessions can continue to use the manual as a home reference.

Clients in the SCT program also attend a weekly 2-hour Interview Practice Workshop until they find a job; especially important are those sessions immediately preceding their real job interviews. In the workshop, practice interviews are videotaped and then played back onto a large projection screen for viewing and critique by an audience of the client's peers and members of the Advisory Board. The SCT director leads the group in a discussion of the job candidate's performance during the practice interview. Practical insights into the U.S. market system, valuable interviewing tips, and confidence-building advice are imparted in these sessions.

Structured behavioral exercises and role playing are key parts of both the weekly seminar and interview practice workshop because it is often the clients' behavior that inhibits their ability to network effectively. Behaviors that were rewarded in the Soviet Union—avoidance of eye contact,

assuming an affectless demeanor, aggressiveness in dealing with bureaucrats, and lateness for appointments—have very different consequences in their new communities. Many clients are shy and introverted and do not understand the importance of “who” versus “what” they know. Obstacles to successful networking are reduced by a shyness desensitization procedure (Table 3), practice sessions that emphasize how networking is an informational transaction, and role-playing telephone conversations. Perhaps the single most important ingredient of the entire program—reflected and supported by the job search techniques and role playing opportunities—is the encouragement in each emigre of a “can do” attitude, of realistic optimism.

Volunteers are an integral part of the SCT program. Members of the large Science & Technology Advisory Board—former SCT clients who have secured jobs in their field, scientists, and business executives who are eager to act as advisors or networkers in their specialties—visit the seminars and workshops as their schedules permit. The appearance of these board members and of other guests, such as the recent visit by representatives of a Ph.D. recruiters group for 35 Fortune 500 U.S. corporations, gives SCT clients a window on the U.S. science and technology community.

Other volunteers have human resource training or work and life experience that enable them to work well with the emigres. Before each weekly seminar and workshop, these volunteers meet as a group to map out job search strategies. After each session, they meet with clients in small groups to practice the skills of English conversation, networking by letter or by telephone, letter writing, and reading help wanted ads.

### SELF-RELIANT JOB SEARCH TECHNIQUES: HOW THE SCT PROGRAM WORKS

Unlike traditional vocational programs, SCT is based on the creation by the client of his or her own network of professional colleagues and contacts. The seminars,

Table 2  
TABLE OF CONTENTS OF THE SCT MANUAL

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1. <i>The Science &amp; Technology Career Transition Seminars</i>
2. <i>What to Expect, Future Pacing: Adaptation &amp; Adjustment Cycles</i>
3. <i>The Career Transition Process</i>
4. <i>Introduction and Overview</i>
Making Contact
Letters and Examples
Resume Preparation
The Meeting
Networking
Job Interviewing; Preparation; Steps
Time Management
5. <i>How To Find the Job For You, Search Strategies</i>
6. <i>Resumes: What Are they and How Do They Work?</i>
7. <i>Research</i>
8. <i>Major Job Search Research Sources</i>
9. <i>Key Periodicals and Other References</i>
10. <i>Libraries</i>
11. <i>New York Public Library Hours</i>
12. <i>The Standard Industrial Classification (SIC) Codes</i>
13. <i>Networking: What Is It? Benefits To You; Why It Works; Roadblocks; Your Contacts</i>
14. <i>The Focus (Information) Meeting: How To Successfully Obtain and Conduct Focus Meetings; Record</i>
15. <i>Employment Agencies: How They Operate; How You Should Use Them</i>
16. <i>Executive Recruiters (Search Firms): How They Operate; How You Should Use Them</i>
17. <i>Newspapers: What You Should Know About Advertisements; How To Deal With Advertisements</i>
18. <i>Forms of Communication: Written; Telephone; In Person</i>
19. <i>Interviewing Is A Process of Making Decisions: Techniques—Before, During, After: Some Tough Questions; Evaluation</i>
20. <i>References</i>
21. <i>How To Deal With A Job Offer: The Art of Negotiating; Salary; Total Compensation Checklist</i>
22. <i>Action Planning: Weekly; Monthly</i>
23. <i>Job Search/Change Bibliography</i>
24. <i>Science Career Transition: Progress Report</i>
25. <i>Science &amp; Technology Talent Bank</i>
26. <i>Evaluation Form For Job Search Workshop</i>

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workshops, small group sessions, and individual meetings with the director and with volunteers are all designed to provide the client with the skills necessary to create that network. The SCT process is schematically illustrated in Figure 1.

In the first seminar that they attend, clients are asked to describe themselves in a 60-second answer in English to this question: "Why should I hire you?" In a job interview, this question is often the

subtext of the request, "Tell me about yourself." The clients are then asked to write out their answers in 100 words or less. This answer is their word bank—a resource, "drawing account," and the basis for their cover and broadcast letters, their resumes, and their introductions in telephone and face-to-face networking efforts.

The first step in developing the network of professional colleagues is to do library research. Clients are advised to scrutinize

*Table 3*  
 SYSTEMATIC DESENSITIZATION: GRADUATED NETWORKING ACTIVITIES

What is your level of discomfort for each of the following graduated networking activities?

	(Low)	<i>Discomfort Level</i>								(High)
A. Thinking about making a list of contacts	0	1	2	3	4	5	6	7	8	9
B. Writing a list of contacts	0	1	2	3	4	5	6	7	8	9
C. Writing to a professional contact friend	0	1	2	3	4	5	6	7	8	9
Writing to a professional contact an acquaintance	0	1	2	3	4	5	6	7	8	9
Writing to a professional contact a stranger	0	1	2	3	4	5	6	7	8	9
D. Calling a primary contact on the phone (a good friend)	0	1	2	3	4	5	6	7	8	9
E. Calling a primary contact on the phone (an acquaintance)	0	1	2	3	4	5	6	7	8	9
F. Calling a primary contact on the phone (a stranger)	0	1	2	3	4	5	6	7	8	9
G. Leaving a message with the contact's secretary	0	1	2	3	4	5	6	7	8	9
H. Leaving a message with the contact's wife	0	1	2	3	4	5	6	7	8	9
I. Explaining to the contact why I am calling	0	1	2	3	4	5	6	7	8	9
J. Explaining to the contact that I am asking for advice, information	0	1	2	3	4	5	6	7	8	9
K. Asking for assistance	0	1	2	3	4	5	6	7	8	9
L. Asking for the name of other contacts I might write to or speak with	0	1	2	3	4	5	6	7	8	9
M. Saying, "I'm not asking for a job . . ."	0	1	2	3	4	5	6	7	8	9

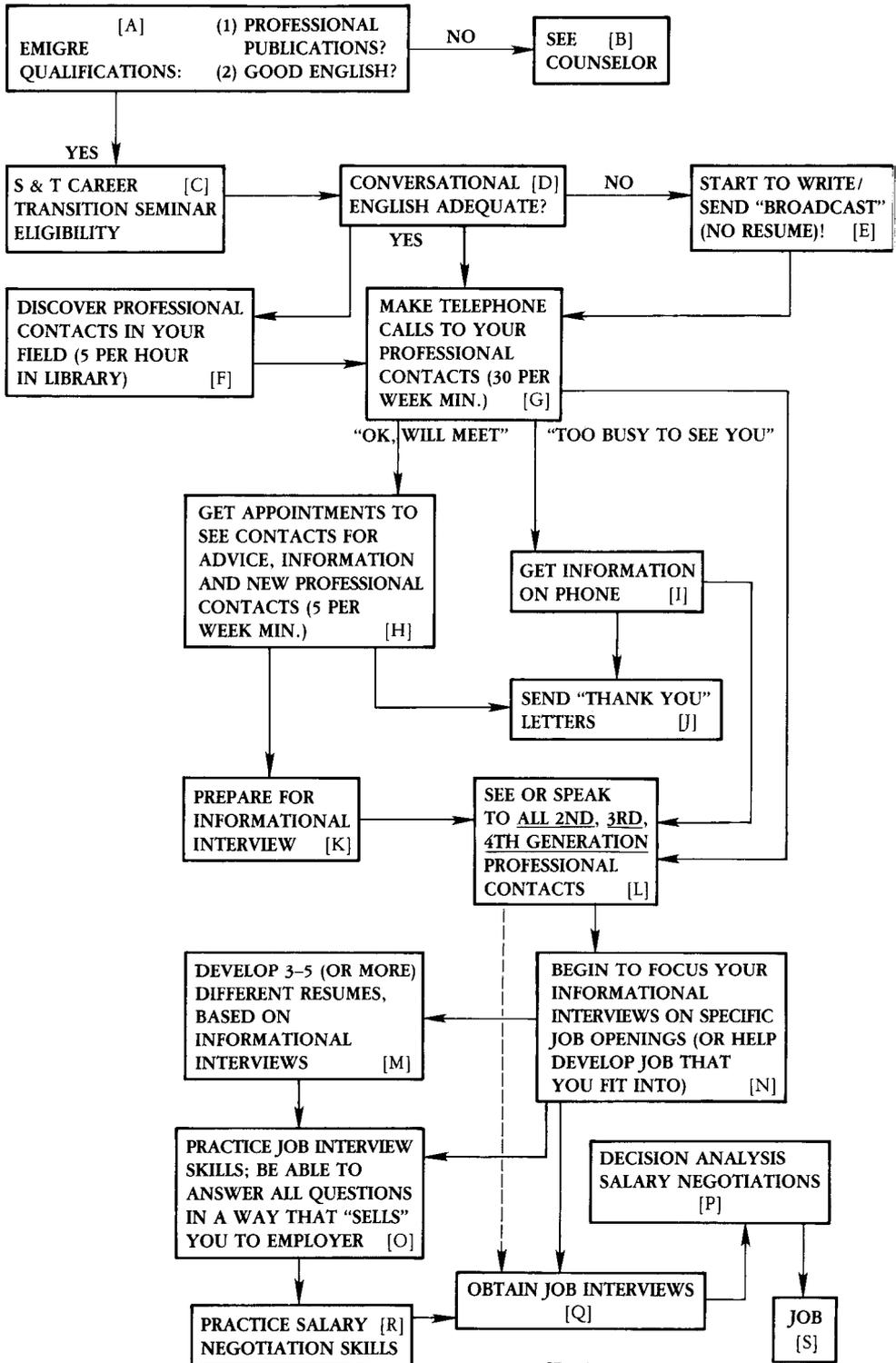
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the journals in their narrow specialty for the past two years and to note the authors of those articles of particular relevance or interest to them. Library research skills to find job leads and professional contacts are taught in the weekly seminars.

A broadcast letter is then written to those journal authors who are doing work in areas of particular interest to the clients. It asks for advice about which universities, companies, or research institutions are doing work in the narrow specialty of interest; the salary ranges for positions in the field;

and career options in that niche. This letter is *not* accompanied by a resume. In contrast to the less than 1% response rate to letters sent with resumes, these broadcast letters have generated response rates as high as 20%, 50%, or even higher.

The client then follows up these broadcast letters with informational interviews by telephone and in person. Just as the letters did not include resumes, so these informational interviews do not focus on specific job openings. Rather, their goal is to obtain advice and to expand the client's



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Figure 1. SCT job search process.

network by learning of new professional counterparts: second, third, and fourth generation professional contacts.

As the clients are doing research and developing their networks, they continue to attend the weekly seminars and interview practice workshops. In their practice interviews, participants are urged to ask this question—"By what criteria will you choose someone to hire?"—and to take written notes of the answer to demonstrate their seriousness to the interviewer. In this way, they learn more about the job market in their narrow field, are able to tailor their subsequent answers to the job at hand, and gain self-confidence. Taking notes also has the effect of slowing the speaking rate of the interviewer.

In the weekly group meetings, the clients polish their presentation of self; their goal is to be able to answer all interview questions in a way that "sells" them to their prospective employer. They also practice salary negotiation skills.

When seeing or speaking to all second, third, and fourth generation professional contacts, the clients focus their efforts on specific job openings. They develop three to five different resumes based on their informational interview learning experience. Matching their experience to available job openings is facilitated by the metaphor of a key fitting into a lock. The resume, or key, must be designed to fit into the lock, or job opening, to open the door to a U.S. science or engineering job. Thus, the client is encouraged to become a locksmith—to find out as much as possible about a job opening—so the resume or key will fit.

With key in hand, the clients then obtain interviews for specific job openings, or help develop a position that they could fill. Then, it is hoped, they will face the enviable task of choosing among the several jobs offered.

The workings of the SCT program are described eloquently in an essay written to the Science & Technology Advisory Board

after completion of the program by Dr. Simeon Tsipursky, a research scientist specializing in electron microscopy and x-ray diffraction methods in material science who was helped to find a faculty position at Arizona State University.

I took advantage of Dr. Rosen's [SCT director] method and it really worked, though it required considerable effort and energy. It's really more than a full-time job. I spent entire days in the library. I worked steadily 12 hours a day, 7 days a week, for 3 months. I looked through every scientific journal and magazine that was in some way connected to my field. I wrote down a list of companies and laboratories that had specialties in applied physics, solid state chemistry, mineral and materials research, crystal-chemistry and other fields where I thought I could be useful. For the first step I sent out about 150 broadcast letters (with no resume!) and I made dozens of long-distance calls to follow up the letters. Of course, I didn't expect to receive responses from all of my letters, but I got more than a 20% response—offering a variety of advice, suggestions, and referrals to other people . . . Most of these people were helpful. So this was the first "generation" of my own network. The second, third, and even the fourth generations were created the same way over a period of 2 months. Beginning with the second generation, I received requests for my resume. It is necessary to note that the contents of my resume had to match the requirements of companies or universities very closely. As Dr. Rosen keeps saying, "A resume is a key to the lock of the door of the enterprise." One cannot simply write one format or resume and send it everywhere if he wants to be invited for a job interview, because there are so many locks, so many keys. The resume should be changed many times, again and again, to fit each lock.

After a while I received invitations for job interviews and to give lectures and seminars. I made several business trips around the country. It was a very hard 3 months of seeking a job and as a result I got four offers. Now I made my choice. I am going to work in one of the best labs in the world.

### PROGRAM RESULTS

Both objective data and anecdotal evidence indicate the success of Scientific Career Transitions. In the first full year of the program's life, 100 of 200 scientists and engineers found work in or close to their original area of expertise. On average, 5.1 months elapsed between the start of their job search and finding employment. Salaries ranged from the low twenties to the mid-fifties.

Although initially resistant to a partnering or mentoring system, clients are now increasingly willing to adapt to these American practices. Successful graduates of the program serve as mentors to newcomers in their specialty, further reinforcing the importance of networking.

### PROGRAM REPLICATION

Not every Jewish community has the resources to implement a comprehensive job search program for emigre scientists and engineers. Yet, emigres who have invested years into cultivating a career in a very narrow specialty, which necessarily limits the number of available job openings, are being resettled in every major community. Traditional career path and job search techniques used with other professionals may be effective for scientists and engineers—as long as these techniques are presented with full understanding of the scientific/

engineering mentality, mindset, and values. That is, the job search process must be presented in a logical and orderly way and should incorporate some or all of the following elements:

- the use of abstract and applied reasoning
- stimulating intellectual play
- puzzle exercises
- peer groups for reality testing, teamwork, shared values and successes
- intensive use of data banks for job searches

### CONCLUSION

Thousands of Soviet emigre scientists and engineers have entered the United States recently and face the daunting, Darwinian U.S. job market—without all of the behavioral tools necessary to help them. Scientific Career Transitions has made possible the absorption into the U.S. science and technology, academic, research, and corporate communities talented new Americans who are hard working, demonstrate great scientific diversity, and offer fresh viewpoints, “new blood,” and cross-fertilization of our technical enterprise. They have tightly focused niche specialties of actual and potential use. They “get the job done.” They are extremely cost-effective talent. In an era of American science and technology shortfalls, Soviet emigre talent is a windfall. The Soviet brain drain is our brain gain.